Economic Origins of Dictatorship and Democracy

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Preface

A fundamental question in political science and political economy is what factors determine the institutions of collective decisionmaking (i.e., the "political institutions"). In tackling this question a natural initial distinction is between democratic and nondemocratic institutions. Why is it that some countries are democracies, where there are regular and free elections and politicians are accountable to citizens, while others are not?

There are a number of salient empirical patterns and puzzles relevant to answering this question. For instance, while the United States moved very early towards universal white male suffrage which was attained by the early 1820s by northern and western states and by the late 1840s for all states in the Union, such a pattern was not universal in the Americas. Elsewhere, republican institutions with regular elections were the norm after countries gained independence from colonial powers such as Spain and Portugal, but suffrage restrictions and electoral corruption were much more important. The first Latin American countries to implement effective relatively non-corrupt universal male suffrage were Argentina and Uruguay in 1912 and 1919 respectively, but others, such as El Salvador and Paraguay did not do so until the 1990s almost a century and a half after the United States.

Not only is there great variation in the timing of democratization, there are large qualitative differences in the form political development took. Democracy was created, at least for white males, with relatively little conflict in the United States, and some Latin America countries such as Costa Rica. In other places however, democracy was often strenuously opposed and political elites instead engaged in mass repression to avoid having to share political power. In some cases, such as El Salvador, repression was ultimately abandoned and elites conceded democracy. In others, such as Cuba and Nicaragua, elites fought to the bitter end and were swept away by revolutions.

Once created democracy does not necessarily consolidate. Though the United States experienced a gradual movement towards democracy with no reverses, a pattern shared by many Western European countries such as Britain and Sweden, democracy in other countries fell to coups. Argentina is perhaps the most extreme example of this where the political regime switched backwards and forwards between democracy and nondemocracy throughout most of the twentieth century.

What determines whether or not a country is a democracy? What factors can explain the patterns of democratization we observe? Why did the United States attain universal male suffrage over a century before many Latin American countries? Why, once created, did democracy persist and consolidate in some countries, such as Britain, Sweden and the United States, and collapse in others, such as Argentina, Brazil or Chile?

In this book we propose a framework for analyzing the creation and consolidation of democracy which we use to provide some tentative answers to some of the above questions.

The framework has three fundamental building blocks.

(1) Our approach is "economic-based" in the sense that we stress individual economic incentives as determining political attitudes and we assume people behave strategically in the sense of game theory.
(2) We emphasize the fundamental importance of conflict. Different groups, sometimes social classes, have opposing interests over political outcomes, and these translate into opposing interests over the form of political institutions, which determine the political outcomes.

(3) The third building block of our approach is the central role that political institutions play in solving problems of commitment by affecting the future distribution of *de jure* political power.

To starkly illustrate our framework, consider a society where there are two groups, an elite and the citizens. Nondemocracy is rule by the elite, democracy rule by the more numerous groups who constitute the majority, here the citizens. In nondemocracy the elite get the policies they want, in democracy the citizens have more power to get what they want. Since the elite lose under democracy they naturally have an incentive to oppose or subvert it, yet most democracies arise when they are created by the elite.

Why does a nondemocratic elite ever democratize? Since democracy will bring a shift of power in favor of the citizens, why would the elite ever create such a set of institutions? We argue that this only occurs because the disenfranchised citizens can threaten the elite and force them to make concessions. These threats can take the form of strikes, demonstrations, riots and in the limit a revolution. Since these actions impose costs on the elite, they will try to prevent them. They can do so either by making concessions, by using repression to stop social unrest and revolution, or by giving away their political power and democratizing. Nevertheless, repression is often sufficiently costly that it is not an attractive option for elites. Concessions may take several forms, particularly policies that are preferred by the citizens, such as asset or income redistribution, and are likely to be less costly for the elite than conceding democracy.

The key to the emergence of democracy is the observation that because policy concessions keep political power in the hands of the elite, there is no guarantee that they will not renege on their promises. Imagine that there is a relatively transitory situation where it is advantageous for the citizens to contest power. Such a situation may arise because of wars, or shocks to the economy such as a harvest failure, a collapse in the terms of trade, or a depression. If repression is too costly, the elite would like to buy off the citizens with promises of policy concessions, for example, income redistribution. However, by its very nature, the window of opportunity for contesting power is transitory and will disappear in the future, and it will be relatively easy for the elite to renege on any promises they make. Anticipating this, the citizens may be unsatisfied with the offer of policy concessions under unchanged political institutions, and may choose to revolt.

In our framework the key problem is that the politically powerful cannot necessarily commit to future policy decisions, unless they reduce their political power. Democracy then arises as a credible commitment to pro-citizen policies (such as high taxation) by transferring political power between groups (from the elite to the citizens). Democratization is more of a credible commitment than mere promises because it is associated with a set of institutions and greater involvement by the citizens and so it is harder to reverse. The elite must democratize—create a credible commitment to future majoritarian policies—if they wish to avoid more radical outcomes.

The logic underlying coups against democracy is similar to that underlying democratizations. In democracy minority groups, such as various types of elites, may have an incentive to mount a coup and create a set of institutions more preferable to them. Yet if there is a coup threat, why cannot democracy be defended by offering concessions? Democrats will certainly try to do this, but the issue of credibility is again central. If the threat of a coup is transitory, then promises to make policies less pro-majority may not be credible. The only way to credibly change policies is to change the distribution of political power and this can only be achieved by institutional change—a coup, or more generally, transition to a less democratic regime.

The main contribution of our book is to offer a unified framework for understanding the creation and consolidation of democracy. This framework, in particular, highlights why a change in political institutions is fundamentally different from policy concessions within the context of a nondemocratic regime. An important by-product of this framework is a relatively rich set of implications about the circumstances under which democracy arises and persists. Our framework emphasizes that democracy is more likely to be created:

- when there is sufficient social unrest in a nondemocratic regime that cannot be defused by limited concessions and promises of pro-citizen policies. Whether this is so or not, in turn, depends on the living conditions of the citizens in nondemocracy, the strength of civil society, the nature of the collective action problem facing the citizens in non-democracy, and the details of nondemocratic political institutions that determine what types of promises by the elite could be credible;

- when the costs of democracy anticipated by the elite are limited, so that they are not tempted to use repression to deal with the discontent of the citizens under the nondemocratic regime. These costs may be high when inequality is high, when the assets of the elite can be taxed or redistributed easily, when the elite have a lot to lose from a change in economic institutions, and when it is not possible to manipulate the form of the nascent democratic institutions to limit the extent to which democracy is inimical to the interests of the elite.

Similarly, these factors also influence whether, once created, democracy is likely to survive. For example, greater inequality, greater importance of land and other easily-taxable assets in the portfolio of the elite, and the absence of democratic institutions that can avoid extreme populist policies, are more likely to destabilize democracy.

Beyond these comparative static results, our hope is that the framework we present here is both sufficiently rich and tractable that others can use parts of it to address new questions and generate other comparative statics related to democracy and other political institutions.

The topics we address in this book are at the heart of political science, particularly comparative politics, and of political economy. Nevertheless, the questions we ask are rarely addressed using the type of formal models that we use in this book. We believe that there is a huge payoff to developing the types of analyses that we propose in this book, and to that end we have tried to make the exposition both as simple and as readable as we can, and also accessible to scholars and graduate students in political science. To make the book as self-contained as possible, we have also added, in Chapter 4, an introductory treatment of the approaches to modelling democratic politics that we use in the analysis. Although the analysis in the book is of most direct interest and generally accessible to political scientists, we hope that there is a lot of material here that is useful for advanced undergraduates, graduate students and academics in economics interested in political economy. In fact, one of us has taught parts of this book in a graduate-level economics course.

The main prerequisite for following the entire content of the book is a knowledge of basic ideas from complete information game theory at the level of Gibbons (1992). Nevertheless, we have designed the first two chapters to be a generally comprehensible and non-mathematical exposition of the questions we address and the answers we propose.

In writing this book we incurred many debts. Over the period of 8 years when we have worked on these topics we have given many seminars on our research from Singapore to Mauritius, from Oslo to Buenos Aires and Bogotá. Many scholars made suggestions and gave us invaluable ideas and leads and we apologize for not managing to remember all of them. However, we would like

Part 1

Questions and Answers

CHAPTER 1

Paths of Political Development

To understand why some countries are democracies while others are not, it is useful to distinguish between different characteristic paths that political institutions take over time. Only some of these paths end in democracy, at least at this moment of time. These stylized paths help us to orient ourselves amongst the complexities of real world comparisons and they illustrate the main mechanisms which we believe link the economic and political structure of a society to political institutions.

There are four main paths of political development. First, there is a path which leads from non-democracy gradually but inexorably to democracy. Once created democracy is never threatened, and it endures and consolidates. Britain is the best example of such a path of political development. Second, there is a path that leads to democracy, but where democracy, once created, quickly collapses. Following this, the forces that led to the initial democratization re-assert themselves, but then democracy collapses again and the cycle repeats itself. This path, where democracy, once created, remains unconsolidated, is best exemplified by the Argentinian experience during the 20th century. Logically, a third path is one in which a country remains nondemocratic or where democratization is much delayed. Since there are important variations in the origins of such a path it is useful to split nondemocratic paths into two. In the first of these, democracy is never created because society is relatively egalitarian and prosperous and this makes the nondemocratic political status quo stable. The system is not challenged because people are sufficiently satisfied under the existing political institutions. Singapore is the society whose political dynamics we characterize in this way. In the second of these nondemocratic paths the opposite situation arises. Society is highly unequal and exploitative. This makes the prospect of democracy so threatening to political elites that they use all means possible, including violence and repression, to avoid it. South Africa, before the collapse of the apartheid regime, is our canonical example of such a path.

In this chapter we illustrate these four paths and the mechanisms leading a society to be on one or the other by examining the political history of these four countries. We discuss the dynamics of political development in all cases exploring why these ended in consolidated democracy in Britain, unconsolidated democracy in Argentina, and persistent nondemocracy, albeit of different forms, in Singapore and South Africa. Our discussion highlights many of the factors our subsequent analysis will show to be crucial in determining why a society moves onto one path rather than another.

1. Britain

The origins of democracy in Britain lie with the creation of regular parliaments which were a forum for the aristocracy to negotiate taxes and discuss policies with the King. It was only after the Glorious Revolution of 1688 that Parliaments met regularly and they did so with a very restrictive franchise. The membership of Parliament at this stage was inherited from feudal notions about the existence of different 'estates' in society. These orders were the clergy and the aristocracy, who sat in the House of Lords by right, and the commons, who sat in the House of Commons. Members of the Commons were in principle subject to elections, although in the 18th century and right through to the middle of the 19th century, most elections were unopposed so that no voting actually took place (see Lang, 1999, p. 12). This was primarily because candidates tended to be proposed by the leading landowners or aristocrats, and since there was no secret ballot and voting was open and readily observed, most voters did not dare to go against their wishes (see Namier, 1961, p. 83, or Jennings, 1961, p. 81).

Nevertheless, the constitutional changes that took place following the Civil War of the 1642-1651 and Glorious Revolution of 1688 led to a dramatic change in the political institutions and economic institutions which had important implications for the future of democracy (see North and Thomas, 1973, North and Weingast, 1989, O'Brien, 1993, Acemoglu, Johnson and Robinson, 2003). These changes emerged out of conflict between the Stuart monarchs intent on maintaining and expanding their absolutist powers, and a parliament intent on reigning them in. Parliament won. The outcome was a restructuring of political institutions that severely limited the monarchy's power and correspondingly increased those of parliament. The change in political institutions led to much greater security of property rights, since people no longer feared predation by the state. In particular, it placed power into the hands of a parliament in which was represented merchants and landowners oriented towards sale for the market. By the late 18th century sustained economic growth had begun in Britain.

The first important move towards democracy in Britain came with the First Reform Act of 1832. This act removed many of the worst inequities under the old electoral system, in particular the 'rotten boroughs' where several members of parliament were elected by very few voters. The 1832 reform also established the right to vote based uniformly on the basis of property and income.

The First Reform Act was passed in the context of rising popular discontent at the existing political status quo in Britain. Lang (1999, p. 26) notes

> "Fear of revolution, seen as a particular risk given the growth of the new indus-
> trial areas, grew rather than diminished in the years after Waterloo, and Lord
> Liverpool's government (1821-1827) resorted to a policy of strict repression."

By the early 19th century the Industrial Revolution was well under way and the decade prior to 1832 saw continual rioting and popular unrest. Notable were the Luddite Riots from 1811-1816, the Spa Fields Riots of 1816, the Peterloo Massacre in 1819, and the Swing Riots of 1830 (see Darvall, 1934, Stevenson, 1979, for overviews). Another catalyst for the reforms was

the July revolution of 1830 in Paris. The consensus amongst historians is that the motive for the 1832 Reform was to avoid social disturbances. Lang (1999, p. 36) concludes that

> "the level of unrest reinforced the case for immediate reform now, rather than later: it was simply too dangerous to delay any longer. Just as Wellington and Peel had granted emancipation to avoid a rising in Ireland, so the Whigs ... should grant reform as the lesser of two evils."

The 1832 Reform Act increased the total electorate from 492,700 to 806,000, which represented about 14.5% of the adult male population. Yet, the majority of British people could not vote, and the aristocracy and large landowners had considerable scope for patronage since 123 constituencies contained less than 1,000 voters. There is also evidence of continued corruption and intimidation of voters until the Ballot Act of 1872 and the Corrupt and Illegal Practices Act of 1883. The Reform Act therefore did not create mass democracy, but rather was designed as a strategic concession. Therefore, unsurprisingly, the issue of parliamentary reform was still very much alive after 1832, and it was taken up centrally by the Chartist movement.

Momentum for reform finally came to a head in 1867, largely due to a juxtaposition of factors. Amongst these was a sharp business cycle downturn that caused significant economic hardship and increased the threat of violence. Also significant was the founding of the National Reform Union in 1864 and the Reform League in 1865, and the Hyde Park riots of July 1866 provided the most immediate catalyst. Searle (1993, p. 225) argues that

> "reform agitation in the country clearly did much to persuade the Derby ministry that a Reform Bill, any Reform Bill, should be placed on the statute book with a minimum of delay."

This interpretation is supported by many other historians, for example Trevelyan (1937) and Harrison (1965).

The Second Reform Act was passed in 1867 and the total electorate was expanded from 1.36 million to 2.48 million, and working class voters became the majority in all urban constituencies. The electorate was doubled again by the Third Reform Act of 1884, which extended the same voting regulations that already existed in the boroughs (urban constituencies) to the counties (rural constituencies). The Redistribution Act of 1885 removed many remaining inequalities in the distribution of seats and from this point on, Britain only had single member electoral constituencies (previously many constituencies had elected two members—the two candidates who gained the most votes). After 1884 about 60% of adult males were enfranchised. Once again social disorder appears to have been an important factor behind the 1884 act (e.g. Hayes, 1982, Lang, 1999, p. 114).

Following the Great War, the Representation of the People Act of 1918 gave the vote to all adult males over the age of 21, and women over the wage of 30 who were ratepayers or married to ratepayers. Finally all women received the vote on the same terms as men in 1928. The measures of 1918 were negotiated during the war and may reflect to some extent a quid pro

quo between the government and the working classes who were needed to fight and produce munitions. Garrard (2002, p. 69) nevertheless notes

> "most assumed that, if the system was to survive and 'contentment and stability prevail', universal citizenship could not be denied to men, perceived to have suffered so much and to have noticed Russia's Revolution."

Overall, the picture which emerges from British political history is clear. Beginning in 1832, when Britain was governed by the relatively rich, primarily rural aristocracy, strategic concessions were made over an 86 year period to adult men. These concessions were aimed at incorporating the previously disenfranchised into politics since the alternative was seen to be social unrest, chaos and possibly revolution. The concessions were gradual because in 1832, social peace could be purchased by buying off the middle classes. Moreover, the effect of the concessions was diluted by the specific details of political institutions, particularly the continuing unrepresentative nature of the House of Lords. Although challenged during the 1832 reforms, the House of Lords provided an important bulwark for the wealthy against the potential of radical reforms emanating from a democratized House of Commons. This was so at least until just before the First World War when the showdown with Herbert Asquith's Liberal government over the introduction of elements of a welfare state led to substantial limitations of the power of the Lords. After 1832 as the working classes reorganized through the Chartist movement and later through trade unions, further concessions had to be made. The Great War and the fallout from it sealed the final offer of full democracy. Though the pressure of the disenfranchised was more influential in some reforms than others, and other factors undoubtedly played a role, the threat of social disorder was the main driving force behind the creation of democracy in Britain.

The emergence of democracy in Britain and its subsequent consolidation took place in a society which had long shed nearly all the remnants of medieval society and which had successfully resisted the threat of absolutism. They also took place in the context of rapid industrialization, urbanization and the expansion of the factory system, rising inequality, and in the period after the Real of the Corn Laws, rapid globalization of the economy.

2. Argentina

The beginnings of the modern Argentine Republic were in 1810 when it declared its independence. Following this period the country was immersed in a chaotic series of civil wars and internal conflict over the structure of power and political institutions. This chaos finally abated in the 1860's. In 1853 a new constitution was written and in 1862 Bartolomé Mitre was elected the first president of the unified Republic. Mitre set about creating a state in the facilitating context of the first of a series of agricultural export booms that would sustain the Argentine economy until 1930. He created a national bureaucracy, taxation system and legal system, and this period saw the foundation of electoral politics. However,

> "The electoral law of 1853, which purported to allow popular participation in the political process, from the beginning proved itself a sham. Elections were

> invariably ritualistic parodies, staged-managed by lackeys of the powerful, with
> only a minute fraction of the electorate participating." (Rock, 1987, p. 129).

After Mitre, Domingo Sarmiento became president and around him formed a party, the Partido Autonomista Nacional (PAN). Successive PAN presidents maintained power until 1916 by manipulating elections. However, they did so in the context of rising social discontent. After 1889 there was an effective opposition in the Unión Cívica which in July 1890 launched a revolt against the government. After 1891, the Unión Cívica Radical (Radicals), under the leadership of Hipólito Yrigoyen, launched revolts in 1893 and 1905. However, despite the continuation of regimes based on the control and coercion of the electorate,

> "Argentine elites were becoming aware of the unfolding similarities between West-
> ern European societies and their own, with the growing cities and the emergence
> of new social classes. Democracy's attractiveness lay in its promise of protecting
> political stability, for if political exclusion were maintained ... the nation risked
> a repetition of the upheavals of the early 1890's." (Rock, 1987, pp. 184-185).

In 1910 Roque Sáenz Peña, one of the leading advocates of political reform, became president. As Rock (1987, p. 188) puts it:

> "Radicals, socialists, and indirectly the anarchists helped fuel the movement for
> reform during the early years of the century. Progressives amongst the elite feared
> the growing popular support for the Radicals, wondering where their next revolt
> would come from."

The so-called Sáenz Peña Law was passed in 1912 when the secret ballot was introduced and fraudulent electoral practices outlawed. Universal male suffrage, originally introduced in the 1853 Constitution, finally became a reality. Smith (1978, p. 10) argues that reform "was a calculated maneuver to salvage the prevailing system. Concerned with labor unrest and the apparent threat of violence."

Following these reforms, Yrigoyen was elected president in 1916.

> "the reforms also brought surprises. Sáenz Peña and his supporters had espoused
> electoral reform in the belief that the old oligarchic factions would adapt to the
> new conditions and unite into a strong conservative party that would enjoy large
> popular support ... instead, the conservatives repeatedly failed in their efforts at
> unity." (Rock, 1987, p. 190).

As a consequence the Radical party began to dominate Argentine politics and began to pose a severe threat to traditional interests. In 1916 Conservatives won 42% of the vote but by 1928 they had slipped to 25%. Smith (1978, p. 21) notes "this situation contrasts sharply with that in Sweden and Britain ... where traditional elites continued to dominate systems after the extension of suffrage." Consequently, "by 1930 Yrigoyenists had a substantial delegation in the upper chamber and they threatened to gain a full majority in the upcoming elections" (Smith, 1978, p. 12). Thus, "the political system came to represent an autonomous threat to the socioeconomic system ... Understandably enough, in view of their initial expectations,

Conservatives came to see democracy as dysfunctional" (Smith, 1978, p. 15, see also Potter, 1981).

In September 1930 Yrigoyen was deposed by a military coup followed in 1931 by a fraudulent election. "The election of 1931 restored power to the same broad complexion of groups that had controlled it before 1916–the pampas' exporting interests and the lesser landowners of the provinces" (Rock, 1987, p. 217). During the rest of the 1930's Conservatives continually used electoral fraud to maintain power, though by 1940 they were trying to reincorporate the Radicals to some extent. This sequence of Conservative administrations was ended by a military coup in 1943.

After the coup in 1943, a series of military men assumed the presidency but the main feature of this period was the rise to power of Juan Domingo Perón, first as a member of the military junta, and then as the elected president after 1946. Perón had moved the military regime onto a more radical and pro-labor path and organized a political machine around the state control of the labor movement. Perón's first presidency engineered a huge increase in wages and social benefits for the working classes. His policies were aimed at redistributing away from the rural sector towards the urban sector. Part of these policies included an aggressive pro-industrial policy of protection and import substitution (O'Donnell, 1978, p. 147). Perón was re-elected in 1951, albeit in an election tainted by corruption and the repression of the opposition, and subsequently removed from power by a coup in 1955. Between 1958 and 1966, civilian governments highly restricted by the military returned only to be swept away by another coup in 1966 (O'Donnell, 1973, for the seminal analysis).

In 1966 General Juan Carlos Onganía became president but his regime was quickly opposed by substantial social mobilization (Rock, 1987, p. 349). Cavarozzi (1986, p. 36) notes the significance of "the popular insurrection of 1969 ... [which] fused together blue and white collar workers, students and the urban poor." This revolt against the dictatorship was followed by more, particularly in 1971, and coincided with the emergence of several armed groups and guerillas dedicated to the overthrow of the regime.

Democracy was re-created in 1973 when Perón returned from exile and was elected president in the first truly democratic election since his first election in 1946. However, democratization unleashed the same distributional conflicts that it had before and "As in 1946, the kernels of his program were income redistribution in favor of labor, the expansion of employment, and renewed social reform" (Rock, 1987, p. 361). In 1976 the Peronist government, led by Perón's third wife Isabel after his death in 1974, fell to a coup under the leadership of General Jorge Videla. "Once in power, the Army embarked on the conquest of any lingering resistance to a revolution in government whose aim was the total dismantlement of the Peronist state" (Rock, 1987, p. 366). The regime which lasted until the Falklands (Malvinas) War of 1982-1983 was the most repressive in Argentine history. Some 10,000 people 'disappeared' and many thousands more were imprisoned without trial, tortured and forced into exile. General Roberto Viola succeeded Videla in 1981, but was forced from office the same year by General Leopoldo Galtieri.

As the military became more and more beleaguered and popular protests against them rose, they launched the ill-fated invasion of the Falkland (Malvinas) Islands. Galtieri resigned when the Argentine forces surrendered in June 1982, and the following year democratic elections led to the election of Radical president Raúl Alfonsin. Argentina was a democracy again and it has stayed one with Alfonsin being followed by Carlos Menem in 1990, Fernando de la Rúa in 2000, and after a bewildering succession of temporary presidents during the economic crisis of 2001-2002, by Néstor Kirchner in 2003.

The political history of Argentina therefore reveals an extraordinary pattern where democracy was created in 1912, undermined in 1930, re-created in 1946, undermined in 1955, fully re-created in 1973, undermined in 1976, and finally re-established in 1983. Inbetween were various shades of nondemocratic governments ranging from restricted democracies to full military regimes. The political history of Argentina is one of incessant instability and conflict. Economic development, changes in the class structure and rapidly widening inequality, which occurred as a result of the export boom from the 1880's, coincided with pressure on the traditional political elite to open the system. But the nature of Argentine society meant that democracy was not stable. Traditional interests were too threatened by the rise to power of the Radicals, and continuously worked to undermine democracy. The economic changes of the 1930's only exacerbated this conflict. The workers became stronger and more militant as they found a leader in Perón and the distributional conflicts then became embedded in the pro-Perón, anti-Perón struggle. Dictatorial regimes collapsed because of social protests, and democracies collapsed because the radical, populist and often unsustainable policies they adopted induced military coups.

3. Singapore

Sir Stamford Raffles acquired the island of Singapore from its local Malay ruler for the British East India Company in 1819 (see Turnbull, 1989, Huff, 1994, Milne and Mauzy, 1990, 2002). At that time the island, comprising 622 square miles and lying just 176 km north of the equator, was very sparsely populated with just a few hundred inhabitants. It soon became an important trading port for the East Indian company and expanded rapidly as a commercial center and entrepot. This role continued even after the collapse of the East Indian Company (Singapore became a Crown Colony in 1867 as part of the Straits Settlement) and expanded with the British colonization of the Malayan peninsular after 1870's and the development of an export economy in Malaya based on commodities such as tin and rubber.

After the Second World War and a traumatic occupation by the Japanese, a political awakening occurred in Singapore as in many other British colonies as they began to anticipate independence. The first elections for a legislative council were held in 1948 under a very restricted franchise and where a majority of the council were still appointed by the British Governor. The late 1940's and early 1950's were characterized by a large amount of labor unrest, strikes and demonstrations. In 1955 they forced the British to introduce a new constitution proposed by the Rendel Commission, where a majority of seats of the legislative council were to be elected and where the leader of the majority party would become chief minister. However, the 1955 elections

were followed by more riots and social unrest, constitutional negotiations were re-opened and new elections were planned for 1959 with Singapore granted almost complete internal self-rule. The franchise was universal suffrage and the People's Action Party (PAP) under Lee Kuan Yew won 43 of the 51 seats in the 1959 election.

Right from the beginning the PAP began to aggressively promote industrialization. One of their strategies for doing this was taming the trade union movement and creating a pliant labor force to attract multi-national companies. In 1959 they began to reduce the power of unions and this was finally achieved in 1967 and 1968 when all unions were brought under government control. This was done by the creation of a government body, the National Trade Union Congress, and strikes were made illegal. At the same time Lee Kuan Yew and the leaders of the PAP moved to distance themselves from the more radical elements of the party. As a result in 1961 the party split with 13 parliamentary members resigning to form a new party, the Barisan Sosialis (BS). Despite this setback the PAP bounced back, and even before independence, began to show its skill at political maneuver.

> "The PAP then strengthened its grip on power, harassing the BS and the trade
> unions. Most dramatically, prior to elections in 1963, the PAP used the police
> special branch to mount a sweep called Operation Cold Store, obliterating the
> BS's top level leadership" Case (2002, p. 86).

As a result in the 1963 elections it took 37 out of 51 seats with the Barisan winning 13.

In this initial phase the PAP saw integration with Malaya as part of its strategy of economic development since it would guarantee a large market for Singaporean firms. In 1963 Malaya, Singapore, Sabah and Sarawak all merged to form the Federation of Malaysia. However, in 1965 Singapore was expelled as a result of tensions between Malay and Chinese politicians (for example, Lee Kuan Yew had campaigned in Kuala Lumpur in the 1964 Malaysian general elections to the outrage of Malaysian politicians).

After the creation of the republic in 1965, the PAP began to harass their political opponents. As a consequence, all the Barisan members resigned their parliamentary seats and boycotted the 1968 elections. In these circumstances, the PAP won all 58 seats, though 51 of these were uncontested. The PAP also won every seat in 1972, 1976 and 1980 against an assortment of opposition parties with the Barisan contesting elections again after 1972. Finally, a 1981 by-election brought the first opposition member since 1968. A second opposition member was elected in 1984 and by 1991 there were 4. However, the opposition always ran candidates in a minority of seats, the PAP was consequently always guaranteed a majority in the parliament. In 1997 the PAP won 82 of the 83 seats. In the 2001 elections the PAP won 81 seats. To avoid a real opposition appearing over this period and to appease desires for some sort of alternative representation, the PAP introduced nonconstituency MP's that were allocated to the opposition losers who received the most votes. By 2001 there were 9 of these members of the legislature. In 1990 Lee Kuan Yew retired as Prime Minister and was replaced by Goh Chok Tong, who was succeeded in 2004 by Lee's son Lee Hsien Loong.

Throughout this period the PAP extended its control over society, particularly through its control of the media. Case (2002, p. 89) demonstrates that "political activism in Singapore risks blacklisting, shunning, lawsuits, tax investigations, lost business opportunities, and detention without trial." To maintain its power, the PAP also engages in extensive gerrymandering in order to avoid losing any seats. Though the initial electoral system was based on British-style single-member districts, there is now a mix of these and multi-member districts (called group representation constituencies). Rodan (1997, p. 178) notes that "single constituencies in which opposition parties came within striking distance of defeating PAP candidates in the last election have disappeared, usually subsumed under group representation constituencies comprising sitting PAP candidates."

When it comes to election time, the PAP also engages in blatant threats to the electorate to influence their votes. Rodan (1998, p. 179) notes that in 1997 the electorate

> "were given a stark choice: return government candidates and benefit from a range of expensive new public programs, or have this withheld or delayed in retaliation for electing PAP opponents ... Threats by Goh concerning the multimillion dollar housing upgrading program caused special concern. Given that around 86% of Singaporeans live in government built flats, the electorate is highly vulnerable to such intimidation. The announcement of a new system of vote counting enabling the government to ascertain voting preferences down to precinct levels of 5,000 voters reinforced the threat."

Given its size and colonial history, Singapore lacks an aristocracy, landed or otherwise, and this has been important for Singaporean politics. It has an urbanization rate of 100%, and the ethnic composition of its population is approximately 75% Chinese, 15% Malay with 8% from the Indian sub-continent. Prior to independence, Singapore also lacked large capitalists or business interests, and since independence the largest capitalists involved in Singapore are foreigners, who the PAP seem to promote at the expense of indigenous business interests. Founded by English educated professionals and middle class people, the PAP recruits its politicians from the professions and the civil service and not through party members. Indeed the party exists mostly as an electoral machine, otherwise it works through the government rather than through some independent grassroots organization. Lee Kuan Yew said in 1984 "I make no apologies that the PAP is the Government and the Government is the PAP" (quoted in Milne and Mauzy, 1990, p. 85)

Overall, we see that Singapore moved to democracy and independence as its citizens protested against British colonial rule, but the PAP rapidly established one-party rule after 1963. Since then the economy has boomed, inequality has been low, and the PAP has maintained power through relatively benign means, fostering popularity both through extensive social welfare programs, but also engaging in threats and coercion. Though there has been imprisonment and harassment, there have been no 'disappearances' and there appears in reality to be little opposition to PAP rule and little pressure for political change.

4. South Africa

The European presence in South Africa began in 1652 when the Dutch East Indian company founded a colony in Table Bay. Their aim was to grow food and provisions for their ships sailing around the Cape of Good Hope from Europe to Asia. The Dutch settlements gradually expanded at the expense of the indigenous Khoikhoi, but only extended about 100 miles inland by the end of the 18th century. The strategic position of the Cape Colony meant that it became an important prize in geopolitical competition and during the Napoleonic Wars it was seized by the British. This occurred first in 1795, and then once again, but this time conclusively, in 1806. After this the colony was amalgamated into the British Empire.

The British, like the Dutch East India Company, initially had no designs on the interior and were more concerned with the safety of the shipping routes to India and Asia. However, the colonial policies of the British alienated many of the Dutch settlers, who became known as Boers or Afrikaners. In response the Boers moved inland on mass founding the Orange Free State in 1854 and the Transvaal in 1860.

The British government had formalized the political institutions of the Cape Colony in 1853 when it introduced a bicameral parliament which could legislate on domestic matters, though subject to a veto from London. The executive branch of government consisted of officials appointed by the colonial office. The franchise for the legislature did not specifically disenfranchise people based on racial origins but instead adopted the British system of property and income restrictions (see Thompson, 1995, p. 65).

The political balance between the British Empire and the Boer republics was altered by the discovery of diamonds in Kimberley and gold on the Witwatersrand in the 1870's. The labor relations in these areas quickly exhibited a pattern that would subsequently become know as 'apartheid' with blacks being unable to dig for diamonds, forced to carry passes to impede labor mobility, banned from desirable occupations which became reserved for whites, and forced to live in segregated communities and camps. The British annexed the diamond fields in 1871, the Transvaal in 1877, and in 1879 finally vanquished the powerful Zulu kingdom. However, the Transvaal successfully rebelled in 1881 and it was only after the South African War of 1899-1902 that the British government conquered all the Boer republics. The British moved the colonies towards a union and in 1910 the Cape Colony, Natal, Orange Free State and Transvaal were joined to form the Union of South Africa.

That first government, run by Louis Botha and Jan Smuts, gradually began to reinforce many of the vast inequalities in South African society, a process which culminated in the creation of full-blown apartheid with the election of the National Party (NP) under D.F. Malan in 1948. For example, in 1913 the Natives Land Act stopped Africans purchasing land outside of 'native areas,' which were reserves set aside for Africans, consisting in 1939 of about 12% of the land area (Africans represented 70% of the population in this period, see Thompson, 1995, Table 1 p. 278).

At the same time the first organized black political consciousness began to emerge with the founding of the African National Congress (ANC) in 1912. At first this was a modest movement organized by middle class Africans, but following the Second World War the ANC became radicalized because of the failure to liberalize the system. In 1943 the ANC adopted a statement called *Africans' Claims in South Africa*, demanding for the first time universal adult suffrage.

The application of apartheid after 1948 reached its apogee during the prime ministership of Hendrik Verwoerd between 1958 and 1966. The government attempted to move all Africans into eight (then ten) homelands and only Africans whose labor was needed in the white economy could be present in 'European areas,' and they had to carry 'passes,' proving that they were outside of the tribal areas legally.

The apartheid regime was sustained by massive infringements on political and civil rights. The government established tight control over the media and had a monopoly on radio and television. The police were given vast powers to arrest people without trial and hold them indefinitely in solitary confinement. Under the Public Safety Act of 1953, the government could declare a state of emergency and rule by proclamation.

Throughout the 1950's the ANC continually contested in the streets and in the law courts the policies of the NP. In one such demonstration in Sharpeville in 1960 a riot exploded and police fired into the crowd killing 83 people. After this incident, the government moved to finally eradicate the ANC, and in 1964 Mandela and other top leaders were imprisoned on Robben Island. Despite losing much of their leadership into South African prisons or exile, the ANC continued to be the focus of opposition to the regime. The NP pressed ahead with its goal of creating independent homelands (or bantustans) where all Africans would be citizens and in 1976 the Transkei and Bophuthatswana were declared independent nations by the government (though they were never recognized by any other national government or international agency).

In 1976 a riot in Soweto, a large African township just outside Johannesburg, ended in 575 deaths (Thompson, 1995, pp. 212-213). Soweto marked a turning point. In the 1960's the apartheid government had managed to crush the ANC leadership but

> "After the Soweto uprising, a protest culture pervaded the black population of
> South Africa. Students and workers, children and adults, men and women, the
> educated and the uneducated became involved in efforts to liberate the country
> from apartheid." Thompson (1995, p. 228).

The apartheid government had no choice but to make some concessions. It immediately announced the cessation of the creation of homelands, though as soon as the turmoil subsided, the government reneged on this, and two more homelands were created in the early 1980's. More significant, the government moved to legalize African trade unions, and in 1984 introduced a new Constitution where both Indians and Coloureds had their own legislatures. The whites remained in a solid majority in the legislature and after P.W. Botha was elected President, he had only one Indian and one Coloured in his cabinet, neither with a specific portfolio. After

1984, the government also removed job reservations which stopped Africans undertaking specific occupations.

Nevertheless, the basic philosophy or structure of apartheid was unaltered. These concessions were therefore not sufficient to prevent the strikes, riots and social unrest which became more widespread. For instance, in 1985 879 people were killed in political violence, and there were 390 strikes involving 240,000 workers. The African trade unions, whose legitimization had been a concession after Soweto, were in the forefront of anti-state activities. In June 1986 the Botha government responded to these events by declaring a state of emergency and sending the army into the townships to try to restore order.

The situation got worse for the apartheid regime in October 1986 when the U.S. imposed sanctions. From the mid 1980's onwards, sensing the infeasibility of continuing with the same set of institutions, many members of the South African white elite started to make overtures to the ANC and black leaders. The industrial chaos caused by the strikes was severely damaging to profits, and from the late 1970's onwards, there was sustained capital outflow from South Africa (Wood, 2000, Figure 6.3 p. 154). Prominent white businessmen met with the ANC in London and other places, and Mandela himself was moved from Robben Island and had many discussions with different members of the Botha government.

> "As Mandela recognized, if there was to be peaceful transition, a way would have to be found to reconcile the ANC demand for majority rule with 'the insistence of whites on structural guarantees that majority rule will not mean domination of the white minority by the blacks'" Thompson (1995, p. 244).

In February 1989 L.W. de Klerk took over from P.W. Botha as the head of the NP and was elected President in September.

> "de Klerk ... understood that domestic and foreign pressures were undermining the racial order. De Klerk concluded that the best hope for his people was to negotiate a settlement from a position of strength, while his government was still the dominant force in the country" Thompson (1995, p. 244).

At the beginning of 1990, he lifted the ban on the ANC and released Mandela from prison. After this, intense negotiations started over the nature of the transition from the apartheid era and what sort of society would follow it. Constitutional negotiations began in December 1991 with the NP proposing a series of measures to weaken the threat of black majority rule. "South Africa was to become a confederation of states with vast and irremovable powers. Its central executive was to be a coalition of every party that won a substantial number of seats in an election, the chairmanship was to rotate among party leaders, and all decisions were to be made by consensus or special majorities" Thompson (1995, p. 248). Such stipulations were unacceptable to the ANC and in June 1992 the negotiations broke down. In September they were re-started, and by February 1993 there was an agreed upon timetable for transitions to the April 1994 election. An interim constitution was agreed upon with the first new parliament elected in 1994 being charged with devising a permanent constitution. The interim constitution

incorporated 34 basic principles and dictated that no subsequent amendment would be valid if it contradicted these, and whether or not it did so was to be determined by a constitutional court appointed by President Mandela. Other amendments required a 2/3 majority of both houses of parliament. The main concession to the NP was that there had to be compulsory power sharing in the cabinet, with any party which won at least 20 seats in the national assembly getting representation in the cabinet in proportion to its seats. The ANC received 62.7% of the vote in the 1994 election.

From its roots, like many colonial societies, South Africa was a society of great inequalities, both economic and political. In the 20th century this inheritance led to a highly undemocratic polity where only whites were enfranchised. After the Second World War, Africans began to successfully mobilize against this political status quo and they were able to exert increasing pressure, both making the existing apartheid regime infeasible and also threatening mass revolt. Attempts by the regime to make concessions, while leaving the system basically unaltered, failed to achieve this objective and the apartheid regime maintained power through the use of extensive repression and violence. In 1994 the regime was forced to democratize rather than risk potentially far worse alternatives.

5. The Agenda

We see four very different paths of political development in these narratives. Britain exemplifies the path to consolidated democracy, without any significant reversals in the process. Argentina illustrates the possibility of a transition to an unconsolidated democracy, which then reverts back to nondemocracy, with the process potentially repeating itself multiple times. Singapore is an example of a society where a nondemocratic regime can survive a long time with relatively minor concessions, but also without significant repression. South Africa before the collapse of apartheid exemplifies a nondemocratic regime that survives by using repression. We now propose a framework to understand these various paths and develop predictions for when we expect to see one path versus another.

CHAPTER 2

Our Argument

Why did Britain, Argentina, Singapore and South Africa follow different political paths? More generally, why are some countries democratic, while others are ruled by dictatorships or other nondemocratic regimes? Why do many nondemocracies transition into democracy? What determines when and how this transition takes place? And relatedly, why do some democracies, once created, become consolidated and endure, while some others, like many of those in Latin America, fall prey to coups and revert back to dictatorship?

These are central questions for political science, political economy and social science more generally, but there are neither widely shared answers nor an accepted framework to tackle them. The aim of this book is to develop a framework for analyzing these questions, and to provide some tentative answers, and outline future areas for research. As part of our investigation, we will first provide an analysis of the role of various political institutions in shaping policies and social choices, emphasizing how politics differs in democratic and nondemocratic regimes. To do so, we will model the attitudes of various different individuals and groups towards different policies, and therefore towards the political institutions leading to these policies.

To facilitate the initial exposition of our ideas, it is useful to conceive of society as consisting of two groups, the elite and the citizens, where the latter are more numerous. Our framework emphasizes that social choices are inherently conflictual. For example, if the elite are the relatively rich individuals, for short the rich, they will be opposed to redistributive taxation, while the citizens, who will be relatively poor, for short the poor, will be in favor of taxation that would redistribute resources to them. More generally policies or social choices which benefit the elite will be different from those that benefit the citizens. This conflict over social choices and policies is a central theme of our approach.

Who are the majority and who are the elite? This will depend to some extent on context and the complex way in which political identities form in different societies. In many cases it will be useful to think of the elite as being the relatively rich in society, as was the case in 19th century Britain and Argentina. However, this will not always be the case, for instance, in South Africa the elite were the whites, and in many African countries the elite are associated with a particular ethnic group. In other societies, such as Argentina during some periods, the elite are the military.

It may not be a coincidence that in many situations the elite and the rich coincide. In some cases, those who are initially rich may use their resources to attain power, perhaps by bribing the military or other politicians. In other circumstances, power may be attained by people who

are not initially rich. Nevertheless, once attained, political power can be used to acquire income and wealth so that those with power naturally tend to become rich. In either case there is a close association between the elite and the rich.

Our theory of which societies, and when, will transit from dictatorship to democracy, and under what circumstances democracy will be consolidated, is related to the conflict between the elite and the citizens over politics. These groups will have opposing preferences over different political institutions, democracy and dictatorship, which, they recognize, will lead to different social choices. However, we also emphasize that political institutions do not simply determine the extent of redistribution or who benefits from policies today, but they also play the role of regulating the future allocation of political power. In democracy, the citizens have more power both today and in the future than they would do in nondemocratic regimes, because they participate in the political process.

The framework we develop is formal, so our exposition will emphasize both the concepts that we believe are essential in thinking about democracy and also how these concepts and issues can be formally modeled using game theory.

1. Democracy vs. Nondemocracy

At the outset, we have to be very clear about the precise questions we are going to tackle and the basic building blocks of our approach. In building models of social phenomena, an often useful principle is the so-called Occam's razor. The principal, popularized by the 14th-century English philosopher William of Occam, is that one should not increase the number of entities required to explain a given phenomenon beyond what is necessary. In other words, one should strive for a high degree of parsimony in formulating answers to complex questions. Given the complexity of the issues we are dealing with, we will be frequently making use of this principle in this book, and not only to simplify the answers to complex questions, but perhaps even more daringly, to simplify the questions. In fact, in an attempt to focus our basic questions, we will be using Occam's razor rather brutally and heroically, and we will abstract from many interesting details and also leave some equally important questions out of our investigation. Our hope is that this gambit will pay off by providing us with relatively sharp answers to some interesting questions. But of course, the reader will be the judge of whether or not our strategy has ultimately paid off.

Our first choice is about the classification of different regimes. Many societies are today governed by democratic regimes, but no two democracies are exactly alike, and most exhibit a number of marked institutional differences. Consider, for instance, the contrast between the French presidential system and the British parliamentary system, or that between the majoritarian electoral institutions used as in the United States and the system of proportional representation utilized in much of Continental Europe. Despite these differences, there are some very important commonalities. In a democracy the majority of the population is allowed to vote and express their preferences over policies and the government is supposed to represent the preferences of the whole population—or using a common description, "democracy is the

government by the people for the people". In contrast, many other countries are still ruled by dictators and nondemocratic regimes.[1] There are even more stark differences between some of these nondemocratic regimes than the differences between democracies. As an example, reflect on the contrast between the rule of the Chinese Communist Party since 1948 and that of General Pinochet in Chile between 1973 and 1989. When we turn to other nondemocratic regimes, such as the very limited constitutional regimes in Europe in the 19th century, the differences are even more marked.

Nevertheless, these nondemocratic regimes share one common element: instead of representing the wishes of the population at large, they represent the preferences of a subgroup of the population, the 'elite'. In China, it is mainly the wishes of the Communist Party that matters. In Chile, most decisions were taken by a military junta, and it was their preferences, and perhaps the preferences of certain affluent segments of the society supporting the dictatorship, that counted. In Britain before the First Reform Act of 1832, less than 10 percent of the adult population, the very rich and aristocratic segments, were allowed to vote, and policies naturally catered to their demands.

From this it is clear that democracies generally approximate a situation of *political equality* relative to nondemocracies which, in turn, represent the preferences of a much smaller subset of society, and thus correspond more to a situation of *political inequality*. Our focus in this book is to understand the social and economic forces pushing some societies towards regimes with greater political equality versus those encouraging the development of more nondemocratic systems. In our models, with the exception of Chapter 8, we will work with a dichotomous distinction between democracy and nondemocracy. Nevertheless, in deciding how democratic actual regimes are, and in empirical work, it is more useful to think of various shades of democracy. For example, none of the 19th century reform acts in Britain introduced universal adult suffrage, but they were all movements in the direction of increased democracy. We want to understand these movements and to do so we begin by simply considering a move from nondemocracy to full democracy (universal adult suffrage). Our definition is "Schumpetarian" (Schumpeter, 1942) in the sense that we emphasize that a country is democratic if a certain political process takes place—if certain key institutions, such as free and fair elections, and free entry into politics, are in place. To the extent that democracy is associated with particular outcomes it will be because these stem from its institutional features.

Our approach means that we are not simply interested in when universal adult suffrage was introduced, but in understanding all movements in the direction of increased democracy. For example, in Argentina, universal male suffrage was introduced by the Constitution of 1853, but electoral corruption was so endemic that democracy was not a reality until after the political reforms under President Saenz Peña in 1912. In this case we consider 1912 to be a key movement towards democracy. In the case of Britain, the reforms of 1867 extended voting rights greatly, but universal male suffrage was not conceded until 1919. However, electoral corruption was

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[1]In the text, despite the title of our book, we prefer to use the term nondemocracy to alternatives, such as dictatorship or authoritarian regime, since it has less specific connotations that any of the other words.

eliminated and secret voting introduced in 1872. In this case we see 1867 as representing an important step towards political equality in Britain.

We will have less to say on the extension of suffrage to women. In almost all European countries, voting rights were first given to adult men, and then subsequently extended to women. This reflected the then-accepted gender roles, and when these gender roles started to change as women entered the workforce, they also obtained voting rights. It is likely therefore that the mechanisms that we propose in this book better describe the creation of male suffrage than the extension of voting rights to women.

Our dichotomous distinction between democracy and nondemocracy makes sense and is useful only to the extent that there are some important elements that are central to our theory and common to all democracies, but generally not shared by nondemocracies. This is indeed the case. We argue that democracy, which is generally a situation of political equality, will look after the interests of the majority more than nondemocracy, which is generally dominated by an elite and is more likely to look after their interests. Put simply and extremely, nondemocracy is generally a regime for the elite and the privileged, and compared to that, democracy is a regime more beneficial to the majority of the populace, and will result in policies that are relatively more favorable to the majority.

We are claiming that nondemocracy represents political inequality relative to democracy. In democracy, everybody has a vote, and at least potentially, can participate in one way or the other in the political process. In nondemocracy, an elite, a junta, an oligarchy, or in the extreme case just one person, the dictator, is making the decisions. Hence, the contrast in terms of political equality makes sense. This of course does not mean that democracy corresponds to some ideal of political equality. In many successful democracies, there is one-person-one-vote, but this is far from perfect political equality. The voices of some citizens are heard more loudly, and those with economic resources might influence policies through non-voting channels, such as lobbying, bribery or other types of persuasion. Throughout the book, when we talk of political equality in democracy, it is always a *relative* statement.

Overall, the outlines of our basic approach are taking shape. We will think of regimes falling into one of two broad categories; democracy and nondemocracy. Democracy will be thought of as a situation of political equality and characterized by its relatively more pro-majority policies. Often pro-majority policies will coincide with pro-poor policies especially a greater tendency to redistribute income away from the rich towards the poor. In contrast, nondemocracy will give a greater say to an elite, and will generally opt for policies that are less majoritarian than democracy.

2. Building Blocks of Our Approach

We have now determined the basic focus of our investigation: to understand why some societies are democratic, why some societies switch from nondemocracy to democracy, and why some democracies revert back to dictatorships. And we have already mentioned some of the building blocks of our approach. It is now the time to develop them more systematically.

The first overarching building block for our approach is that is it economic.[2] By this term, we do not mean that individuals always act rationally according to some simple postulates. Nor do we mean that there are only individuals, and no social groups that matter in society. Instead, what we mean is that individuals have well-defined preferences over outcomes or the consequences of their actions, for example, they like more income to less, and in addition, they may like peace, security, fairness, and lots of other things. As we shall see, sometimes masses of individuals have interests in common, or even act collectively. But what matters is that individuals *do* have well-defined preferences that they understand. And they evaluate various different options, including democracy vs. nondemocracy, according to their assessments of their (economic and social) consequences. In such situations the economic approach suggests that people will often behave strategically and that their behavior should be modeled as a game. Game theory is the study of situations with multiple decision-makers, interacting strategically. The basic tenet of game theory is that individuals choose between various strategies according to their consequences. Our economic focus and the presence of important interactions between various political actors make all the situations analyzed in this book essentially 'game theoretic'. We will therefore make heavy use of game theory in modeling preferences over different regimes and transitions between these regimes.

To see the implications of these assumptions, consider a group of individuals for whom democracy and nondemocracy have the same consequences in all spheres, except that democracy generates more income for them, and they naturally prefer more income to less. Therefore, we expect these individuals to prefer democracy to nondemocracy. At some level, this postulate is therefore very weak. But at another level, however, we are buying a lot with our economic focus. Most important, we are getting a license to focus on the consequences of the regimes, and preferences over regimes will be derived from their consequences. Such an approach is consistent with many historical accounts of the motivations of different actors. For example, in 1839 the Chartist J. R. Stephens argued

> "The question of universal suffrage ... is a knife and fork question, a bread and cheese question ... by universal suffrage I mean to say that every working man in the land has a right to a good coat on his back, a good hat on his head, a good roof for the shelter of his household, a good dinner upon his table. " (quoted in Briggs, 1959, p. 34).

The alternative would have been simply to assume that one group dislikes democracy, whereas another group likes democracy, for example, because of certain ideological preferences or biases (e.g., Diamond 1999). Indeed, Diamond (1993, p. 35) argues that

> "democracy becomes truly stable only when people come to value it widely not solely for its economic and social performance but intrinsically for its political attributes."

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[2]In political science such an approach is often called 'rational choice.'

We are not denying that such ideological preferences do exist, but we believe that individuals' and groups' preferences over regimes derived from the economic and social consequences of these regimes are more important. Later in the book, we will discuss how introducing ideological preferences affects our results, and the general message will be that, as long as these do not become the overriding factor, they will not affect our conclusions.

Our second building block is that politics is inherently conflictual. Most policy choices create distributional conflict; one policy benefits one group, while another benefits different individuals. This is a situation of *political conflict*—conflict over the policies that society should adopt. These groups, for example the rich and the poor, have conflicting preferences over policies, and every policy choice will create *winners* and *losers*. For instance, with high taxes the rich would be the losers and the poor the winners, while when low taxes are adopted, the roles would be reversed. In the absence of such conflict, aggregating the preferences of individuals to arrive at social preferences would be easy; we would simply have to pick the policy that made everybody better off. Much of political philosophy exists because we don't live in such a simple world, and situations of conflict are ubiquitous. Every time society (or the government) makes a decision or adopts a policy, it is implicitly siding with one group, implicitly resolving the underlying political conflict in one way or another, and implicitly or explicitly creating winners and losers.

Though the economic approach emphasizes individual preferences and motivations, many individuals will often have the same interests and sometimes make the same decisions. Moreover, groups of individuals may be able to act collectively if there are no collective action problems, or if they can solve any that exist. If this is the case, then we can usefully discuss conflict and who is in conflict with whom in terms of groups of individuals. These groups may be social classes, somewhat similar to Marxist accounts of history and politics, but they may also be urban agents, ethnic or religious groups or the military. Our focus on social groups as key political actors is motivated by our sense that the most important forces in political conflict and change are groups of individuals.

Leaving issues of political philosophy related to how a just or fair society should reconcile these conflicting preferences aside, how does society resolve political conflict in practice? Let us make this question somewhat more concrete: suppose there are two policies, one favoring the citizens and the other favoring the elite. Which one will the society adopt? Since there is no way of making both groups happy simultaneously, the policy choice has to favor one group or the other. We can think that which group is favored as being determined by which group has *political power*. In other words, political power is the capacity of a group to obtain its favorite policies against the resistance of other groups. Since there are always conflicting interests, we are always in the realm of political conflict. And since we are always in the realm of political conflict, we are always under the shadow of political power. The more political power a group has, the more it will benefit from government policies and actions.

But what is political power? Where does it come from? In thinking of the answers to these questions, it is useful to distinguish between two different types of political power. Let's call them *de jure political power* and *de facto political power*. Imagine Thomas Hobbes' state

of nature, where there is no law and man is indistinguishable from beast. Thomas Hobbes considered such a situation to argue that this type of anarchy was highly undesirable, and the state, as a leviathan, was necessary to monopolize force and enforce rules among citizens. But how are allocations determined in Hobbes' state of nature? If there is a fruit which can be consumed by one of two individuals, which one will get to eat it? The answer is clear: since there is no law, whoever is more powerful, whoever has more brute force, will get to eat the fruit. The same type of brute force matters in the political arena as well. A particular group will have considerable political power when it has armies and guns to kill other groups when policies do not go its way. Therefore, the first source of political power is simply what a group can do to other groups and the society at large by using force. We will refer to this as de facto political power. Yet, and fortunately so, this is not the only type of political power. Today, key decisions in the United Kingdom are taken by the Labour Party, not because they can use brute force or because they have acquired de facto power through some other means, but because political power has been allocated to them by the political system (they were voted into office in the last general election). As a result, among policies with conflicting consequences, they can choose those that are more beneficial to their constituency or to their leaders. We will call this type of political power, allocated by political institutions, de jure political power. Actual political power is a combination of de jure and de facto political power, and which component matters more will depend on various factors, a topic which we will discuss later.

Finally, we refer to the social and political arrangements that allocate de jure political power as *political institutions*. For example, an electoral rule that gives the right to decide fiscal policies to the party that obtains 51 percent of the vote is a particular political institution. For our purposes, the most important political institutions are those that determine which individuals take part in the political decision-making process, i.e., democracy vs. nondemocracy. Therefore, a major role of democracy will be its ability to allocate de jure political power. In democracy, the majority will have relatively more de jure political power than they do in nondemocracy. That democracies look after the interests of the majority of citizens more than nondemocracies is then simply a consequence of the greater de jure political power of the majority in democracy than in nondemocracy.

3. Towards Our Basic Story

Armed with the first two basic building blocks of our approach, we can now start talking about preferences over different regimes. There is typically political conflict between the elite and the citizens, and democracies look after the interests of the citizens more than nondemocracies do. It is therefore natural to think that the citizens have a stronger preference for democracy than the elite. So if there is going to be conflict about what types of political institutions a society should have, we will have the majority of citizens on the side of democracy and the elite on the side of nondemocracy. And this is not a bad starting point.

We could add more empirical content to this structure by assuming that the elite were the relatively rich and the majority the relatively poor. Indeed, in many instances, the transition from

nondemocracy to democracy was accompanied by significant conflict between poorer elements of society, who were hitherto excluded and wanted to be included in the political decision-making process, and the rich elite who wanted to exclude them. This was most clearly the case in 19th-century Europe, particularly Britain as we saw in Chapter 1, when initially the middle classes and then subsequently the working classes demanded voting rights. Their demands were first opposed by the rich elite, who then had to concede and include them in the political system.

In line with this account of political developments in 19th-century Europe, Aminzade (1993, p. 35) describes the arrival of universal male suffrage to French politics as follows:

> "French workers, mainly artisans, constituted the revolutionary force that put the Republican party in power in February 1848 ... and working class pressure from the streets of Paris forced liberal Republican leaders ... to reluctantly concede universal male suffrage."

Perhaps, more tellingly, the key players in the process of democratization saw it very much as a fight between the rich and poor. Viscount Cranborne, a leading 19th century British Conservative, described the reform struggle as

> "a battle not of parties, but of classes" and "a portion of the great political struggle of our century—the struggle between property ... and mere numbers" (quoted in Smith, 1967, pp. 27-28).

The conflict between the poorer and richer factions of society was also a defining characteristic of most instances of the introduction of universal suffrage in Latin America in the first half of the century, including the experiences in Argentina in 1912, as we saw in Chapter 1, but also in Uruguay in 1919, in Colombia in 1936, and in Venezuela in 1945. The arrival of democracy in South Africa and Zimbabwe similarly followed a conflict between the rich whites and poor blacks.

This discussion, therefore, highlights how the majority of citizens want democratic institutions, since they benefit from them, and will therefore strive to obtain them. And given our definition of political power, we can say that the citizens are more likely to secure a transition to democracy when they have more de facto political power. Thus we have already constructed a very simple theory of democratization: the citizens want democracy and the elite want nondemocracy, and the balance of political power between the two groups determines whether the society transits from nondemocracy to democracy (perhaps also whether democracy, once created, becomes consolidated or reverts back to nondemocracy later).

This could be viewed as a very simplified version of our theory of democratization. But in fact it is so simplified that some of the essential features of our theory are absent here. Most importantly, the role that democracy, or more generally political institutions, play is trivialized.

The theory says that democracy leads to social choices more favored by the majority of citizens, hence the citizens prefer democracy to nondemocracy, and democracy will result when the citizens have sufficient political power. But if the citizens have sufficient political power, why don't they use this power to simply obtain the social choices and policies that they prefer

rather than first fight for democracy and then wait for democracy to deliver those policies to them? Is democracy simply a not-so-necessary intermediate step here? One could argue so.

But this is only a feature of the simple story we have told so far, and it is a characteristic of neither real world political institutions nor of our theory. In practice, political institutions play a much more fundamental role than being a simple intermediating variable: they regulate the future allocation of political power between various social groups. They play this role because we do not live in a static world like the one described in the above narrative, but in a dynamic world, where individuals care not only about policies today but also about policies tomorrow. We can capture this important role of political institutions, and obtain a more satisfactory understanding of democracy and democratization by incorporating these dynamic strategic elements, which is what our theory of democratization attempts to do.

4. Our Theory of Democratization

Consider now the simplest dynamic world we can imagine: there is a "today" and a "tomorrow", and the elite and the citizens care about both policies today and tomorrow. There is nothing that prevents society from adopting a different policy tomorrow from the one it chose today. Thus, it is not sufficient for the citizens to ensure policies they prefer today, they would also like similar policies to be adopted tomorrow. Suppose we are in a nondemocratic society, which generally looks after the interests of the elite. Citizens have de facto political power today, so they can obtain the policies they like, but they are unsure whether they will have the same political power tomorrow. Given that we are in a nondemocratic society, tomorrow the elite may become more powerful and assertive, and the citizens may no longer have the same political power. Can they ensure the implementation of the policies they like both today and tomorrow?

This is where political institutions may be important relative to the static world above. Institutions, by their nature, are *durable*—the institutions of today are likely to persist until tomorrow. A democratic society is not only one where there is one-person-one-vote today, but also one that is expected to remain democratic at least in the near future. And this durability of institutions was already implicit in our definition of de jure political institutions as a means of allocating political power: they regulate the *future* allocation of political power. For example, democracy means that tomorrow there will be a vote to determine policies or to decide which party will rule, and in this, the whole population will participate. Nondemocracy means that much of the population will be excluded from collective decision-making processes.

Imagine now that the citizens do not simply use their de facto political power today to obtain the policies they like now, but they also use their political power to change the political system from nondemocracy to democracy. If they do so, they will have effectively increased their de jure political power in the future. Instead of nondemocracy, we are now in a democratic regime where there will be voting by all. With their increased political power, the citizens are therefore more likely to secure the policies they like tomorrow as well.

We have now moved towards a richer theory of democratization: transition to democracy, or more generally a change in political institutions, emerges as a way of regulating the future allocation of political power. The citizens demand, and perhaps obtain, democracy so that they can have more political say and political power tomorrow. Returning to the beliefs of the Chartist J. R. Stephens, we can now see that he was right in demanding universal suffrage as a means of securing the "right to a good coat ... a good hat ... a good roof ... [and] a good dinner" for working men rather than directly demanding the coat, the roof and the dinner. Those would have been only for today, whereas universal suffrage could secure them in the future as well.

Notice an important implicit element in the story: *the transitory nature of de facto political power*. The citizens are presumed to have political power today, but uncertain about whether they will have similar power tomorrow. The balance between the elite and the citizens, or more generally between various social groups, is not permanent, it's not set in stone, it's not the same today as it will be tomorrow; it is transitory. This is reasonable in the dynamic and uncertain world we live in. It will be even more compelling when we think of the sources of political power for the disenfranchised citizens in nondemocracy. First, let us try to understand why the transitory nature of political power matters. Suppose that the citizens have the same political power tomorrow as they have today. Then, why should they need political institutions to help them? If their political power is sufficient to obtain the policies they like (even to obtain the institutions they like) today, then it will be so in the future as well, and there will be no need to change the underlying political institutions. It is precisely the transitory nature of political power, that the citizens have it today and may not have it tomorrow, that creates a demand for change in political institutions. The citizens would like to lock in the political power they have today by changing political institutions, specifically by introducing democracy and greater representation for themselves, because without the institutional changes their power today is unlikely to persist.

So why do the citizens have political power in nondemocracy? The answer is that they have de facto, and not de jure, political power. In nondemocracy, the elite monopolize de jure political power, but not necessarily de facto political power. The citizens are excluded from the political system in nondemocracy, but they are nonetheless the majority, and they can sometimes challenge the system, create significant social unrest and turbulence, or even pose a serious revolutionary threat. What is there to stop the majority of the population overwhelming the elite, who constitute a minority, and taking control of society and its wealth, even if the elite have access to better guns and hired soldiers? After all, the citizens successfully occupied Paris during the Paris Commune, overthrew the existing regime in the 1917 Russian Revolution, destroyed the dictatorship of Somoza in Nicaragua in 1979, and in many other instances created significant turbulence and real attempts at revolution. But a real threat from the citizens requires the juxtaposition of many unlikely factors: the masses need to solve the collective action problem necessary to organize themselves,[3] they need to find the momentum to turn their organization

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[3]That is, individuals should be convinced to take part in revolutionary activity despite the individual costs and the collective benefits to them as a group.

into an effective force against the regime, and the elite, who are controlling the state apparatus, should be unable to use the military to suppress the uprising effectively. It is therefore very reasonable that such a challenge against the system would be only transitory: in nondemocracy, if the citizens have political power today, they most likely will not have it tomorrow.

Imagine now that there is an effective revolutionary threat from the citizens against non-democracy. They have the political power today to get what they want, and even to overthrow the system. They can use their political power to obtain 'the coat, the roof and the dinner', but why not use it to obtain more, the same things not only today but also in the future. This is what they will get if they can force a change in political institutions. Society will make a transition to democracy, and from then on, policies will be determined by one-person-one-vote, and the citizens will have more political power, enabling them to obtain the policies they desire, and the resulting coat, roof and dinner.

In practice, however, changes in political institutions do not simply happen because the citizens demand them. Transitions to democracy typically take place when the elite controlling the existing regime extend voting rights. Why would they do so? After all, the transfer of political power to the majority will typically lead to social choices that the elite don't like, for instance higher taxes and greater redistribution away from them in the future, precisely the outcomes they would like to prevent. Faced with the threat of a revolution, wouldn't the elite like to try other types of concessions, even giving the citizens the policies they want, rather than give away their power? To answer this question, let us return to the period of effective revolutionary threat. Imagine that the citizens can overthrow the system, and are willing to do so if they don't get some concessions, some policies, which favor them and increase their incomes and welfare.

The first option for the elite is to give them what they want today: redistribute income and more generally adopt policies favorable to the majority. But suppose that concessions today are not sufficient to dissuade the citizens from revolution. What can the elite do to prevent an imminent, and for themselves, extremely costly revolution? Well, they can promise the same policies tomorrow. Not only a coat, a roof and a dinner today, but also tomorrow. And yet these promises may not be *credible*. Changing policy in the direction preferred by the citizens is not in the immediate interest of the elite. Today they are doing so to prevent a revolution. Tomorrow, the threat of revolution may be gone, so why should they do so again? Why should they keep their promises? No reason, and in fact they are unlikely to do so. Hence their promises are not necessarily credible. But non-credible promises are worth little, and unconvinced by these promises, the citizens would carry out a revolution. If they want to save their skins, the elite have to make a credible promise to set policies that the majority prefer, particularly, they must make a credible commitment to future pro-majority policies. A credible promise means that the policy decision should not be theirs, but placed in the hands of groups that actually prefer such policies. Or in other words, they have to transfer political power to the citizens. A credible promise, therefore, means that they have to change the future allocation of political power. That is precisely what a transition to democracy does: it shifts future political power away from

the elite to the citizens, thereby creating *a credible commitment to future pro-majority policies.* The role that political institutions play in allocating power and leading to relatively credible commitments is the third key building block of our approach.

Why, if a revolution is attractive to the citizens, does the creation of democracy stop it? This is plausibly because revolution is costly. In revolutions much of the wealth of a society may be destroyed, and this is costly for the citizens as well as the elite. It is these costs that allow concessions or democratization by the elite to avoid revolution. In reality, it will not always be the case that democracy is sufficiently pro-majority that it avoids revolution. For example, the citizens may anticipate that, even with universal suffrage, the elite will be able to manipulate or corrupt political parties, or maybe they will be able to use their control of the economy to limit the types of policies that democracy can implement. In such circumstances, anticipating that democracy will deliver few tangible rewards, the citizens may revolt. However, to limit the scope of our analysis, we will normally restrict our attention to situations where the creation of democracy avoids revolution. Historically, this seems to have been the typical case, and it means that we do not delve deeply into theories of revolution or into the modelling of post-revolutionary societies.

We now have our basic theory of democratization in place. In nondemocracy, the elite have de jure political power and if they are unconstrained, they will generally choose the policies that they most prefer; for example, they may choose low taxes and no redistribution to the poor. But nondemocracy is sometimes challenged by the citizens who may pose a revolutionary threat— when they temporarily have de facto political power. Crucially, such political power is transitory; they have it today and are unlikely to have it tomorrow. They can use this power to undertake a revolution, and change the system to their benefit, creating massive losses to the elite, but also a large amount of collateral damage and social losses. The elite would like to prevent this outcome, and they can do so by making a credible commitment to future pro-majority policies. But promises of such policies within the existing political system are often non-credible. To make them credible, they need to transfer formal political power to the majority, and this is what democratization achieves.

This story of democratization as a commitment to future pro-majority policies by the elite in the face of the revolutionary threat, and perhaps more importantly, as a commitment made credible by changing the future distribution of political power, is consistent with much historical evidence. As illustrated by the British, Argentinian and South African political histories discussed in Chapter 1, most transitions to democracy both in 19th- and 20th-century Europe and 20th-century Latin America took place amid significant social turmoil and revolutionary threats. In addition the creation of democratic societies in most former European colonies in the 1950's and 1960's was the result of pressure by the disenfranchised and relatively poor colonials against the colonizing power. Such threats of turmoil and social disorder similarly accompanied the recent spate of democratizations in Africa (Bratton and van der Walle, 1997) and also Eastern Europe (Bunce, 2003). To quote a classic European example, in presenting his electoral reform

to the British Parliament in 1831, the Prime Minister Earl Grey was well aware that this was a measure necessary to prevent a likely revolution. He argued:

> "There is no-one more decided against annual parliaments, universal suffrage and the ballot, than I am. My object is not to favour, but to put an end to such hopes and projects ... The principle of my reform is, to prevent the necessity of revolution ... reforming to preserve and not to overthrow." (quoted in Evans, 1996, p. 223).

Lang's (1999, pp. 38-39) conclusion mirrors Earl Grey's:

> "The Whigs were aware of the support among working people for the bill ... However, they were also quite determined not to allow the working classes to hold any sort of dominant position in the new electoral system. Passing the bill therefore saved the country from risings and rebellion; the content of the bill saved the country from the 'evils' of democracy. Needless to say, disappointment among the working classes was likely to be intense once they realized how little they had gained from the bill, but by then they would have lost their middle class allies, won over to the system by the bill, and would be powerless to do anything about it."

The same considerations were also determining factors for the later reforms. For example,

> "as with the First Reform Act, the *threat* of violence has been seen as a significant factor in forcing the pace [of the 1867 Reform Act]; history ... was repeating itself." (Lee, 1994, p. 142).

Similarly, the threat of revolution was the driving force behind democratization in the French, German and Swedish cases. For example, Tilton (1974) describes the process leading to the introduction of universal male suffrage in Sweden as follows:

> "neither [of the first two reform acts] passed without strong popular pressure; in 1866 crowds thronged around the chamber while the final vote was taken, and the 1909 reform was stimulated by a broad suffrage movement [and] a demonstration strike ... Swedish democracy had triumphed without a revolution—but not without the *threat* of a revolution" (pp. 567-568) (italics in original).

The threat of revolution and social unrest played an equally important role in the establishment of voting rights for the populace in Latin America. We saw in Chapter 1 how in Argentina universal male suffrage was effectively institutionalized in 1912 by President Roque Sáenz Peña when the secret ballot was introduced and fraudulent electoral practices outlawed. The movement towards a full democracy was driven by the social unrest created by the Radical party and the rapid radicalization or urban workers. In Colombia the creation of universal suffrage during the administration of Liberal President Alfonso López Pumarejo in 1936 was similarly inspired, leading Colombianist historian David Bushnell (1993, p. 185) puts it in the following way,

> "López ... was a wealthy man ... yet he was well aware that Colombia could not
> go on indefinitely ignoring the needs and problems of what he once described as
> 'that vast and miserable class that does not read, that does not write, that does
> not dress, that does not wear shoes, that barely eats, that remains ... on the
> margin of [national life].' In his opinion such neglect was not only wrong but also
> dangerous, because the masses would sooner or later demand a larger share of
> the amenities of life."

Similarly, the reinstatement of democracy in Venezuela in 1958 was a response to intense uprisings and unrest. In describing the situation, Kolb (1974, p. 175) writes:

> "in dramatic intensity and popular violence, the events on January 21 and 22 in
> Caracas ... was a true popular revolution of Venezuelan citizens ... armed with
> rocks, clubs, home-made grenades, and Molotov Cocktails, against a ferocious
> and well-trained Police force."

The evidence is therefore consistent with the notion that most moves towards democracy happen in the face of significant social conflict and possible threat of revolution. Democracy is usually not given by the elite because their values have changed. It is demanded by the disenfranchised as a way to obtain political power and thus secure a larger share of the economic benefits of the system.

Why does the creation of democracy act as a commitment when we know that democracy often collapses once created? This is because though coups sometimes occur, it is costly to overthrow democracy, and institutions, once created, have a tendency to persist. This is mostly because people make specific investments in them. For instance once democracy has been created, political parties form and many organizations, such as trade unions, arise to take advantage of the new political circumstances. The investments of all these organizations will be lost if democracy is overthrown, giving citizens an incentive to struggle to maintain democracy. Moreover, once democracy has been created, the majority may have greater control over the military than they had under a nondemocratic regime and this changes the underlying balance of de facto power.

Finally, we note that the trade-off for the elite, facing the threat of revolution by the citizens, is not simply between policy concessions and democratization. A further alternative would be to use force and repression. For example, the white South African regime rejected calls for democracy and kept itself in power for decades by using the military to repress demonstrations and opposition. Similarly, Argentine military regimes of the 1960's and 1970's killed thousands of people to avoid re-introducing democracy and this has been a pattern in many other Latin American countries, for example in Guatemala and El Salvador. In Asia, nondemocratic regimes in China and Burma have used force to block demands for democracy, and this was also true in Eastern European countries during the dominance of the Soviet Union, for example in Hungary in 1956 and Czechoslovakia in 1968. It is clear why repression is attractive for elites since it allows them to maintain power without having to make any type of concessions to the disenfranchised.

Nevertheless, repression is both costly and risky for elites. It leads to the loss of life and the destruction of assets and wealth, and depending on the international climate of opinion, it may lead to sanctions and international isolation, as happened in South Africa during the 1980's. Moreover, repression may fail which could cause a revolution, the worst possible outcome for the elite. These considerations imply that only in certain circumstances will repression be attractive. When we incorporate this into the analysis, we shall see that democracy arises when concessions are not credible and repression is not attractive because it is too costly.

5. Democratic Consolidation

A theory of democratization is not sufficient to understand why some counties are democratic while some others are ruled by dictatorships. Many countries become democratic, but eventually revert back to a nondemocratic regime as a result of a military coup. This has been an especially common pattern in Latin America. As we saw in the previous chapter, Argentina is a striking example of the instabilities of Latin American democracy. Similarly, the path to democracy has been marred by switches to dictatorships in Brazil, Chile, Guatemala, Peru, Venezuela, and Uruguay. Why has democracy been so hard to consolidate in much of Latin America?

To answer this question, we need to develop a theory of coups, or alternatively, a theory of democratic consolidation. What is a consolidated democracy? We say a democracy is consolidated if the set of institutions which characterize it endure through time. Our theory of democratic consolidation and coups builds on the different attitudes of the elite and the citizens towards democracy. Once again, the citizens are more pro-democratic than the elite (because democracy is more pro-citizen than nondemocracy). Consequently, when there is a situation with the military on the side of the elite and sufficient turbulence to allow a military takeover, the elite might support or sponsor a coup to change the balance of power in society.

It is noteworthy that the reason why the elite might want to change political institutions, from democracy to nondemocracy, is similar to why the citizens wanted democratization. What the elite care about is to change policies in their favor, and political turbulence and the alignment between their interests and those of the military might give them a window of opportunity for doing so. But there is the issue of the transitory nature of de facto political power. They will have this opportunity today, but not necessarily tomorrow. Any promise by the citizens to limit the extent to which policy is pro-majority in the future is not credible within the context of democratic politics. Tomorrow, the threat of a coup will be gone, and democratic politics will again cater to the needs of the majority, and therefore choose the policies they prefer without worrying about the elite undermining their power via a coup. But this is precisely what made democracy so costly for the elite in the first place. To change future policies in a credible way the elite need political power. A coup is their way of increasing their de jure political power so that they can pursue the policies they like. In other words, a coup enables the elite to turn their transitory de facto political power into more enduring de jure political power by changing political institutions.

A related reason why a coup may arise is that in the midst of political and social turbulence, the military and the elite segments of society may be, perhaps rightly, worried about the future sustainability of democracy and even of the capitalist system, and want to preempt a potential move further towards the left or even a revolution.

6. Determinants of Democracy

Now that we have a theory of democratization, we can ask what factors make the emergence and consolidation of democracy more likely. We have so far explained how our theory can account for transitions from nondemocracy to democracy and possibly back again to nondemocracy. But just as important are *the comparative statics* of the equilibrium, meaning, how the equilibrium changes when some underlying factors change. These comparative statics will enable us to explain why some countries transition to democracy while others don't, and why some countries remain democracies while in other countries democracy collapses. These comparative statics can then guide empirical and historical work in understanding the incidence of democracy.

6.1. Civil Society.

6.1.1. *Democratization.* Our framework implies that a relatively effective threat of revolution from the citizens is important for democratization. When the citizens are not well-organized, the system will not be challenged, and transition to democracy will be delayed or put off indefinitely. Similarly, when civil society is relatively developed and the majority are organized, repression may be more difficult. Therefore, some degree of development in civil society is also necessary for democratization. We take such development as given in this book and plausibly it represents the outcomes of long-run historical processes (see, for example, Putnam, 1993).

6.1.2. *Consolidation.* The strength and nature of civil society is as important for the consolidation of democracy as it is for its creation in the first place. Not only is a well organized civil society necessary to push for democracy, but it is also necessary to protect it. When civil society is better organized coups will be easier to resist, more costly to undertake, and less likely to succeed. Hence democracy is more likely to be consolidated.

6.2. Shocks and Crises.

6.2.1. *Democratization.* In our theory, democratizations occur because of the transitory nature of de facto political power. In some situations, the collective action problem will be easier to solve, opponents to the regime easier to coordinate, and revolutions easier and less costly to carry out. These will typically be times of crises, for example, times of harvest failures, economic depressions, international financial or debt crises, or even wars. Such crises and macroeconomic shocks are intrinsically transitory and lead to short-term fluctuations in de facto political power. Our theory therefore predicts that democratizations are more likely to arise in a situation of economic or political crises. A clear example is the democratization in Argentina after the Falklands (Malvinas) War in 1983.

6.2.2. *Consolidation.* Just as opponents of dictatorship can gain temporary de facto power when there are political or economic crises, so can opponents of democracy. Our analysis suggests that, as with democratizations, coups are more likely to arise in situations of crisis. An illustrative example being the coup against Allende in Chile in 1973, which came during the first big rise in oil prices and a large economic depression.

6.3. Sources of Income and Composition of Wealth.

6.3.1. *Democratization.* Another important determinant of the trade-off between democracy and repression is the source of the income of the elite. In some societies, the elite are heavily invested in land, while in others, the elite are those with investments in physical and human capital. There are likely to be three major differences in the attitudes of land owners and (physical and human) capital owners towards democracy and nondemocracy. First, land is easier to tax than physical and human capital. Therefore, landowners have more to fear from democracy than nondemocracy. This makes them more averse to democracy. Second, social and political turbulence may be more damaging to physical and human capital owners who have to rely on cooperation in the workplace and in the trading process. This will make landowners more willing to use force to preserve the regime that they prefer. Thirdly, different sets of economic institutions are feasible in a predominantly agrarian economy and these influence the relative intensity of elites' and citizens' preferences over different regimes. For instance, labor repressive institutions, such as slavery are relatively more efficient with agricultural technology than they are in industry (Eltis, 2000). This implies that democracy is worse for elites since the changes in collective choices that it brings will undermine their preferred set of economic institutions. All three considerations imply that democratization will be more likely in a more industrialized society, where the elite own significant physical and human capital, than a more agricultural one, where the elite are mainly invested in land. Put differently, democracy is more likely when the elite are industrialists rather than landowners.

Although, as we noted above, the nature of revolutions is not the focus of this book, the above ideas also have interesting implications for the incidence of revolutions. For example, they can help to account for why most revolutions, for example in Russia, Mexico, China, Vietnam, Bolivia and Nicaragua take place in primarily agrarian societies. We would suggest that this is because landed elites favor repression rather than concessions, and when repression fails revolutions take place. In more urbanized and industrialized societies, where the elite are invested in capital, concessions are favored and revolutions are observed less often.

6.3.2. *Consolidation.* The source of the income of the elite also matters for the decision as to whether or not to mount a coup. If the elite are heavily invested in land, then coups may tend to be less costly. More important, democracy is relatively worse for such individuals given that land can be taxed at higher rates than capital, and also economic institutions under democracy will be further from those preferred by the elite. In contrast, when the elite's wealth is mostly in the form of physical and human capital, coups are more expensive for them, and democracy is

less threatening. As a result democracy is less likely to consolidate when the elite are landowners than when they are capitalists.

6.4. Political Institutions.

6.4.1. *Democratization.* Our framework also suggests that the nature of democratic political institutions may be crucial for explaining why some societies democratize but others do not. In particular, when the elite can use repression to avoid democratizing, they do so because they anticipate that democracy will be harmful for their interests. So far our characterization of democracy as the rule of the majority has been overly stylized in order to communicate the main elements of our analysis. In reality, one person's vote may be worth more than another, and in particular, the elite may be able to exercise more or less influence over what happens in a democracy, even though their influence is relatively less than it is in a dictatorship.

One way they can do this is through the design of democratic institutions. In his 1913 book, *An Economic Interpretation of the U.S. Constitution*, Charles Beard argued that the constitution was written by rich property holders with an eye to maintaining the worth of their assets (including one should add their slaves) in the face of likely radical democratic pressures.[4] Beard argued that (1913, p. 13)

> "Inasmuch as the primary object of a government, beyond the mere repression of physical violence, is the making of the rules that determine the property relations of society, the dominant classes whose rights are thus to be determined must perforce obtain from the government such rules as are consonant with the larger interests necessary to the continuance of their economic processes, or they must themselves control the organs of government. In a stable despotism the former takes place; under any other system of government, where political power is shared by any portion of the population, the methods and nature of this control become the problem of prime importance—in fact, the fundamental problem in constitutional law. The social structure by which one type of legislation is secured and another prevented—is a secondary or derivative feature arising from the nature of the economic groups seeking positive action and negative restraint"

Even the notion of representative democracy, as opposed to participatory or direct democracy, can be seen as an attempt to dilute populist pressures and undermine the power of the majority (as argued by Manin, 1997).

Clearly then democratic political institutions can be structured to limit the power of the majority. A more recent example is the constitution written during the dictatorship of General Pinochet in Chile which attempted to minimize the threat of socialism in Chile by engaging in systematic gerrymandering and the under-representation of urban areas, and otherwise attempted to cement the veto of the military over democratic decisionmaking (see Londregan,

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[4]Though many details of Beard's arguments are now contested, the general thrust of his argument is accepted by many scholars. For instance, Wood (1969, p. 626) notes in his seminal book that the Constitution "was intrinsically an aristocratic document designed to check the democratic tendencies of the period." See McGuire (1988) for partially supporting statistical evidence.

2000, Siavelis, 2000). Turkey and Thailand provide other examples where constitutions written or commissioned by the military may have helped democratic consolidation. Haggard and Kaufman (1995, p. 110) note

> "Ironically, the greater security for the armed forces during the initial years of the transition probably *reduced* the threat to civilian authority in Chile, Turkey, and Korea."

Another example, which we discussed in Chapter 1, is the way that the South African constitution was written in an attempt to protect the interests of whites under democracy.

If a nondemocratic regime or elite can design or manipulate the institutions of democracy so as to guarantee that radical majoritarian policies will not be adopted, then democracy becomes less threatening to the interests of the elite. Less threatened, the elite are more willing to create democracy in the first place. For instance, when democracy is less threatening it will be less attractive to use repression to avoid it. Thus Pinochet's constitution, according to our framework, facilitated democratization in Chile. It may even be the case that, as in South Africa, the majority of citizens are themselves willing to restrict their policy options to facilitate a transition to democracy. As we discuss in Chapter 6, the ANC themselves realized that they had to make concessions to the whites about the structure of democratic institutions. For the ANC this was better than carrying on with the fight against the apartheid regime. By giving the elite credible guarantees, a process of democratization is facilitated that might otherwise not take place.

6.4.2. *Consolidation.* Just as the structure of democratic institutions influences democratization in the first place, so it helps to determine whether or not democracy consolidates. In particular, institutions that place limits on pro-majoritarian policies in democracy are likely to help consolidation. First, the elite may be quite influential in democracy because they control a strong upper house, like the Prussian Junkers in 19-century Germany, the British House of Lords, or the party system. Knowing that in democracy they will be able to insure against the most excessively majoritarian policies, the elite will be less willing to undertake action against democracy.

An interesting example in this context is the links between the elite and both traditional ruling parties in Colombia. Throughout the 20th century, the Liberal and Conservative parties managed successfully to avoid the entry of left-wing parties by manipulating electoral institutions, particularly the form of proportional representation. Without a left-wing party, highly redistributive political agendas did not emerge in Colombia. Interestingly, Colombia has one of the most consolidated democracies in Latin America, though there are often complaints that the system does not represent the interests of the majority.

Another example of the connection between political institutions and democratic consolidation is the claim that presidential democracies may be more unstable than parliamentary ones and more prone to coups (see Linz, 1978, 1994). This idea makes sense in our framework because, while in a legislature checks and balances and lobbying may allow the elite to block

radical policy proposals, a directly elected president is more likely to represent the preferences of the majority in society and therefore to be more populist. Hence presidential systems may be more threatening to the interests of the elite, and thus induce more coups.

Paradoxically then, this perspective might also help explain why the consolidation of democracy in Chile may have run very smoothly after the systematic gerrymander that General Pinochet arranged in the electoral rules. This manipulation under-represented urban areas at the expense of more conservative rural areas, thus reducing the political power of the left. The consequence was a less redistributive, but also more stable democracy.

We note, however, that while increasing the power of the elite in democracy may promote democracy, giving the elite too much power will undermine it. In our framework, democracy arises from conflict between elites and disenfranchised majorities who are prepared to accept democracy, rather than something more radical, because it gives them more political power than nondemocracy. If the elite have too much power in democracy, democracy will do little to improve the welfare of the majority. In this case, democracy will not be a solution to social conflict, and the result will either be revolution or an elite which keeps itself in power through repression.

6.5. The Role of Inter-Group Inequality.

6.5.1. *Democratization.* Our framework makes predictions about the effect of *inter-group inequality*—inequality between groups—on the creation and consolidation of democracy. Here we outline these, for convenience using the word inequality to refer to inter-group inequality. However, these predictions about inter-group inequality may not translate into statements about standard measures of inequality and income distribution (such as the labor share or the Gini coefficient). This is particularly so when political conflict is not rich versus poor, but along other lines, perhaps between ethnic or religious groups.

Everything else equal, greater inter-group inequality makes revolution more attractive for the citizens: with revolution, they get a chance to share the whole income of the economy (minus what's destroyed in revolution), while in nondemocracy they obtain only a very small fraction of these resources. Since an effective threat of revolution is the spark that ignites the democratization process, greater inter-group inequality should be associated with a greater likelihood of democratization.

There is also another reason why inter-group inequality might contribute to democratization. Recall that democratization occurs as a credible commitment to future redistribution, when the promise of redistribution is not sufficient to stave off the threat of revolution. The stronger is the threat of revolution, the more likely it is that this promise will be insufficient, and the more likely it is that the elite will be forced to create democracy. Since greater inter-group inequality contributes to the strength of the threat of revolution, it makes democratization more likely via this channel as well.

This discussion of the role of inter-group inequality is one sided, however. It highlights how greater inequality increases the threat of revolution and thus the demand for democracy

by the citizens. But inter-group inequality may also affect the aversion that the elite have to democracy. To see why, note that as the gap between the elite and the citizens rises, i.e., as inter-group inequality increases, the burden placed on the elite, even *at a constant tax rate*, rises. This is because with greater inequality, a larger share of total tax revenues will be raised from the elite, who now command a greater fraction of the resources in the economy. Therefore, greater inter-group inequality typically increases the burden of democracy on the elite, even if the tax rate remains constant or changes little. Moreover, many approaches suggest that greater inter-group inequality should increase the tax rate, contributing to this effect. If this is so, there would be another reason for greater inequality to increase the burden of democracy on the elite. With greater inequality, the benefits from redistribution increase, inducing the citizens to prefer higher levels of taxation.[5] Overall, it therefore seems compelling that the costs of redistributive taxation and democratic politics to the elite, and hence their aversion to democracy, should be generally higher for the elite in a society where the difference in the incomes between the elite and the citizens is greater.

How does this affect the relationship between inter-group inequality and transition to democracy? The most important implication is that as inequality increases and democracy becomes more costly for the elite, repression becomes more attractive. Therefore, greater inter-group inequality may also discourage democratization.

Putting these two pieces of the story together, we find that there is a non-monotonic (inverted U-shaped) relationship between inter-group inequality and the likelihood of transition to democracy. In the most equal societies, revolution and social unrest are not sufficiently attractive for the citizens; either there are no challenges to nondemocratic systems, or any challenges can be met by temporary measures, such as some limited redistribution. In other words, in these fairly equal societies, the citizens are already benefiting from the productive resources of the economy or even perhaps from the growth process, so they do not make further strong demands. This may be the reason why democracy arrived late in a number of equal and rapidly growing economies, such as South Korea and Taiwan and has yet to fully arrive in Singapore. In stark contrast to this, in the most unequal societies, such as South Africa prior to 1994, the citizens have great reason to be unhappy and often try to rise up against the authority of nondemocracy. But now, the elite have a lot to lose from abandoning the system that looks after their own interests and transiting into one that will place a greater redistributive burden on them. Thus, instead of democracy, a highly unequal society is likely to end up in a repressive nondemocracy or sometimes when repression is not enough, perhaps even experience a revolution. This mechanism can also explain the persistence of nondemocratic regimes in the highly unequal countries of Latin America, such as El Salvador and Paraguay. This account then suggests that democracy has the best chance to emerge in societies with middle levels of inequality. Here, the citizens are

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[5]As we discuss in Chapter 4, there are theoretical and empirical arguments for why the relationship between inequality and redistribution may be more complex (e.g., greater inequality may enable the elite to lobby more effectively against redistribution in democracy). Nevertheless, it is generally the case that with greater inter-group inequality, democracy imposes a greater burden on the elite than nondemocracy does.

not totally satisfied with the existing system, and the elite are not so averse to democracy that they resort to repression to prevent it. This is the situation we find in Britain and Argentina in the late 19th and early 20th centuries.

6.5.2. *Consolidation.* Inequality also critically influences the propensity of a democracy to consolidate. Since the main threat against democracy comes from its redistributive nature, the greater is redistribution away from the elite the more likely are they to find it in their interest to mount a coup against it. Therefore, greater inequality is likely to destabilize democracy, because, as observed above, the burden of democracy on the elite is increasing in the income gap between themselves and the citizens.

This comparative static result with respect to inequality offers a potential explanation for why democracy may have been much harder to consolidate in Latin America than in Western Europe. Latin American societies are considerably more unequal, and therefore suffer more from distributional conflict between the elite and the citizens. Our framework predicts that in highly unequal societies, democratic policies should be highly redistributive, but then abruptly come to an end with a coup that reverts back to much less redistributive policies. This pattern is reminiscent of the oscillations of many Latin American countries between the highly redistributive, but unsustainable populist policies of short-lived democracies and the fiscally much more conservative approach of subsequent nondemocratic regimes. Tellingly, Kaufman and Stallings (1991) also emphasize a close connection between unconsolidated democracy and populist redistribution. They write (1991, p. 27)

> "established democracies (Venezuela, Colombia and Costa Rica in our study) were also associated with orthodox macro policies .... it was the transitional democracies (Peru, Argentina and Brazil) that followed populist policies."

Putting together the effects of inequality on democratization and coups, we can see that very equal societies never democratize in the first place. This helps to account for Singapore's path of political development. Higher, but still relatively low levels of inter-group inequality lead societies to democratize and once created democracy is consolidated because it is not so costly for the elite that a coup is desirable. This may capture Britain's path of political development. Even higher levels of inequality still lead to democratization, but democracy does not consolidate because coups are attractive. As a result, we find the outcome to be unconsolidated democracy, which is the path that Argentina followed in the 20th century. Finally at the highest levels of inequality democracy is so threatening for the elite that they use repression to avoid it, a situation which characterizes South Africa until 1994.[6]

6.6. The Middle Class.

6.6.1. *Democratization.* Perhaps the most famous treatise on the origins of democracy is Barrington Moore's *Social Origins of Dictatorship and Democracy.* Our work owes a natural intellectual debt to Moore, especially as we paraphrased his title. In our theory the major factor

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[6]These are all of course statements where 'other things are held equal'. Inter-group inequality is not the only thing that determines whether or not a society democratizes, or whether or not democracy consolidates.

that distinguishes democracy from nondemocracy is the greater political equality of democracies, and so far we have only distinguished between two groups, the elite and the citizens. This was mainly for simplification (again an application of Occam's razor). Nevertheless, in many circumstances a third group between the elite and the great mass of citizens may be of significance. In general this group could be identified in many ways but, following the emphasis of many scholars, it is useful to think of this group as the middle class and forming a distinct political actor. Once the middle class is brought into our framework, we obtain a range of interesting results, some of them vindicating the emphasis that Moore and other scholars have placed on the middle class.

The first role that the middle class can play in the emergence of democracy is as the driver of the process. Recall that in our framework democracy emerges in response to a serious revolutionary threat or significant social unrest. The middle class can be the driver in this process by playing a key role in the revolutionary movement, or by fueling and maintaining it. Almost all revolutionary movements were led by middle-class actors, and more important, a number of the major challenges to the existing regime in 19th-century Europe, for example the uprisings which helped to induce the First Reform Act in Britain, or those during the Paris Commune in France, or the revolts of the Radical party in Argentina, were largely middle-class movements (see O'Donnell and Schmitter, 1986, pp. 50-52, on the crucial role of the middle class in contemporary democratizations). Therefore, the middle class, by virtue of its more comfortable economic situation and the greater education of its members, can be a critical catalyst in the process towards democracy. This might also explain why many of the early moves towards democracy in Europe were only partial. If the middle class is the key actor, it may be sufficient for the elite to co-opt the middle class rather than concede a comprehensive democracy to all those who are excluded from the political system. The resulting picture will then resemble the gradual move towards democracy experienced in much of Western Europe; first, the middle classes are included in the political process, and then the franchise is extended to the mass of citizens.

Perhaps the more important role of the middle class is that of a *buffer* in the conflict between the elite and the citizens. Recall that when the elite expect democracy to adopt policies highly unfavorable to themselves, they prefer repression to democratization. The presence of a large and relatively affluent middle class ensures that they play an important role in democratic politics, and because they are more prosperous than the citizens, they will typically support policies much closer to those the elite prefer. Therefore, by limiting the amount of policy change induced by democracy, a large and affluent middle class may act like a buffer between the elite and citizens in democracy. It does this by simultaneously making democratization more attractive for the elite than repression, and at the same time changing policy enough that the citizens are content not to revolt.

The role of the middle class in the transition to democracy might help us understand the contrast between the political histories of Costa Rica and Colombia, on the one hand, and Guatemala, El Salvador and Nicaragua, on the other. Despite many similarities in their colonial

histories and economic structures, these five countries have had very different political trajectories (see Paige, 1997, Nugent and Robinson, 2002). Costa Rica and Colombia have became stable, albeit restricted democracies, since the middle of the 19th century, and have successfully made the transition to effective universal suffrage in 1948 and 1936 respectively. Guatemala, El Salvador and Nicaragua, on the other hand, were dominated by dictators in the 19th century and initial moves towards democracy, for example in El Salvador in the late 1920's and in Guatemala between 1945 and 1954 were snuffed out by coups and repression. These three societies made the transition to democracy very late. One important difference between these countries is that there is a relatively large and affluent middle class, especially smallholder coffee producers, in Costa Rica and Colombia, but not in the other three cases. Perhaps as a consequence, democratic politics, once installed, has been much more conflict-ridden in Guatemala, El Salvador and Nicaragua than in Costa Rica and Colombia.

6.6.2. *Consolidation.* The middle class may play an important role in consolidating democracy by limiting redistribution. A society with a large and affluent middle class will engage only in limited redistribution away from the elite towards the citizens, and therefore provide a much smaller threat to the interests of the elite. This might be useful in understanding why many West European societies and some Latin American societies like Costa Rica and Colombia with comparatively large middle classes have also had relatively stable democracies, while El Salvador and Guatemala, which lack such a middle class buffer, have had difficulty consolidating democracy.

6.7. Globalization. There is no doubt that there are stronger economic links between nations today than 40 years ago. Countries are more closely linked internationally today, with economic organizations such as the European Union, NAFTA, Mercosur and Asean, a much larger volume of trading goods and services, and much larger cross-border financial transactions. Do these major economic and political changes have implications for the circumstances under which democracy will arise and consolidate?

6.7.1. *Democratization.* Globalization might contribute to democratization in a number of distinct ways. First, international financial integration means that capital owners, the elite, can more easily take their money out of a given country. This makes it harder to tax the elite, and reduces the extent to which democracy can pursue populist and highly majoritarian policies. International financial integration therefore makes the elite feel more secure about democratic politics, and discourages them from using repression to prevent a transition from nondemocracy to democracy.

Second, international trade affects factor prices and via this channel, modifies redistributive politics. Countries differ in their factor endowments and the relative abundance of factors of production determines patterns of specialization and the impact of trade on relative prices. We expect one implication of increased international trade to be an increase in the rewards to the relatively abundant factor in each country. In the case of less developed nations, which are typically the ones still in nondemocracy today, and therefore, the main candidates for democratization,

this means an increase in the rewards to labor. Intuitively, before the advent of significant trade flows, less-developed countries had an excess of labor and a shortage of capital, depressing the rewards to labor and increasing those to capital. Trade opening will pull these rewards towards those prevailing in the rest of the world, thus increasing the rewards to labor and potentially reducing the return to capital. Trade opening will therefore reduce the gap between the incomes of labor and capital, and thus change the extent of inequality between capital owners and labor owners.

The specific implications of our framework depend on three things. First, the nature of relative factor abundance. Second, the nature of political identities. Third, where a particular country is on the inverted U-shaped relationship between inter-group inequality and democratization. Imagine that nondemocratic countries are labor abundant, political conflict is between a rich capital owning elite and the poor labor owning citizens, and inequality is sufficiently high that the elite use repression to stay in power. In this case increased trade integration will reduce the extent of inequality between the elite and the citizens, and will make democracy less redistributive. Since democracy will then be less threatening to the elite, they will be less inclined to use repression to avoid democracy. In such circumstances globalization promotes democracy. Nevertheless, our framework does not imply that the impact of globalization on factor prices always promotes democracy. Let's continue to postulate that conflict is between the rich and the poor and that we are on the part of the inverted U-shaped relationship where the rich use repression to stay in power. Now consider Latin American countries such as Argentina, Brazil and Uruguay in the late 19th century. In these countries the elite owned a lot of land and they were also land abundant. As predicted by the theory of international trade, pre World War I globalization led to large increases in returns to land, (O'Rourke and Williamson, 1999). In our framework this increases inter-group inequality and makes the elite less likely to democratize. Note that it also increases the proportion of elite wealth invested in land, another factor we suggest makes democracy more threatening to the elite. By the converse of these arguments, in this case, globalization would impede democratization (as long as we are on the part of the inverted U-shaped relationship where inequality discourages democratization as assumed above).

Third, increased international trade also means that disruption of economic activity may become more costly for many less developed nations that are now integrated into the world economy, and therefore repression may now be much more costly for the elite, again favoring democracy.

Finally, increased political integration and the end of the Cold War (if not hijacked by the war against terrorism) might imply that countries that repress their citizens can perhaps expect stronger sanctions and reaction from the democratic world. This effectively increases the costs of repression, promoting democracy. This might be especially important since a number of nondemocratic regimes in the Cold War era, such as Mobutu's disastrous dictatorship in Zaire, were kept alive by the explicit or implicit support of the international community.

6.7.2. *Consolidation.* Just as globalization can induce democratization, so it can aid democratic consolidation. Indeed, all of the mechanisms we listed above, linking increased globalization to democratization, also imply that coups will be less likely. This is either because coups themselves become more costly in a more integrated world, or because globalization implies that democracy is less threatening to the elite.

7. Political Identities and the Nature of Conflict

Most of the comparative static results we have discussed so far do not depend on the identity of the elite. They apply even in societies where the nature of political conflict is not along class lines. In South Africa, race may be more salient though race and socioeconomic class overlap to a large extent. In Rwanda, it may be more plausible to think of groups forming along the lines of ethnicity, Hutu or Tutsi. In Mauritius, political conflict has been between people of East Indian descent and a heterogeneous coalition of others, some of whom are rich (the white sugar planters and Chinese business elites) and some very poor (mostly the descendents of African slaves). In this latter case there is no simple overlap between ethnicity or race and class (see Bowman, 1991).

So long as one accepts the premise that the interests of individuals are partly about economic outcomes, our basic analysis remains unaltered. Consider our ideas about political institutions. Here we showed that if political institutions were such as to limit the type of policies that could occur in democracy, they tended to induce consolidated democracy. This result applies even in Mauritius. If institutions limit democracies, then they limit what the East Indian majority can do to the Creole minority. Hence they reduce the incentive of a Creole dictatorship to repress democracy, and once democracy has been created, they make coups less attractive, exactly as in our previous analysis.

Next consider the ideas we developed about the connection between the composition of the wealth of the elite and democratization or coups. These ideas apply immediately in this case. Even when politics is East Indian against Creole, as the economy develops and capital becomes more important than land, repression and coups become more costly, and (pro-East Indian) democracy becomes less redistributive. Just as in our baseline analysis, this tends to create a consolidated democracy, even in Mauritius. Interestingly, Mauritius has been a consolidated democracy since independence and this process of consolidation has taken place in the context of the radically declining importance of land, the rapid development of industry and expansions in the importance of human capital.

The nature of political identities may undoubtedly influence the form of collective choice under democracy, and this ties our analysis to several important traditions in political science. For example, contrast a society where political identities/cleavages are on the basis of class, with one where there are many cross-cutting cleavages or race, ethnicity, religion or region. The pluralist model of democracy is one where society is indeed divided into many different groups. A standard claim about a pluralistically based society is that it generates less income redistribution and smaller welfare states because the many different cleavages stop a broad coalition in favor

of redistribution emerging. In consequence, for instance, pluralistic societies do not have strong socialist parties (Lipset and Marks, 2000). If this is the case, then our theory suggests that such societies would be more likely to have consolidated democracy since elites would have little to fear from majority rule. This can help explain the longevity and stability of democracy in the United States, often thought to be the epitome of a pluralistic society.

8. Democracy in a Picture

The above discussion illustrates the various empirical implications of our theory for the circumstances under which a society becomes and stays a democracy. To fix ideas, it is useful to use some simple pictures in order to illustrate the circumstances under which different regimes arise. To map our comparative statics about inter-group inequality into the data, we shall do this in the context where the elite are the rich and the citizens the poor. Recall the four 'paths' of political development that we sketched in Chapter 1. The first, the British path, was one of fully consolidated democracy. The second, the Argentine path, was that of unconsolidated democracy. The third, that of Singapore, was persistent nondemocracy where the political status quo can be sustained without serious repression. The final path, that of South Africa, was persistent nondemocracy with repression. The comparative statics of our theory allow us to depict these different outcomes in a picture.

In essence, these different political outcomes occur because these societies differ fundamentally in their underlying economic structures, and it is this which motivates the title of our book. In addition we shall also emphasize differences in political institutions, to some extent historically determined, to some extent consciously chosen with the nature of the regime in mind. To keep the pictures simple, we assume that conditions are such that a revolution never occurs in equilibrium, and we also abstract from the use of concessions (for example, they are always insufficiently credible to stop revolt) so that if revolution is a threat, a nondemocratic regime must choose between repression or conceding democracy.

Consider Figure 2.1 which captures the predictions of our theory for democratization. On the horizontal axis we plot inequality, with moves from left to right corresponding to greater inequality. The origin represents a completely equal society. On the vertical axis we plot the historically determined costs of repression which are exogenous, such as the extent to which repression destroys assets in society. We have divided the resulting square into different regions which represent how different structures lead to different paths of political development. When inequality is sufficiently low, the cost of repressing or mounting coups is irrelevant since the poor are sufficiently contented under the political status quo not to rock the boat. This corresponds to Region A, where there is nondemocracy, which remains unchallenged, and in it we place Singapore. In region B inequality is higher and revolution becomes a threat. But the cost of repression is sufficiently high that democracy is created. In this region we place both Britain and Argentina. Finally, in region C inequality is high so that revolution is a threat to nondemocracy but the cost of repression is sufficiently low that democracy can be avoided. This is the case of South Africa up until 1994. The cost of repression in South Africa might have been lower because

the disenfranchised group were black Africans and coloureds, and exclusion and repression were justified by an explicitly racial philosophy.

To study the consolidation of democracy, we must turn to Figure 2.2. Here there are just two regions separated by an upward sloping curve. When the cost of coup is zero, the rich are always willing to undertake a coup. However, as the cost of a coup rises inequality must be sufficiently high (democracy must be sufficiently costly to the rich) for a coup to be worthwhile. Figure 2.3. has just two regions. In region A, where we have placed Britain. Once created, democracy will consolidate if it is not too redistributive and if coups are sufficiently costly. However, when inequality is very high, the costs of coups may be sufficiently low that a coup is attractive. This is the case in region B where democracy is unconsolidated and here we have placed Argentina. Singapore is of course not on this picture because it has yet to make the transition to democracy.

These simple pictures also allow us to trace out the paths of political development of different countries. To take one example, we look at the history and future of democracy in South Africa in Figure 2.3. Why did South Africa finally move so belatedly to a democratic regime? The arrows in Figure 2.3 capture part of the story. From the mid 1970's onwards, inequality fell in South Africa, making democracy less threatening for the white elite. At the same time the industrial sector rose at the expense of the agricultural sector, and human and physical capital became more important. In terms of the picture, this means that, at a given level of inequality, the elite are less willing to repress. This moves the boundary between region C and regions B and D downwards. Changes in the global environment, particularly globalization, also have the effect of moving the same boundary downwards, implying that for fixed levels of inequality, the cost of repression had to be lower to justify the persistence of dictatorship. Thus some time between 1970 and 1994 South Africa moved out of region C into region B, and democracy was created.

What does the future hold for South Africa? To see this we must turn to Figure 2.4 which asks whether democracy will consolidate after apartheid. Since inequality is still very high, one might conjecture that South Africa would be in Region B and therefore an unconsolidated democracy. Nevertheless, the impact of the development of the South African economy, the increasing importance of physical and human capital and the increased globalization have the effect of moving the boundaries between regions A and B to the right. Now, for a given cost of a coup, inequality must be higher to justify mounting a coup against democracy. Moreover, as we discussed in Chapter 1, the structure of political institutions after apartheid was designed specifically to protect the interests of the whites, a factor which again moves this line to the right. Thus while one cannot be certain of the future (witness the evolution of democracy in Zimbabwe since 1980), one might hope that South Africa had made a transition into Region A rather than region B.

Prediction in the case of Singapore seems much easier. Figures 2.1 and 2.2 suggest that if and when Singapore becomes a democracy, it is very likely to consolidate.

9. Overview of the Book

The rest of the book will develop the arguments outlined in this chapter. The remainder of this part of the book will continue to lay the scene. In Chapter 3 we survey the empirical evidence about cross-country patterns of democracy. We show that richer countries are more likely to be democratic, more educated countries are more likely to be democratic, and more unequal countries are generally less democratic. We emphasize the basic correlations in the data and do not take a strong view on causal relationships. Chapter 3 we also discusses the large literature in political science and sociology on the creation and consolidation of democracy and we explain how our research contributes to this work.

Part II will survey some existing models of collective decision-making in democracies and nondemocracies. In Chapter 4 we focus on democracies and provide a simple analysis of basic issues in the study of collective choice, electoral politics and competition, which will be useful in later parts of the book. We will also introduce some basic models of two-group distributional conflict, paying special attention to the relationship between inequality and redistribution, the implications of different political identities, and the factors that determine the distribution of power in democracy. In the text of Chapter 4 we also propose a reduced-form model of the distribution of power in a democracy. The appendix at the end of the book develops a series of models that provide microfoundations for this reduced form. In Chapter 5 we analyze nondemocracy with particular attention to the collective action problem and the issue of commitment.

Part III will provide our approach to democratization. In Chapter 6 we introduce our basic model of democratization. This chapter will formalize many of the issues already mentioned in this introductory chapter, giving us ways of thinking of the role of political power and the role of political institutions in allocating future political power. It will illustrate how democratization creates a credible commitment to future redistribution by transferring political power to the majority in society. It will also show how democratization may be a response by the elite in the face of a credible threat of revolution by the majority. We will see the possibility of an inverted U-shaped relationship between inter-group inequality and democracy in this chapter. Chapter 7 then develops our basic model of coups against democracy and studies the circumstances under which democracy, once created, consolidates.

Part IV discusses a number of important extensions to this basic framework and some applications. In Chapter 8 we analyze how the presence of a large and affluent middle class affects the balance of the distributional conflict between the elite and the citizens in ways which can help create and consolidate democracy. Chapter 9 introduces factor endowments and markets to endogenize the distribution of income and discusses the impact of the structure of the economy on the creation and consolidation of democracy. In this chapter we also make some conjectures about mechanisms that might account for political development, i.e., the question of why, and whether, countries transition to democracy as they become richer, and the potential reasons for the relationship between income and democracy. Chapter 10 then extends our model to allow

for international trade and mobility of factors of production between countries and studies how globalization alters and adds to the results we have derived up until this point.

Part V will discuss the future of democracy and conclude the book.

CHAPTER 3

What Do We Know About Democracy?

In this chapter, we provide a brief overview of the previous research on democracy. We start by depicting some of the most salient "stylized facts" about democracy that have been emphasized and much debated in the literature. Since a re-evaluation of the existing empirical evidence is not our main focus here, we present these patterns diagrammatically without using formal econometric techniques. Although, as we discuss below, these patterns do not correspond to causal relationships, they are still informative about the correlates of democracy in the data, thus potentially informative about the type of models we should develop. Finally, in the last two sections of this chapter, we discuss the existing approaches to democracy, and explain how our approach differs from and contributes to the existing literature.

1. Measuring Democracy

The first challenge facing a quantitative analysis of the patterns of democracy is to develop reliable and informative measures of democracy. There has been a great deal of controversy over this issue in political science mostly because there is some disagreement over what actually constitutes a democracy. Many scholars however accept the definition proposed by Schumpeter (1950, p. 250) who argued that democracy was:

> "the institutional arrangement for arriving at political decisions in which individuals acquire the power to decide by means of a competitive struggle for the people's vote."

In practice then democracy is associated with a particular set of institutions, such as free and fair elections, the accountability of politicians to the electorate, free entry into politics etc. Even accepting a Schumpeterian definition, countries differ as to the extent to which any of the institutional conditions are satisfied. This suggests to most scholars the need to make a finer distinction than simply between a democracy and a non-democracy.

Our first and main measure of democracy is the Freedom House political rights index, which has been used by many other scholars in quantitative work on democracy (e.g., Barro, 1997, 1999). This index ranges from 1 to 7, with 7 representing the least amount of political freedom and 1 the most freedom. A country gets a score of 1 if political rights come closest to the ideals suggested by a checklist of questions, beginning with whether there are free and fair elections, whether those who are elected rule, whether there are competitive parties or other political groupings, whether the opposition plays an important role and has actual power, and whether minority groups have reasonable self-government or can participate in the government through

informal consensus. The main checklist includes 3 questions on the electoral process, 4 questions on the extent of political pluralism and participation and 3 questions on the functioning of government. For each checklist question, 0 to 4 points are added, depending on the comparative rights and liberties present (0 represents the least, 4 represents the most) and these scores are added and used to determine where the country resides on the 1-7 scale.[1] Following Barro (1999), we supplement this index with the related variable from Bollen (1990, 2001) for 1950, 1955, 1960, and 1965, and we transform both indices so that they lie between 0 and 1, with 1 corresponding to the most democratic set of institutions.

The Freedom House index, even when augmented with Bollen's data, only enables us to look at the postwar era. The Polity IV dataset, on the other hand, provides information for all countries since independence starting in 1800. Both to look at pre-1960 events and as a check on our main measure, we therefore also look at the other widely-used measure of democracy, the composite Polity index, which is the difference between the Polity's democracy and autocracy indices.[2] The Polity democracy index ranges from 0 to 10 and is derived from coding the competitiveness of political participation, the openness and competitiveness of executive recruitment and constraints on the chief executive. For instance, constraints on the executive is coded on a 7 point scale running from "unlimited authority" where "there are no regular limitations on the executive's actions (as distinct from irregular actions such as the threat or actuality of coups and assassinations)" to "executive parity or subordination" where "accountability groups have effective authority equal to or greater than the executive in most areas of activity". A country would receive the lowest score for constraint on the executive if "constitutional restrictions on executive action are ignored" or "there is no legislative assembly or there is one but it is called or dismissed at the executive's pleasure." A country would receive the highest score, on the other hand, if "a legislature, ruling party or council of nobles initiates much or most important legislation" or "the executive is chosen by the accountability group and is dependent on its continued support to remain in office." The Polity Autocracy Index also ranges from 0 to 10 and is constructed in a similar way to the democracy score based on scoring countries according to competitiveness of political participation, the regulation of participation, the openness and competitiveness of executive recruitment and constraints on the chief executive. To facilitate comparison with the Freedom House score, we also normalize the composite Polity index to lie between 0 and 1.

Both of these measures enable us to distinguish between different shades of democracy. An alternative empirical approach has been defended and used by Przeworski and his coauthors (e.g. Przeworski, Alvarez, Cheibub and Limongi, 2000, chapter 1) who argue that a simple dichotomy between democracy and nondemocracy is the most useful empirical definition. In addition to the dichotomous classification, these authors add other provisos to the definition of a democracy, most importantly that a country cannot be democratic unless a political party has been observed to lose power. Hence, according to Przeworski et al. (2000), Botswana has never

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[1]See Freedom House (2004) and http://www.freedomhouse.org/research/freeworld/2003/methodology.htm
[2]See Marshall and Jaggers (2004) and http://www.cidcm.umd.edu/inscr/polity/

been a democracy because, even though all agree that elections are free and fair, that there is free entry into politics and that the government is accountable to the people, the Botswana Democratic Party has won every election since independence in 1966. Japan would not have been a democracy for most of the Post WWII period until the Liberal Democratic Party lost power and South Africa today is not counted as a democracy because the African National Congress has formed the government since the end of apartheid.

Although there is a lively debate among political science scholars about the virtues of continuous versus dichotomous measures, none of the patterns discussed here depend on this choice. Our preference is for continuous measures, though dichotomous measures also have advantages. For example, they enable a clearer discussion of transitions from and to democracy, and below we use the dichotomous measures developed by Przeworski et al. (2000) and augmented by Boix and Rosato (2001) to discuss transitions to and from democracy.

2. Patterns of Democracy

Figures 3.1, 3.2 and 3.3 plot the values of the normalized Freedom House (Figure 3.1), Polity scores (Figure 3.2) and the augmented Przeworski et al. index (Figure 3.3) for our basic 1960-2000 sample. These figures show that OECD countries entered the period almost fully democratic and stayed there. In contrast democracy declined in other parts of the world, particularly in Latin America and Africa, though from the mid 1970s onwards we can detect what Huntington (1991) calls the 'third wave' of democratization. Figure 3.4 uses the Polity data back to 1840 for all the countries which were independent over this period. This picture vividly displays the onward march of democracy in the OECD in the period leading up to WWI and shows evidence of the 'first and second waves of democracy', the first before WWI and the second after WWII.

Figures 3.5 and 3.6 show the most famous correlation about democracy, first investigated by Lipset (1959): rich countries tend to be more democratic. Figure 3.5 shows this by plotting the average Freedom House index over the 1990s versus the average log GDP (income) per capita over the 1990s (in purchasing power party terms, calculated from the latest version of the Summers-Heston data set, see Summers, Heston and Atten, 2002). Figure 3.6 does the same using the average Polity score over the 1990s. Both figures show a very strong positive relationship between income and democracy. The richer countries such as the United States, Canada, Australia, New Zealand, and those in the European Union are all democratic, while the poor countries in sub-Saharan Africa, South Asia and Central America are less democratic.

Figures 3.7 and 3.8 show another well-known correlation: more educated countries (i.e., those with higher levels of average years of schooling as reported in the data set by Barro and Lee, 2000) also tend to be more democratic.

Both of these patterns have been very influential in the thinking of scholars working on democracy. In particular, the positive association between income and democracy (and to a lesser extent, that between education and democracy) has been the cornerstone of the famous modernization theory advocated by Lipset (1959) and many others since. Building on the

insights of the modernization theory, many scholars today believe that democracy is only possible in sufficiently educated and rich societies. Furthermore, a common view both in the literature and in the popular press is that an increase in economic prosperity and the level of education will naturally bring a process of democratization. Though influential, these views suffer from a lack of a well-articulated theory explaining when and how democracies emerge and consolidate. The purpose of this book is to develop such a theory and use it to understand, among other things, the potential links between economic prosperity and democracy.

Another pattern in the data is that emphasized by Przeworski et al. (2000). These authors argue and document that the positive association between income and democracy is largely driven by the tendency of rich countries to remain democratic, while poor countries have a greater tendency to experience declines in their democracy scores (i.e., suffer coups and other actions against democracy). Figures 3.9-3.10 illustrate this using the Przeworski et al. (2000) data. Figure 3.9 shows a histogram of the fraction of countries of different income levels that start as nondemocracy transitioning to democracy. The sample includes countries that were nondemocratic in 1965, 70, 75, 80, 85, 90, and measures democratizations in each case during the next five years. Countries are placed into income quintiles constructed according to the average world income distribution between 1965-1990. This figure shows that countries in the top two quintiles have a greater tendency to transition to democracy, but there is no monotonic relationship between income and the fraction of nondemocracies that transition to democracy. Figure 3.10 is constructed analogously, but for transitions from democracy to nondemocracy rather than the other way around. Now there is a more striking relationship between transitions and income quintiles. While countries at the bottom two quintiles face a very high likelihood of transitioning into nondemocracy in any five-year period, this probability is much lower for those in the third quintile, and 0 for those in the top two quintiles. These histograms make it clear that while the likelihood of transitioning to democracy is weakly correlated with income, there is a big difference between the fraction of rich and relatively poor democracies falling back to nondemocracy.

Although this is not the right forum for reevaluating the existing empirical evidence, we would like to emphasize that the patterns shown in Figures 3.5-3.10 do not correspond to causal effects of income and education on democracy and democratic transitions. More explicitly, these correlations do not establish that as a country becomes richer it will necessarily tend to become more democratic. The major problem with a causal interpretation of these patterns is that countries that differ in their income levels (or levels of educational attainment) also differ in their histories and other institutional characteristics. Our recent work, Acemoglu, Johnson, Robinson and Yared (2004), investigates this issue in detail, and establishes that there is little causal effect of income (or education) on democracy or democratic transitions. Instead, other historical factors seem to determine both the economic and political development paths of various societies, leading to the types of correlations shown in Figures 3.5-3.10.

Here, it is sufficient to give a glimpse of this pattern by showing how changes in income are related to changes in democracy over the period covered by Figures 3.5-3.10. This is done in

Figures 3.11 and 3.12 for the Freedom House and Polity indices. In both figures, the horizontal axis has the change in log GDP per capita between 1965 and 1990 and the vertical axis has the change in the democracy score between the same dates (for the Freedom House and Polity indices, respectively). This way of looking at the data is useful because it differences out potentially fixed characteristics that are simultaneously affecting income and democracy (thus bringing us closer to the causal relationship between income and democracy). Both figures show a clear pattern: there is no relationship between changes in income per capita and changes in democracy. In other words, while richer countries are more democratic, there is no evidence that countries that grow faster than others tend to become more democratic. A natural interpretation of the patterns shown in Figures 3.5 and 3.6 in light of these results is that they are largely driven by some fixed country characteristics. Consequently, conditional on these characteristics, countries that have grown faster over the past 25-30 years have not become more democratic.

Overall, a very salient pattern in the data is the positive correlation between income and democracy, but this does not necessarily correspond to the causal effect of income on democracy. Therefore, part of the challenge to models of democracy and democratization is to understand how the world might have this positive correlation without a large causal effect. We return to this issue in Chapter 9.

3. Democracy, Inequality and Redistribution

As already discussed in Chapter 2, our approach to democracy emphasizes the role of social conflict, and especially social conflict between different groups. One implication of this approach is that intergroup inequality should have an effect on the equilibrium political institutions, and thus on the likelihood that a society ends up as a democracy. The problem, however, is that the relevant notion of intergroup inequality is often difficult to measure (for example, when it is between two different ethnic groups). Nevertheless, when the major conflict is between the rich and the poor, one variable that captures intergroup inequality is the share of labor income in GDP. The reasoning here is that while the poorer segments of society obtain most of their incomes from labor, capital income (and sometimes also land income) accrues largely to a smaller rich elite. Therefore, a high labor share corresponds to a low level of intergroup inequality when conflict is between rich and poor.

Figures 3.13 and 3.14 show the relationship between the labor share in 1990's and the relevant democracy indices. The labor share data is from the U.N., is also used by Rodrik (1999), and covers only the manufacturing sector, so may be less than fully representative for the whole economy. Both figures show a positive association between the labor share and democracy.

Figures 3.15 and 3.16 show the relationship between democracy and another measure of inequality, the Gini coefficient. The Gini is the most common index of inequality in the literature and has a greater coverage of the various sectors of the economy than the labor share from the manufacturing sector (see Dollar and Kraay, 2002, for more on these data). A higher value of the Gini coefficient corresponds to greater inequality. The relationship here is similar to the one

with the labor share, though less pronounced with the Polity data: countries which are more unequal and consequently have higher Gini coefficients, tend to be less democratic.

As emphasized above in the context of the relationship between income and democracy, these correlations do not correspond to the causal effect of labor share or inter-group inequality on democracy. Moreover, the these correlations are not always robust to inclusion of other variables in a regression model, and a relatively large literature has not reached a consensus on the relationship between inequality and democracy. While the claim that democracy is not possible in highly unequal societies is very common in the non-quantitative literature (e.g., Dahl, 1971, Huntington, 1991, and the review in Bollen and Jackman, 1985), the empirical evidence is more mixed. Using cross-sectional econometrics, Bollen and Jackman (1985) found no relationship between measures of inequality. Muller (1988, 1995) presented empirical evidence suggesting that higher inequality made democracies more stable and reduced the propensity of a society to democratize, though his results were criticized for being non-robust by Bollen and Jackman (1995). More recently, Przeworski et. al. (2000) investigated the effects of three measures of inequality on transitions to and from democracy using probit analysis. The measures they used were, the Gini coefficient, the ratio between the share of total income going to the richest 10% of the population and the share going to the poorest 10% (the higher this ratio is the greater is inequality), and the share of income produced by manufacturing that accrues to workers. They find no relationship between democratization and either of the first two measures of inequality, noting that (p. 120) "the durability of dictatorships is unaffected by income distribution." However, for the third measure they find, (p. 122) "dictatorships ... are much more vulnerable when the functional distribution of income is more unequal." They also find that (2000, p. 122) "democracies are less stable in societies that are more unequal to begin with, in societies in which household income inequality increases [when inequality is measured by the Gini coefficient or the ratio of top to bottom income shares], and in societies in which labor receives a lower share of value added in manufacturing." Using a similar methodological approach, Boix (2003) reports results where higher inequality reduces the propensity of a society to democratize.

Other scholars have examined the relationship between inequality, revolution and political instability, which is also relevant to our approach. Here again the findings are mixed though Muller and Seligson (1987) and Alesina and Perotti (1996) find that greater inequality leads to greater political instability (see Lichbach, 1989, for a review of this literature).

The existing empirical literature is therefore rather contradictory, and more importantly, as already emphasized above, focuses on correlations not on causal relationships. The correlations shown in Figures 3.13-3.16 are nonetheless informative. They suggest, for example, that models in which democracies are more redistributive and hence have a higher labor share, and also models in which democracies can survive better in less unequal societies, can do a reasonable job of matching this pattern in the data.

Figures 3.17 and 3.18 further suggests that at least part of the positive correlation between democracy and labor income and the Gini coefficient might be due to the greater tendency for redistributive policies in democracies. These figures show a positive association between the

share of tax revenues in GDP and the democracy scores over the 1990s. Again, this is just a correlation, and should not be interpreted as a causal relationship.[3]

The historical evidence is also consistent with the notion that the patterns of redistribution change after democratization. Here we briefly discuss some of the evidence, and the reader is referred to Lindert (2004) for a much more detailed and satisfactory discussion of the European experience. Although Figures 3.17 and 3.18 emphasize the association between democracy and fiscal redistribution, in practice many other instruments, ranging from labor market policies to education policies, appear to be important in governments' attempts to influence the distribution of income in society (e.g. DiNardo, Fortin and Lemieux, 1996, Wallerstein, 1999).

In Britain, the Reform Acts of 1867-1884 were a turning point in the history of the British state. In 1871 Gladstone reformed the civil service, opening it to public examination and thus making it meritocratic. Liberal and Conservative governments introduced a considerable amount of labor market legislation, fundamentally changing the nature of industrial relations in favor of workers. During 1906-1914, the Liberal Party, under the leadership of Asquith and Lloyd George, introduced the modern redistributive state into Britain, including health and unemployment insurance, government financed pensions, minimum wages, and a commitment to redistributive taxation. As a result of the fiscal changes, taxes as a proportion of National Product more than doubled in the 30 years following 1870, and then doubled again in the subsequent 30. In the meantime, the progressivity of the tax system also increased (Lindert, 2004).

Meanwhile, the education system, which was either primarily for the elite or run by religious denominations during most of the nineteenth century, was opened up to the masses; the Education Act of 1870 committed the government to the systematic provision of universal education for the first time and this was made free in 1891. The school leaving age was set at 11 in 1893 and in 1899 it increased to 12 and special provisions for the children of needy families were introduced (Mitch, 1993). As a result of these changes, the proportion of 10-year olds enrolled in school that stood at a disappointing 40 percent in 1870 increased to 100 percent in 1900 (Ringer, 1979, p. 207). Finally, a reform act of 1902 led to a large expansion in the resources for schools and introduced the grammar schools which subsequently became the foundation of secondary education in Britain.

In France the situation was similar. During the Second Empire, there was a significant expansion of government support for education; illiteracy fell from 39 percent to 29 percent of adults, and the primary school enrollment rate increased from 51 percent to 68 percent (Plessis, 1985, Table 14, p. 100). In 1881 the government abolished fees in public primary schools, and in 1882, it introduced 7 years of compulsory education for children. The primary school enrollment rate increased from 66 percent in 1863 to 82 percent in 1886. The 'liberal' phase of the Second Empire saw significant labor market legislation with strikes legalized in 1863, and unions finally

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[3]See Mulligan, Sala-i-Martin and Gil (2003) for the argument that democracies do not redistribute more. See Rodrik (1999) for the original analysis of the link between democracy and labor share, and for more details on the relationship between democracy and inequality see also Li, Squire and Zou (1998). See also Persson and Tabellini (2003) and Persson (2003) on different policies pursued by democracies and different forms of democracies.

officially tolerated in 1868. Moreover, central government expenditure as a percentage of GDP increased by one third from 9.4 percent in 1872 (a figure itself inflated by the war) to 12.4 percent in 1880 (Flora, 1983).

In Germany, a large increase in redistribution in the 1920s was initiated by the Weimar state (Flora, 1983). Also in Sweden, major redistribution appears to have started only after democratization. Lindert's (1994) data show that before 1920 there was no redistribution at all in Sweden, while after this date it jumped up sharply.

More generally, Lindert (2000b) shows that there is a very strong relationship historically between democratization and educational expansion in Western Europe.

Overall, we can summarize our discussion, especially the part about the relationship between democratization and educational reforms, by quoting Easterlin (1981, p.14):

> "to judge from the historical experience of the world's 25 largest nations, the establishment and expansion of formal schooling has depended in large part on political conditions and ideological influences" and "a major commitment to mass education is frequently symptomatic of a major shift in political power and associated ideology in a direction conducive to greater upward mobility for a wider segment of the population."

4. Crises and Democracy

An important element of our theory of democratization, as discussed in Chapter 2, is that transitions to democracy (and similarly transitions away from democracy) are more likely to occur amidst economic and political crises, when there is a transitory shift in political power. The reason goes to the heart of our framework; changes in political institutions take place as a way of turning transitory de facto political power into more durable de jure political power. This reasoning suggests that we may expect a correlation between severe crises and transitions to and from democracy.

Haggard and Kaufman (1995), in particular, have emphasized that both democracies and nondemocratic regimes are destabilized by economic and political crises. They argue, for example, that "in Argentina, Bolivia, Brazil, Peru, Uruguay and the Philippines, democratic transitions occurred in the context of severe economic difficulties that contributed to opposition movements" (1995, p. 45). Przeworski et al. (1996, p. 42), on the other hand, point out that: "the fragility of democracy ... flows largely from its vulnerability in the face of economic crises." Przeworski et. al. (2000, pp. 109-110) find that "most deaths of democracy are accompanied by some economic crisis; In twenty eight out of thirty nine instances, death of democracies were accompanied by a fall in income during at least one of the two preceding years." (see also Londregan and Poole, 1990, 1996, and Gasiorowski, 1995, on the relationship between crises and coups). Our historical discussion in Chapter 1 and the next section also illustrates that many of the key transitions to democracy during both the 19th and 20th centuries have happened

in periods of unusual social unrest and turbulence. Here we show some additional evidence consistent with this pattern.

Figures 3.19 and 3.20 show the likelihood of a democracy to nondemocracy transition, and the likelihood of a nondemocracy to democracy transition. They are constructed in a manner similar to Figures 3.9 and 3.10. The first figure comprises of countries that were not democratic in 1970, 75, 80, 85, 90 and 95, and separates them according to whether they had an economic crisis in the preceding five years. An economic crisis is defined as an annual growth rate of GDP per capita less than -5 percent in any one of the preceding five years. The figure then shows the fraction of nondemocracies with and without economic crisis that have transitioned to democracy. Figure 3.20 performs the same exercise for transitions from democracy to nondemocracy. Both figures show that economic crises make transitions more likely.

Overall, we interpret this pattern as supportive of the notion that regime transitions are more likely during times of crisis or turbulence.

5. Social Unrest and Democratization

Our approach to democratization in fact stresses not only the role of crises, but also the importance of social unrest, the threat of revolution and generally the de facto power of those without de jure political power in inducing a transition to democracy. In this section, we return to the historical discussion of the emergence of democracy in 19th-century Europe and 20th-century America to discuss this issue (Therborn, 1977, Rueschemeyer, Stephens and Stephens, 1992, and Collier, 1999 for overviews).

5.1. Democratizations in 19th-century Europe. In France, although democracy had flourished briefly after the Revolution, it was quickly ended by the rise of the Jacobins and then Napoleon. After the fall of Napoleon the absolutist monarchy was restored. Absolutism began to weaken after the 1830 revolution which led to a highly restricted democratic regime where property restrictions limited the electorate to about 0.75 percent of the population (see Cole and Campbell, 1989). The collapse of the Orleanist monarchy in the 1848 revolution led to the Second Republic with the introduction of universal male suffrage in 1849 (see Collier, 1999, pp. 41-42). The effect of this was cut short, however, first by restrictions on voting rights introduced in 1850, disenfranchising 2.8 million men, and then by the coup of Louis Napoleon in 1851. Historians split this subsequent period into two phases: the 'authoritarian' phase from 1852 to 1860 and the 'liberal' phase from 1860 until the defeat of the French armies in the Franco-Prussian war of 1870. The defeat in the war led to further unrest (in particular, the Paris Commune) and to the collapse of the regime, making way to the Third Republic (see Zeldin, 1958, Plessis, 1985, and Price, 1995). It was finally in 1877 that democracy with complete male suffrage was established although other reforms, such as the secret ballot, was only introduced later in 1912 (Kreuzer, 1996).

The history of modern democracy in Germany starts with the 1848 revolution when nearly all German states significantly increased popular participation in government, again in the face of

revolutionary pressures (see Blackbourn, 1998, Chapter 3). The effects of this democratization were strongly mitigated by institutional restrictions, however. This regime featured a three class voting system and was controlled initially by Junker landlords, and after the 1870s by the coalition of "iron and rye"; the parliament could not appoint ministers or discuss foreign policy, and voting was oral. Although after 1870 all adult males over the age of 25 had the right to vote, voting was controlled in rural areas by the landlords (see Gosnell, 1930, and Goldstein, 1983). As Abrams (1995, p. 10) puts it, during this period "the German Empire was, in theory, a constitutional monarchy, yet in practice it was governed by a Prussian oligarchy." The final emergence of German democracy, the Weimar Republic, in 1919, was in response to the very severe threat of social disorder and revolution triggered by the collapse of the German armies on the Western Front in August 1918 (see, for example, the classic account in Gerschenkron, 1943, and also Mommsen, 1981).

In Sweden, democracy arrived via a series of gradual franchise extensions, starting in 1866 with the creation of a bicameral parliament with First and Second Chambers. Universal male suffrage was introduced in 1909 in the First Chamber, but true parliamentary government arrived only in 1918, when the political power of the Conservative Party and the monarchy were limited, once again an outcome of unusual turbulence spurred by the end of the First World War and by the severe economic crisis (see Verney, 1957). Tilton (1974, p. 567) argues that

> "neither [of the first two reform acts] passed without strong popular pressure; in 1866 crowds thronged around the chamber while the final vote was taken, and the 1909 reform was stimulated by a broad suffrage movement [and] a demonstration strike."

The reform in 1909 had been preceded by strikes and demonstrations, and even though Sweden was not a participant in the First World War, the revolution in Russia and the situation in Germany forced the concession of democratic rights. In 1917, the Liberals and Social Democrats formed a coalition government and proposed full male suffrage, but this was defeated by the Conservative dominated Second Chamber. Collier (1999, p. 83) explains that

> "it was only after the economic crisis of 1918 and ensuing worker protests for democracy led by the Social Democrats that the Reform Act was passed. Indeed, in November 1918, labor protests reached such a point as to be perceived as a revolutionary threat by Sweden's Conservative party and upper classes."

In all these cases the driving force behind political liberalization and the introduction of democratic measures is the threat of social disorder and ultimately revolution. Disorder was heightened by wars and other shocks to the social order.

5.2. Why in the 19th Century? Our approach so far explains the emergence of democracy, but in the European context, it doesn't provide an answer to the question of why the wave of democratizations started in the 19th century. The notion that democracy was a feasible set of political institutions goes back to ancient Greece and Rome, and at least by the 17th century in England, particularly during the Civil War, there were consistent demands for universal suffrage.

A possible explanation for this will only emerge towards the end of the book but even at this stage it is worthwhile seeing if the available evidence is consistent with the comparative statics we have already derived.

Before the 19th century, the disenfranchised segments of society were scattered in rural areas, and therefore, we may think of the threat of revolution as less severe because it was very difficult for them to organize. Therefore, the combination of increased urbanization and factory employment may have been a key factor in initiating the wave of democratization in 19th century Europe. Changes in the structure of society and the economy during the early nineteenth century altered the balance of political power, in particular making the exercise of de facto power by the politically disenfranchised much easier (Thompson, 1963, Tilly, 1995, and Tarrow, 1998).

It is also undoubtedly true that the ideological changes which took place during the Enlightenment, the French Revolution and U.S. War of Independence had the effect of changing people's ideas about the proper nature of government and the legitimacy of the old political order.

In the context of our approach so far, another potential answer is that inequality was more limited before the 19th century. Recall that when inequality is low, the revolution threat is not binding, or even if it binds, the elite can prevent revolution by promises of redistribution. Only with a sufficiently high level of inequality does democratization become a necessity. The limited data that there exist on 19th-century inequality is consistent with the notion that inequality was rising until democratization (and then it started declining because of the redistribution following democratization). Much of this literature focuses to trying to discover whether or not there was a 'Kuznets curve' historically, following Kuznets' (1959) conjecture that inequality first rises and then falls with economic development.

Data on income inequality for the nineteenth century are not extremely reliable. Figure 3.21 plots three different estimates of the historical evolution of the Gini coefficient in Britain. There is a consensus amongst economic historians that income inequality in Britain fell sharply after the 1870's. There is also a consensus that inequality rose in the century before this, though different scholars, with different datasets, find different timing for this rise. Lindert and Williamson (1982, 1983) find this increase occurs before 1800 (see also Lindert and Williamson, 1985, Lindert 1986, 2000a), Williamson (1985) finds it happens between 1800 and 1870. Other evidence, e.g. O'Rourke and Williamson (2002) is consistent with Williamson (1985). Whatever the case, the data on inequality is clearly consistent with the idea that inequality had risen in the century before 1867 and the Second Reform Act, and it may well have risen even before the First Reform Act. The evidence also suggests that inequality fell substantially after political reform.

Data for other countries is even more scarce. Morrisson (2000) surveys the existing evidence and argues that Germany, France and Sweden all went through a Kuznets curve. In Germany, inequality rose during the nineteenth century and most researchers place the peak around 1900. For example, Kuznets (1963) finds that the income share of the top 5 per cent went from 28

percent in 1873-1880 to 32 percent in 1891-1900, stayed at 32 percent during 1901-1910, declining to 31 percent in 1911-13. Dumke (1991) finds the same income share to be 28.4 percent in 1880, rising to 32.6 percent in 1900, and falling to 30.6 percent in 1913. During the Weimar Republic, inequality fell rapidly. Kraus (1981) records that by 1926 the income share of the top 5 percent had fallen by 6.2 percent. Overall, Morrisson (2000) argues that the Kuznets curve in Germany peaked in 1900, went flat and started to fall in the 1920s. This date corresponds closely to the major democratization of 1918-1919. Bourguignon and Morrisson's data (2002) shows exactly this pattern.

For France, Morrisson (2000) and Morrisson and Snyder (2000) argue that inequality rose until 1870, with the income share of the top 10 percent peaking at around 50 percent. Inequality started to fall, however, in the 1870s, and in 1890 the income share of the top 10 percent was down to 45 percent, falling further to 36 percent by 1929. The major political reforms of 1860-1877 in France are therefore approximately around the peak of the Kuznets curve. The conventional wisdom about France, has to some extent been challenged by recent research by Piketty (2003) on the twentieth century, and Piketty, Postal-Vinay, and Rosenthal (2003) on the nineteenth century. Using data on taxation returns these authors find that inequality rose monotonically in the nineteenth century, and only fell during the First and Second World Wars in the twentieth.

Finally, Söderberg (1987, 1991) records that income inequality grew in Sweden, peaking just before the First World War, levelling off or falling slightly during the 1920s, and then falling rapidly thereafter. Once again, there is a close correspondence between the decline in inequality and the extension of the franchise.

Overall, therefore, in Britain, France, Germany and Sweden, the peak of the Kuznets curve appears to have followed democratization, which is in line with the mechanism proposed in this book.

5.3. The Latin American Experience. The evidence from the Latin American experience with democratization also supports the notion that the threat of revolution and social unrest were important and is broadly consistent with the comparative statics with respect to inequality. In Chapter 1 we discussed the Argentine case where social conflict was important in the passing of the Sáenz Peña Law. In Chapter 2 we noted the views of Bushnell on the democratization in Colombia in the 1930's. We look briefly at some other cases in more detail.

Historical studies of the movement towards democracy suggest an important role for social conflict. In Venezuela, a long period of *caudillismo* and political instability was ended by the dictatorship of Juan Vicente Gómez between 1908 and 1935. His military successors ruled until the first modern democracy was created in 1945. Levine (1973, p. 89) describes the events leading up to democratization as follows:

> "after several days of fighting, a provisional revolutionary government was formed, with four members from Acción Democrática, two military officers, and one independent civilian. The three years that followed marked the introduction of

a party system into Venezuela, abruptly ushering in an experiment with mass political democracy."

Democracy fell to a coup in 1948, but was re-instated in 1958 when the regime of General Pérez Jiménez collapsed in the midst of a widespread uprising. Levine (1989, p. 256) argues that redemocratization was in response to the unrest following economic depression and writes "underground political forces, now united in a Junta Patriótica, mounted a wave of demonstrations and street fighting."

In Central America the threat of social conflict and outright revolution has been a significant factor in inducing political elites to accede to democracy. For example, in Guatemala, General Jorge Ubico's 13 year dictatorship ended in 1944 when he was replaced by a junta led by General Federico Ponce. He was deposed the same year by an upsurge of pro-democratic sentiment and a student revolt, leading to the election of Juan Arévalo as president in 1945. He was followed by Jacobo Arbenz in 1950 who was ousted by the coup of 1954. Re-democratization in Guatemala followed the same pattern and was a direct response to the eruption of conflict. Starting in 1982, the military acceded to a gradual redemocratization: Marco Cerezo was elected in 1985, followed by Jorge Serrano in 1990. This process continued after Serrano's attempted coup was foiled in 1993. While these regimes were closely constrained by the military the political liberalization was due to massive social unrest (Trudeau, 1993).

In El Salvador the picture is similar except without the brief early period of democracy (see Baloyra, 1982, and Paige, 1997). Rule was ceded by the coffee oligarchs to the military after the *matanza* insurrection of 1932. After 1962, democratic elections began but were closely controlled by the military, and were subject to massive fraud. After a brief military interlude re-democratization occurred in 1982, but in the midst of an extensive civil war which only ended in 1992. 1994 was the first election in which the main left wing group, the FML, contested power.

It is perhaps clearer that social conflict, often class and distributive conflict, has been behind most of the democratic collapses and coups in Latin America. This was a central theme of O'Donnell's (1973) seminal book, and Stepan's (1985) analysis of military coups in Chile, Uruguay, Argentina and Brazil also echoes the same conclusion. He writes:

> "The new authoritarianism in all four countries ... was installed in an atmosphere of growing class conflict. In each country the bourgeoisie provided the social base for the new authoritarian regime, whose first political acts were the use of the coercive apparatus of the state to dismantle ... working class organizations." (1985, p. 318).

Drake (1996, pp. 3-4), similarly, argues in his analysis of the role of labor in the dictatorships of Argentina, Brazil, Uruguay, Spain and Portugal that

> "Most of the dictatorships arose out of the distributive struggle between capital and wages ... Before the dawn of the dictatorships, working-class militance had begun to frighten property owners, who therefore abandoned liberal democracy.

> Losing profits, power, and legitimacy, the economic elites were rescued by the
> military ... These right-wing, military based governments defended capitalism
> from populism, socialism, or communism by suppressing demands from the lower
> classes. They favored the private over the public, the wealthy over workers,
> capital accumulation over redistribution, hierarchy over equity."

Another way of getting at the same issue is to look at how coups influence the value of different assets. For example, to the extent that democracy leads to redistribution and taxation of the assets of the rich, land and capital, we would expect the prices of these assets to fall with democracy and rise after a coup. Figure 3.22, constructed from data in Couyoumdjian, Millar, and Tocornal (1992), shows the real value of the stock market index in Chile from 1928 to 1978. The real value of stocks declined continuously from the 1930's through to the coup of 1973, reaching its nadir with the election of Salvador Allende in 1970. The authors relate this secular decline to the increased intervention of the government in the economy, commenting

> "the 1930-1960 period was scarcely auspicious for stock-market operations. It
> began with a deep depression, which finished in 1932 ... From then on began
> an unequivocal process of deterioration, which had to do with the increasing
> state intervention in the economy, which, directly or indirectly, constrained free
> enterprise. It was limited in its development by price controls, tax increases, high
> inflation and other measures of distrust ... Stock-market activity was not more
> than a reflection of the decreased participation of the private sector" (p. 309).

Then, in dramatic fashion, the value of the assets held by the rich recovered 30 years of losses in just 5 years. These data are consistent with an approach to the motivations of coups which emphasizes distributional conflict.

Collier (1999) has recently argued for the importance of social pressure from the masses as a driving force behind many of the most recent re-democratizations. She argues that (1999, p. 114)

> "In ... Peru, Argentina and Spain, massive labor protests destabilized authori-
> tarianism and opened the way for the establishment of a democratically elected
> government."

She further argues for an important role for labor activism in inducing democratic transition in Bolivia, Uruguay and Brazil. Even in Chile, apparently a case where the military withdrew without being pushed too hard, many scholars emphasize the re-emergence of civil society during the 1980's. Drake (1998, p. 89) argues that the reason that Pinochet accepted the results of the plebiscite that ended the military regime was that

> "the foreseeable costs of maintaining the dictatorship probably would have in-
> cluded massive social and political disorder, class conflict, economic disruptions,
> radicalization of the left, draconian repression, escalating violence."

Much evidence is therefore consistent with the idea that, in Latin America, democracy was forced on political elites by the threat of revolution and by the collective action of the

disenfranchised. Moreover, once democracy was created elites often wanted, and were frequently able, to mount coups to take back power.

Finally, following the European discussion, it is interesting to assess what is known about long-run trends in income distribution in Latin America. Unfortunately much less is known about Latin America than Europe. In Figure 3.23 we plot the Gini coefficient for Argentina since the passing of the Saenz Peña Law (using data from Calvo, Torre and Szwarcberg, 2001). It shows that inequality has changed little in Argentina over the last century. Though the basic trend has been flat, the fluctuations have been very interesting. After democratization in 1916, inequality began to fall consistently until the coup of 1930. After this it was flat but then fell dramatically with the election of Perón's first government. The coup of 1955 led to a rapid increase in inequality, though this was unwound by the partially democratic regimes which assumed power after 1958. For example, Frondizi tried to court the Peronist vote by adopting pro-union policies. However, real democratization with Perón's second government after 1973 led to a further fall in inequality, and the coup of 1976 led to a dramatic increase in inequality. Other evidence supports this general pattern. For example, the share of wages in Argentinian national income, which were estimated to be around 28 percent at the time of the introduction of universal male suffrage, increased to 42 percent during the first 10 years of democratic politics. Once democracy gave way to a dictatorship, the share of wages started to fall (e.g., Diaz-Alejandro, 1970, Randall 1978, p. 29). Similarly, during Perón's first government, the share of wages in national income increased by more than 10 percent in the course of a few years, but all of this gain and more were lost during the military regimes of the 1970s (e.g., Di Tella and Dornbusch, 1989). These movements are consistent with our framework. Democratization led to the incorporation of poorer groups into the polity, and consequently resulted in policies designed to favor such groups. Many coups in Argentina were clearly motivated by a desire to reverse such policies. These intentions and political forces show up in the data on income distribution. Democracy tended to promote equality, nondemocracy tended to promote inequality. The exception to this is the rapid rise of inequality since the 1990s under the presidencies of Menem which abandoned the traditional pro-labor policies of the Peronists.

For Colombia, Berry and Urrutia (1976) and Londoño (1995) showed that inequality increased between 1938 and the mid 1960s and then fell monotonically thereafter until 1990. Interestingly, the period from 1948 to 1958 was one of nondemocracy. First, under the authoritarian semi-democratic Conservative regimes of Mariano Ospina Pérez and Laureano Gómez from 1948 until 1953, when opposition politicians were harassed and congress was closed, and then under the military until redemocratization in 1958.

Other facts on long-run income distribution can be deduced from work on the relationship between real wages and real rental rates of land (O'Rourke, Taylor and Williamson, 1996, Williamson, 1999, Bértola, 2000, Bértola and Williamson, 2003). This data suggests that in most Latin American countries inequality rose from around the 1880s until the great depression. These authors argue that this was because of the incorporation of these primarily land-abundant countries into the world economy as exporters of agricultural goods. Interestingly, this rise in

inequality was especially pronounced in countries such as Argentina and Uruguay which were the most involved in international trade, and these were the countries which democratized first.

In the context of the Latin American experience, there are also many examples where democracies have started important redistributive programs. Even in Costa Rica, a country with a relatively egalitarian history, Chalker (1995, p. 104) argues that "the most remarkable egalitarian measure in Costa Rica occurred in the 1960s and 1970's when the concentration in income distribution was reduced. Interestingly this was an outcome, rather than a cause of, democratic politics." Engerman, Mariscal and Sokoloff (1998) establish more generally for Latin America that, as for Europe, there is a very strong historical relationship between democratization and educational expansion.

6. The Literature

Our analysis of the emergence, consolidation or collapse of democracy builds on a large and somewhat heterogeneous literature in political science and sociology, and a small more recent one using formal mathematical models by economists. There is a joke in economics that any statement you make is already in Alfred Marshall's *Principles of Economics*. Similarly, it is hard to imagine making a claim about either democratization or consolidation that has not appeared somewhere in some form in the literature. For example, Huntington (1991, pp. 37-38) lists 27 different factors that he claims have been said to promote democracy. Nevertheless, why anybody believes any particular causal claim is usually unclear, as are the causal mechanisms linking particular putative causes to outcomes. The great strength of the analytical approach we adopt is that these issues are crystal clear.

Theorizing about the issues we tackle in this book dates back at least to Aristotle and Plato and has become the center of much academic work since the studies of Lipset (1959) and Moore (1966). In this section we sketch how our work fits into the main streams of the existing literature and outline what we feel are our major contributions. As the book proceeds we shall also extensively discuss how our findings relate to existing work and particular theoretical and empirical claims made in the academic literature.

Lipset's (1959) work, inspired by 'modernization' theory, was founded on the strong empirical correlation between per-capita income and democracy. He argued that democracy emerged in society as it modernized, a process associated with rising urbanization, an increased importance of industry, higher educational attainment and the increasing 'complexity' of society. The work of Moore (1966) to some extent challenged this focus on the unambiguous implications of modernization by emphasizing three 'paths to the modern world' of which democracy was only one, the other two being fascism and communist revolution. Both scholars emphasized how underlying socioeconomic factors determined when democracy would emerge. Moore's work, and and the more recent contribution of Luebbert (1991), linked subsequent political regimes, to initial social conditions, such as the class structure and the organization of agriculture, and to the strength of the bourgeoisie. For example, democracy emerged in Moore's theory when

agriculture had commercialized and was no longer characterized by feudal or semi-feudal labor relations, and where the bourgeoisie were strong.

These 'structural' approaches came under attack from many political scientists in the 1970s, particularly Rustow (1971), Linz and Stepan (1978) and Linz (1978) as being too deterministic and apolitical. This criticism came with a change of focus from democratization to the collapse of democracy. The comparative project on the collapse of democracy overseen by Juan Linz and Alfred Stepan was particularly important in re-orienting the literature. They advocated (1978, p. ix) directing "systematic attention to the dynamics of the political process of breakdown." In their view whether or not democracy collapsed was not determined by socioeconomic structures or conditions, but was instead a result of specific choices by the relevant actors, both pro and anti-democratic (see also Linz, 1978, p. 4). More specifically, Linz (1978, p. 50) proposed that democracy collapses because it loses 'legitimacy' and he argued that democracy collapses because of a failure of democratic politicians to solve political problems. Though the discussion of modernization by Lipset did not focus on choices by individuals or even groups, Moore's analysis does incorporate choices. For example, whether or not the bourgeoisie enters into a coalition with the aristocracy. Nevertheless, it is not clear in his analysis what determines whether or not such a choice is made.

Modernization theory was also attacked by O'Donnell (1973) who argued that the collapse of democracy in Latin America in the 1960s and 1970s undermined confidence in the income-democracy relationship and the idea that modernization promoted democracy. He pointed out that the military coups had happened in the richest Latin American countries, for example Argentina, Uruguay and Brazil.

In the 1980s, following contemporary events, research again re-focused, this time back on democratizations. The most influential work here was the "transitions" project overseen by Guillermo O'Donnell, Philippe Schmitter and Lawrence Whitehead. The conclusions of this program were presented in the highly influential book by O'Donnell and Schmitter (1986). They followed many of the methodological dicta of Linz and Stepan arguing that structural explanations on democratizations were inadequate (e.g. 1986, p. 4). O'Donnell and Schimtter's book presents a framework for clarifying the relevant processes that might lead to democratization and the various types of actors involved, for example they made an influential distinction between the 'hardliners' and the 'softliners' in an authoritarian regime. The book then consists of discussing various interactions between the relevant groups and the types of situations and dilemmas that might emerge inbetween the end of an authoritarian regime and the initiation of democracy. All the research in this tradition tends to emphasize that democracy is created by the will and decisions of individuals who are barely constrained by environmental factors (di Palma, 1990, is perhaps the most extreme version of such a thesis). As such the book does not really present an explanation of when democratization occurs, although they do offer a few generalizations the most famous of which is (1986, p. 19),

"we assert that there is no transition whose beginning is not the consequence—
direct or indirect—of important divisions within the authoritarian regime itself,
principally along the fluctuating cleavage between hard-liners and soft-liners."

The most recent incarnation of this transitions literature, and the focus of most political
science research in the 1990s has been on democratic consolidation. Linz and Stepan's (1996)
work is the most central. This literature emphasizes differences in the nature of democracy and
the existence of different paths from authoritarian to democratic regimes. In an early paper
Stepan (1986) proposed the existence of ten alternative paths from nondemocratic regimes to
democracy. Central is the idea that the form that democracy takes, once constructed, depends
on the nature of the prior regime. For example, Linz and Stepan distinguish between four types
of nondemocratic regime, authoritarian, totalitarian, post-totalitarian and sultanistic. The type
of democracy that emerges typically depends, in their view, of the type of nondemocratic regime
initially in place. For example, the issues facing those wishing to create consolidated democracy
in North Korea (totalitarian) and very different from those faced in the Congo (sultanistic) (e.g.
Linz and Stepan, 1996, p. 55).

The literature on democratic consolidation has also seen a resurgence in ideas about political
culture and how this be an important factor in determining consolidation (for example Almond
and Verba, 1963, and Diamond, 1999).

Other works have attempted to integrate both structural and actor based approaches to
democracy and its consolidation. Huntington (1991) himself proposed a complex web of factors
which influence democratization and he argued that these vary according to which 'wave' of
democracy one considered. For instance with respect to the first wave before the first World
War he emphasized modernization, urbanization, the creation of a middle class and decreasing
inequality (p. 39). In the second wave his emphasis shifted to the impact of the second World
War and the collapse of empires (p. 40). With respect to the third wave Huntington lists
five factors as being important (pp. 45-46) which are (1) a crisis of authoritarian legitimacy
created by economic recession induced by the oil shocks of the 1970s and the international debt
crisis of the 1980s, (2) the income growth and increase in education experienced in the 1960s,
(3) change in the attitude of the Catholic church, (4) changes in the attitudes of international
institutions, the U.S. and the Soviet Union, and (5) "snowballing" or demonstration effects which
led to contagion and the international dissemination of democracy. Huntington's discussion of
the effects of income level on democracy differs little from Lipset's. He argues (p. 106) that
democracy in the third wave was facilitated by "higher levels of economic well-being, which led to
more widespread literacy, education and urbanization, a larger middle class, and the development
of values and attitudes supportive of democracy." However, (p. 108) "the emergence of social,
economic and external conditions favorable to democracy is never enough to produce democracy.
Whatever their motives, some political leaders have to want it to happen."

Thus the structural conditions are necessary but not sufficient for democratization to oc-
cur. Huntington's analysis of the process of democratization in many respects mirrors that of

O'Donnell and Schmitter (1986). He outlines a set of stylized actors in the regime and the opposition and argues that democracy emerges when specific groups are strong or when specific sets of interactions occur (e.g., pp. 123-124, 142) Rather than provide a theory, Huntington uses this discussion to produce a taxonomy of different cases and he focuses on three paths of democratization.

Closer to our work is that of Dahl (1971) who proposed a very simple and appealing framework for understanding democratization. He argues that the basic issue with democratization is that (pp. 14-15),

> "From the perspective of the incumbents who currently govern, such a transformation carries with it new possibilities of conflict as a result of which their goals (and they themselves) may be displaced by spokesmen for the newly incorporated individuals, groups or interests.
>
> The problem of their opponents is the mirror image of the problem of the incumbents ...
>
> Thus the greater the conflict between government and opposition, the more likely that each will seek to deny opportunities to the other to participate effectively in policy making ... the greater the conflict between the government and its opponents, the more costly it is for each to tolerate the other."

Dahl's theory of democratization is that incumbents will democratize when either the cost of tolerating the opposition falls, so that they are prepared to enfranchise them. Or, the costs of suppression become too high (see pp. 15-16). He then makes a series of empirical claims about factors which are likely to influence these costs and hence the likelihood of democratization. In terms of mechanisms, Dahl (1971) emphasized that democracy arose when power was widely distributed in society, a situation he called a 'pluralistic' order. It was when society became pluralistic, something induced for example by income growth and industrialization, that the costs of suppression became high, and simultaneously the costs of toleration became low.

In contrast to Barrington Moore's emphasis on the bourgeoisie and the middle classes, some subsequent important and ambitious work, especially Therborn (1977) and Rueschemeyer, Stephens and Stephens (1992), noticed the important role that the poor and the working class played in the democratization process. In their theory the working classes are pro-democratic and when they are powerful enough they can force democracy. Power relations are determined by three sets of forces (p. 5).

> "There is first the balance of power among different *classes and class coalitions.* This ... is complemented by two other power configurations—the structure, strength, and autonomy of the *state apparatus* and its interrelations with civil society and the impact of *transnational power relations* on both the balance of class power and on state-society relations."

The main driving force behind democratization in their theory is capitalist development which increases the power of the working classes (e.g. p. 58).

Another important work is Haggard and Kaufman (1995). They concentrate on demonstrating the importance of economic crises for precipitating democratizations and then focus on the interaction between democratization, economic policy reform, and democratic consolidation. Their work suggests that the prime transmission mechanism between crises and democratic transitions is that crises breed social discontent against nondemocratic regimes. For instance, in their case studies (p. 45)

> "mounting economic difficulties encouraged opposition within the private sector and contributed to the mobilization of broader social and electoral movements."

They also find (p. 63)

> ""direct action campaigns"—anti-regime protests, general strikes, and demonstrations—also figured prominently in the authoritarian withdrawals."

An alternative theoretical approach to democratization stems from the sociological literature on the origins of state institutions. This argument, most associated with Tilly (1990) and applied recently to Africa by Herbst (2000), sees the origins of democracy in the process of state formation. Kings needed resources, particularly taxes to fight wars. In order to induce elites to pay taxes, Kings had to make concessions, one form of which was the creation of representative institutions. In this account democracy emerges as a quid pro-quo between Kings and elites where elites are granted representation in exchange for taxes. In Africa the lack of democracy is a consequence of the particular process of pre– and post-colonial state formation which meant that political elites never had to make concessions to citizens in exchange for taxes to fight wars.

This research on state formation has inspired an analyses of democratization by Bates and Lien (1985), Bates (1991), Rogowski (1998) and Tilly (2004). These scholars argue that democracy, like the origins of representative institutions more generally, is a concession from authoritarian rulers necessary to raise taxation. The more elastic is the tax base, the harder it is for authoritarian rulers to raise taxes without agreement, and the greater the likelihood of concessions—here democracy. Hence Bates (1991, p. 25) points out that democracy is less likely in an agrarian society since land is easier to tax, than it is in a society dominated by physical or human capital. Moreover, he makes the argument that authoritarian rulers will be more willing to abide by democracy if they fear it less. He connects this to their economic power with respect to democracy—democrats cannot hurt previous elites a lot if they have sufficient economic strength, perhaps because taxing the elite leads to a collapse in the economy. Rogowski (1998) similarly emphasizes the impact of the ability of citizens to exit as leading to democracy—a case where voice prevents exit.

Finally, our work builds on the literature which emphasizes how political institutions can solve problems of commitment. The seminal paper is by North and Weingast (1989) and this has been a theme of a series of important papers by Barry Weingast (e.g. 1997, 1998).

7. Our Contribution

The ideas presented in this book build on the framework we introduced in Acemoglu and Robinson (2000a,b, 2001a,b). There we placed the issue of regime transitions within a framework of redistributive conflict and developed the basic idea of democracy as a credible commitment by the elite to avoid revolution and derived some of the important comparative static results, for instance the inverted U-shape relationship between inequality and democratization. Our research provides the first systematic formal analysis of the creation and consolidation of democracy.

Our analysis of these issues is very much in the tradition of formal political economy and we therefore look for simple, unified explanations of complex social phenomena. As should be clear from the above discussion, this is somewhat out of step from the main body of political science literature on regime transitions. Instead, this literature since the 1970s has followed the dictum of Linz and Stepan (1978, p. xi) that "the historicity of macro-political processes precludes the highly abstract generalizing of ahistorical social scientific models ... applicable to all past times and any future cases." The lack of a theoretical framework with which to analyze regime transitions is even celebrated by some scholars with O'Donnell and Schmitter (1986, p. 3) noting "We did not have at the beginning, nor do we have at the end of this lengthy collective endeavor, a "theory" to test or to apply to the case studies and thematic essays in these volumes."

They continue,

> "If we ever had the temerity to formulate a theory of such processes, it would have to be a chapter in a much larger inquiry into the problem of "undetermined" social change, of large-scale transformations which occur when there are insufficient structural or behavioral parameters to guide and predict the outcome. Such a theory would have to include elements of accident and unpredictability, of crucial decisions taken in a hurry with inadequate information, of actors facing irresolvable ethical dilemmas and ideological confusions."

A recent survey of the literature on democratizations in the most prestigious journal in comparative politics *World Politics,* noted that

> "The literature on the third wave offers a number of general propositions about factors facilitating and obstructing democratization. The following are most notable
>
> 1. There are few preconditions for the emergence of democracy.
> 2. No single factor is sufficient or necessary to the emergence of democracy.
> 3. The emergence of democracy in a country is the result of a combination of causes.
> 4. The causes responsible for the emergence of democracy are not the same as those promoting its consolidation.
> 5. The combination of causes promoting democratic transition and consolidation varies from country to country.

6. The combination of causes generally responsible for one wave of democratization differs from those responsible for other waves." (Shin, 1994, p. 151)

It seems that the 'general propositions' are that there are no general propositions. We do not disagree that democratizations, looked at in micro detail, are tremendously complex social phenomena. Nevertheless, could not the same be said of any issue that social scientists wish to understand? In order to develop any systematic understanding of the social world one must proceed by simplifying (Occam's razor again) and abstracting from much of the details. Perhaps in this book we make the wrong decisions about what factors to emphasize and what to ignore, but whether we do can only be answered by the scientific and empirical usefulness of the theory and not by a priori assessments of how complicated the phenomena of democratization is.

In our terms, a general proposition about democratization would be an empirical claim, derived from a model with microfoundations, about what forces tend to lead to democratization. In our theory many factors influence this; inter-group inequality, political institutions, the structure of the economy and the nature and extent of globalization, to name a few. Our theory allows us to make comparative static predictions of the form: 'holding other things equal, a decrease in inequality makes a highly unequal society more likely to democratize.' In a particular and highly unequal society, such as South Africa in the 1980s, democratization may be caused by falling inequality. Nevertheless, this does not mean that falling inequality is necessary or sufficient to induce democratization. In another highly unequal nondemocratic society we might see inequality fall but democratization does not take place because something else changes as well (maybe the extent of globalization changes) which decreases the appeal of democratization.

Despite the fact that our approach does not easily mesh with much mainstream research on regime transitions in political science, a close reading of the literature confirms that the distributional conflicts on which we focus are considered by all authors to be at the heart of understanding democratization and coups. For instance, although O'Donnell and Schmitter (1986) emphasize that transitions coincide with splits in the authoritarian regime, they recognize that authoritarian regimes only liberalize when they are forced to (e.g. pp. 16-17) and in their conclusion O'Donnell and Schmitter (1986, pp. 68-69) note that

"it is possible to offer a few generalizations ... First, all previously known transitions to political democracy have observed one fundamental restriction ... the property rights of the bourgeoisie are inviolable."

This conclusion is not very surprising given that (p. 52) "Most of the authoritarian regimes in our sample of countries have deliberately favored bourgeois interests." At other places in their work they also make statements highly consonant with our approach. For instance they argue that in democratization (p. 11) "the threat of violence and even frequent protests, strikes, and demonstrations are virtually always present," which is one of the building blocks of our approach. Interestingly, the analysis of democratic breakdown that emerges in Linz (1978) is also consistent with this basic idea (see pp. 14-15, 20).

Our framework does however build on various themes in the literature. At the heart of our theory are trade-offs close to those discussed by Dahl (1971) though we place the trade-off between repression and democratization into a richer setting where political institutions have a real role because of how they influence the ability of actors to commit. Moore's work is also a clear inspiration for our research, both for the title of our book and our taxonomy of 'paths of democratization' outlined in Chapter 1. We focus only on a subset of the issues he did, however, since we do not extensively study revolutions and we completely ignore the issue of how fascism comes about. Our economic focus also is very different from his sociological one and our emphasis on methodological individualism means that we provide much more explicit microfoundations than he did. To take an obvious case, the connection between the strength of the middle class and democracy. We develop various explicit mechanisms via which this strength can influence the costs and benefits of democracy for different agents and thus the likelihood that it will be created.

Our work also has a similar relationship to that of scholars such as Therborn (1977) and Rueschemeyer, Stephens and Stephens (1992). While there are many common themes, our work is substantially different because we develop much more explicitly the mechanisms linking various factors to the rise and consolidation of democracy. Therborn and Rueschemeyer, Stephens and Stephens see democratization as the result of capitalist development. They emphasize the effects of such development on the balance of class power much more than Lipset did, but their account is based on the same empirical fact. But they also fail to provide a mechanism for how capitalist development causes democracy. In our analysis, though capitalist development may increase the power of the poor to challenge a nondemocracy, this does not necessarily lead to democracy. For example, if such development allowed the citizens to make a permanent threat to the elite, then the elite would be able to avoid democratizing by credibly redistributing. Or if capitalist development increased inequality sufficiently and did not make repression costly, it would encourage the elite to use repression rather than concede democratization. In our approach, it is the effect of capitalist development both on the strength of the citizens and the trade-off of the elite between repression and concession that determines the fate of democracy. Moreover, our analysis suggests that capital accumulation in itself may not be sufficient to induce democracy. Rather it is changes in the structure of society's assets that may be crucial to changing the costs and benefits of democracy to the elite that lead to democratization.

These ideas point to an aspect of our work which is original and we believe important. No other authors have placed the issue of democratization in a context where the trade-offs between it, other types of concessions and repression can be evaluated. As we suggested in Chapter 2, we find a model which just says that the poor want democracy and if they have more power they get it, to be too simple. Moreover, such a theory provides no real role for political institutions, surely a critical step in explaining why and when democracy comes about.

The closest thing to this is the distinction, initially made by O'Donnell and Schimitter (1986) between liberalization and democratization. In their schema, a process of liberalization always precedes democratization. By liberalization they mean (p. 7) "the process of making effective

certain rights that protect both individuals and social groups from arbitrary or illegal acts committed by the state or third parties. On the level of individuals these guarantees include the classical elements of the liberal: habeas corpus; sanctity of private home and correspondence; the right to be defended in a fair trial according to pre-established laws; freedom of movement speech..and so forth." To the extent that such liberalization measures are valued by citizens they constitute a concession of the type we have studied here (though obviously not a monetary one). Significantly, O'Donnell and Schimitter (1986, p. 9) note that

> "liberalization and democratization are not synonymous, although their historical relationship has been close ... without the accountability to mass publics and constituent majorities institutionalized under the latter, liberalization may prove to be easily manipulated and retracted at the convenience of those in government."

The research of Moore (1966), Therborn (1977) and Rueschemeyer, Stephens and Stephens (1992) is also roblematical because they assume that political conflict is always along the lines of class. There is much evidence however that a richer conceptual framework is needed to provide a satisfactory general approach to democracy. The framework we develop applies to a much wider set of cases.

A long tradition from Moore (1966) and Dahl (1971) onwards emphasizes that democracy is not feasible in agrarian societies and Rueschemeyer, Stephens and Stephens (1992, p. 8) explain the reason for this in the following way "The landed upper-class which were dependent on a large supply of cheap labor were the most consistently anti-democratic force. Democratization for them posed the possibility of losing their labor supply." Though this mechanism is plausible, the Latin American evidence is also consistent with landed interests opposing democracy because they anticipated losing their land. It is this idea we develop more intensively, along with related ideas about how the cost of coups is influenced by the structure of assets.

We place central emphasis on the fact that democracy is conceded in the face of potential conflict which is internal to a society (as do Therborn, 1977, and Rueschemeyer, Stephens and Stephens, 1992). Our reading of the historical literature suggests that the type of democratization which Collier (1999) calls an "elite project," where political elites create democracy for other reasons without external pressure, is such a rare event that it cannot be the basis of any useful generalizations. We also do not believe that the evidence is consistent with the notion that democracy arises as a by-product of state formation and the expansion of the fiscal base, possibly induced by external threats.

In contrast the elite project approach, often associated with O'Donnell and Schmitter (1986) plays down the role of outside social pressure leading to democratization and instead emphasizes conflict within ruling authoritarian regimes. O'Donnell and Schmitter's elite splits are part of this and undeniably took place in many democratizations. Collier's use of this term is broader since she wants to use it also to capture some 19th century democratizations that purportedly took place as nascent political parties extended voting rights in order to increase their support

(the classic example being competition between Disraeli and Gladstone over the Second Reform Act of 1867). Our basic view on this is that elite splits are a manifestation of heterogeneity amongst the elite, but they are caused in the first place by the challenge of the disenfranchised citizens to the existing system. This challenge, combined with the intra-elite heterogeneity, leads to different attitudes towards democracy. We believe that this view is consistent with a close reading of O'Donnell and Schmitter and the case study evidence their analysis is based on. Haggard and Kaufman (1995) also recognize that splits in authoritarian elites may be important, but also argue that these splits may be initiated by crises (see pp. 31-32). In terms of Disraeli and Gladstone, as Chapter 8 makes clear, we believe this to be an unconvincing interpretation of events.

In terms of the recent literature on democratic consolidation our work focuses on a much narrower set of questions. Interestingly, in Linz and Stepan (1996) the reason for the path dependence they argue exists in every democratization really hinges on the way that the non-democratic legacy influences the difficulty of creating the different components of consolidation, such as the rule of law or a non-patrimonial bureaucracy, which are outside the scope of our study, given our focus on a Schumpeterian definition of democracy. Though these questions are interesting, they are not part of the questions asked in this book. What is central to our approach is the idea that the distribution of power in a democracy depends on many factors, including the structure of political institutions. If these vary, then so do the outcomes of democracy.

Since our approach is game theoretic we obviously build on the literature which has attempted to use such an approach. This work began following the simple games of democratization sketched in Przeworski (1991), who used them to illustrate some of the conclusions reached by O'Donnell and Schmitter (1986). His approach has been developed by a number of scholars, for example Gates and Humes (1997), Crescenzi (1999) and Sutter (2000). Other scholars have appealed to simple games, particularly the prisoner's dilemma, as metaphors for what happens when there is a coup (Cohen, 1994) or a democratization (Colomer, 2000).

Our emphasis on the economic motives of actors involved in creating and undermining democracy is shared by several of the recent key works, for instance Przeworski (1991) and Haggard and Kaufman (1995). For instance, Haggard and Kaufman's approach is that (p. 6-7)

> "we assume that the opportunities for political elites to mobilize political support or opposition will depend on how economic policy and performance affect the income of different social groups. Both aggregate economic performance and the distributive consequences of policy are crucial to politics everywhere, affecting the chances of both incumbents and oppositions."

Nevertheless, the majority of game theoretic models that have been developed so far by political scientists are very reduced form, generating few, if any, testable predictions and failing to illuminate the causal mechanisms at work. By reduced form, we mean that the payoff to different players, for example from democracy or dictatorship, are represented as numbers, or perhaps variables like x or y. Then if I receive a payoff of 2 from democracy and 3 from

dictatorship, I prefer dictatorship, or alternatively, if x is my payoff from democracy and y my payoff from dictatorship and $x > y$ then I prefer democracy. Such models do not reveal why any particular individual or group prefers the regime it does, nor do they allow one to derive testable predictions about the circumstances under which different outcomes arise. More problematically, following O'Donnell and Schmitter (1986), they define the preferences of individuals in terms of the actions they prefer. Thus an agent is defined to be a hardliner because he prefers dictatorship. The same problem arise in the use of these ideas in Huntington (1991). Like O'Donnell and Schmitter he does not explain why certain interactions occurred in some countries and not others, and he does not explain why pro-democratic actors where strong in some countries, weak in others. Moreover, it is again not really explained fundamentally why anybody is for or against a particular type of political regime. Ideally, individual's preferences over regime outcomes ought to be derived from more fundamental preferences over income or other things, along with the implications of particular regimes for these preferences.

Possibly because of the reliance on very reduced form models, this game theoretical literature has adopted the same dichotomy between structural and political approaches to explaining regime transitions first advocated by Linz and Stepan in the 1970s. For example, Colomer (2000, p. 133) in a chapter entitled "Structural versus Strategic Approaches to Political Change" argues that

> "Two basic approaches can be distinguished in the literature on regime change
> and transitions to democracy. One emphasizes the structural, socioeconomic or
> cultural requisites of democracy ... The other approach looks at political regimes
> as outcomes of strategic processes of change. The main role is given here to
> choices and interactions by the actors."

That such a dichotomy exists seems to be widely accepted by political scientists. Shin (1994, pp. 138-139) argues

> "the establishment of a viable democracy in a nation is no longer seen as the
> product of higher levels of modernization, illustrated by wealth, bourgeois class
> structure, tolerant cultural values, and economic independence from external ac-
> tors. Instead, it is seen more as a product of strategic interactions and arrange-
> ments among political elites, conscious choices among various types of democratic
> constitutions, and electoral and party systems."

The framework we develop is game theoretic and individuals and groups behave strategically based on individual motivations and incentives. Yet individuals function within social and economic systems that both constrain their actions and also condition incentives. In fact there is no dichotomy at all between structural and strategic approaches, they are one and the same.

Our approach then is to build much richer political economy models from which we can derive empirical predictions about the incidence of democracy. We treat individuals preferences as given, but allow people to differ with respect to their income, wealth, the form in which they hold their wealth, or their options and alternatives. From these fundamentals we derive

individual preferences over regime types. Thus if a member of the elite is a hardliner it is because we can show that 'hardline' behavior is optimal for him given his preferences, endowments and opportunities. We do not define people by their behavior.

Though we know of no work of the scope of ours, our results have been complemented by a number of other recent formal models of democratization. Most related is the research of Rosendorff (2001) who developed a model to argue that democratization occurred in South Africa because falling inequality made democracy less threatening for whites, an idea clearly related to one of the building blocks of our approach. Boix's (2003) recent book develops a simple static version of a democratization model derived from our (2000a) and (2001a) papers, and close to the model sketched by Dahl (1971), and applies it to historical instances of democratization, particularly in Switzerland and the U.S.. Since his book uses the framework we developed in our published articles, it suggests several of the comparative statics we analyze in this book. For instance, Boix verbally discusses ideas about how trade, exit and the structure of the economy influence redistributive politcs and thus democratization. Ellman and Wantchekon (2000) is also related to our analysis of coups; they show how the threat of a coup may influence the policies political parties offer in an election. This is one element of our analysis in Chapter 7. Other papers by Feng and Zak (1996), Justman and Gradstein (1999) and Conley and Akram (2001) provide different formal models of democratization. Another stream in the political economy literature, including both non-formal work by Kiser and Barzel (1991) and Barzel (2001) and theoretical models by Green (1993), Weingast (1997), Gradstein (2002), Bueno de Mesquita, Smith, Siverson and Morrow (2003) and Lizzeri and Persico (2004) build on the idea that democracy is voluntarily granted by political elites because it solves some sort of market failure or contractual incompleteness. For instance, Green (1993) argues that the creation of legislative institutions was a way for rulers to credibly signal information. The other research, though differing in details, is based on the idea that rulers face a severe commitment problem because they cannot use third parties to enforce their contracts. Creating democracy can therefore be Pareto improving because by giving away power a ruler can gain credibility.

An alternative formal approach to democratization has been proposed by Ades (1995), Ades and Verdier (1996) and Bourguignon and Verdier (2000). These papers assume that only wealthy citizens can vote and study how, for a fixed wealth threshold, changes in income distribution and economic development influence the extent of the franchise and hence the equilibrium policy. Another approach has been developed by Ticchi and Vindigni (2003a) who analyze a model where countries are engaged in inter-state warfare and political elites democratize in order to give their citizens greater incentives to fight.

Part 2

Modelling Politics

CHAPTER 4

Democratic Politics

1. Introduction

In this chapter we begin our analysis of the factors that lead to the creation of democracy. As discussed in Chapter 2, our approach is based on conflict over political institutions, in particular democracy vs. nondemocracy. This conflict results from the different consequences that follow from these regimes. In other words, different political institutions lead to different outcomes, creating different winners and losers. Realizing these consequences, various groups have preferences over these political institutions.

Therefore, the first step towards our analysis of why and when democracy emerges is the construction of models of collective decision-making in democracy and nondemocracy. The literature on collective decision-making in democracy is vast (with a smaller companion literature on decision-making in nondemocracy). Our purpose here is not to survey this literature, but to bring out the essential points on how individual preferences and various types of distributional conflicts are mapped into economic and social policies. In this chapter, we start with an analysis of collective decision-making in democracies, turning to nondemocratic politics in the next chapter.

The most basic characteristic of a democracy is that all individuals (above a certain age) can vote and voting influences which social choices and policies get adopted. In a direct democracy, the populace would vote directly over the policies. In a representative democracy, the voters choose the government, which then decides what policies to implement. In the most basic model of democracy, political parties, who wish to come to office, attempt to get elected by offering voters a policy platform. This may be a tax policy, but it may also be any other sort of economic or social policy. Voters then elect political parties, thus indirectly choosing policies. This interaction between voters' preferences and parties' policy platforms determines what the policy will be in a democracy. One party wins the election and implements the policy that it promised. This approach, which we shall adopt for large parts of the book, builds on a body of important research in economics and political science, most notably that due to Hotelling (1929), Black (1948) and Downs (1957).

Undoubtedly, in the real world there are important institutional features of democracies missing from such a model and their absence makes our approach only a crude approximation to reality. Parties rarely make a credible commitment to a policy, and run not on a single issue, but on a broad platform. In addition, parties may be motivated by partisan (ideological) preferences as well as simply a desire to be in office. Voters might also have preferences over

parties' ideologies, as well as their policies. There are various electoral rules, with some coun-
tries electing politicians according to proportional representation with multi-member districts,
while others use majoritarian electoral systems with single member districts. These different
electoral institutions determine in different ways how votes translate into seats and therefore
governments. Some democracies have presidents, while others are parliamentary. There is often
divided government, with policies determined by legislative bargaining between various parties,
or by some type of deal between presidents and parliaments, and not by the specific platform
offered by any party in an election. Last but not least, interest groups influence policies through
non-voting channels, including lobbying and in the extreme, corruption.

Many of these features can be added to our models, and these refined models often make
different predictions over a range of issues.[1] Nevertheless, our initial and main intention here is
not to compare various different types of democracies, but to understand the major differences
between democracies and nondemocracies. For instance, though the Unites States has a president
while Britain does not, nobody argues that this influences the relative degree to which they are
democratic. Democracy is consistent with a large amount of institutional variation. Our focus
will therefore be on simpler models of collective decision-making in democracies, bringing out
their common elements. For this purpose, we will emphasize that democracies are situations of
relative *political equality*. Each citizen has one vote. As a result, in democracy the preferences of
all citizens matter in the determination of political outcomes. In nondemocracy, this is not the
case since only some subset of people have political rights. Therefore, by and large, we will treat
nondemocracy as the opposite of democracy: while democracy approximates political equality,
nondemocracy is typically a situation of *political inequality*, with more power in the hands of an
elite.

Bearing this contrast in mind, our treatment in this chapter will try to bring out some
common themes in democratic politics. Later we shall return to the question of institutional
variation within democracies. We shall see that, although this does not alter the basic thrust
of our argument, it is important because it may influence the type of policies that emerge in
democracy and thus the payoffs for both the elite and the citizens.

2. Aggregating Individual Preferences

In this section, we begin with some of the concepts and problems faced by the theory of social
or collective choice, which deals with the issue of how to aggregate individual preferences into
"society's preferences" when all people's preferences count. These issues are important because
we want to understand what happens in a democracy. When all people can vote, what policies
are chosen?

To fix ideas it is useful to think of government policy as a proportional tax rate on incomes,
and some way of redistributing the proceeds from taxation. Generally, individuals differ in their

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[1] For example, it appears to be the case that, empirically, electoral systems with proportional representa-
tion lead to greater income redistribution than majoritarian institutions (see Austen-Smith, 2000, Milesi-Feretti,
Perotti, and Rostago, 2002, Persson and Tabellini, 2003).

tastes and their incomes, and thus will have different preferences over policies, for example, over the level of taxation, redistribution, public good provision, etc. However, even if people are identical in their preferences and incomes, there is still conflict over government policy. In a world where individuals want to maximize their income, each person would have a very clear preference: impose a relatively high tax rate on all incomes other than their own, and then redistribute all the proceeds to themselves! How do we then aggregate these very distinct preferences? Do we choose one individual who receives all the revenues? Or will there be no redistribution of this form? Or some other outcome altogether?

This question is indirectly addressed by Arrow's (1951) seminal study of collective decision making. The striking, but upon reflection reasonable, result that Arrow derived is that under very weak assumptions, the only way that a society may be able to make coherent choices in situations like this is to make one member a dictator in the sense that only the preferences of this individual matter in the determination of the collective choice. More precisely, Arrow established an *(im)possibility theorem*, showing that even if individuals have well behaved rational preferences, it is not generally possible to aggregate these preferences to determine what would happen in a democracy. This is because aggregating individual rational preferences does not necessarily lead to a social preference relation that is rational in the sense that it allows 'society' to make a decision about what to do.

Arrow's theorem is a fundamental, and deep, result in political science (and economics). It builds on a very important, and much simpler, feature of politics: *conflict of interest*. Different allocations of resources and different social decisions and policies, create *winners* and *losers*. The difficulty in forming social preferences is how to aggregate the wishes of different groups, some of whom prefer one policy or allocation, while some others prefer different ones. For example, how do we aggregate the preferences of the rich segments of society who dislike high taxes that redistribute away from themselves and the preferences of the poor segments who like high taxes that redistribute to themselves? Conflicts of interest between various social groups, often between the poor and the rich, will underlie all of the results and discussion in this book. In fact, the contrast we draw between democracy and nondemocracy precisely concerns how they tilt the balance of power in favor of the elite or the citizens, or in favor of the rich or the poor.

Nevertheless, Arrow's theorem does not show that it is always impossible to aggregate conflicting preferences. We need to be much more specific about the nature of individual's preferences and about how society reconciles conflicts of interest. We need to be more specific about what constitutes power and how this is articulated and exercised. When we do so, we shall see that we may get determinate social choices because, even though people differ in what they want, there is a determinate balance of power between different individuals. Such balances of power will emerge in many situations, the most famous being in the context of the Median Voter Theorem which we examine in the next section.

To proceed it is useful to be much more specific about the institutions under which collective choices are made. In particular, we will wish to formulate the collective choice problem as a

game. This game can be of various types. For instance, in the basic Downsian model we consider shortly, the game is between two political parties. In a model of dictatorship we investigate in the next chapter, the game is between a dictator and his disenfranchised citizens. Once we have taken this step, looking for determinate social choices will be equivalent to looking for the Nash equilibrium of the relevant games.

3. Single-Peaked Preferences and the Median Voter Theorem

3.1. Single-Peaked Preferences. Let's first be more specific about individual preferences over social choices and policies. In economic analysis we represent people's preferences by a utility function which allows them to rank various alternatives. We place various plausible restrictions on these utility functions, for example, they are usually increasing (more is better) and they are assumed to be concave, an assumption which embodies the notion of diminishing marginal utility. Since we want to understand what choices an individual will make when their goal is to maximize their utility, we are usually very concerned with the shape of the utility function. One important property that a utility function might have is that of being 'single-peaked.'

Loosely, individual preferences are single-peaked with respect to a policy or a social choice if an individual has a preferred policy and the further away the policy is from this preferred point, in any direction, the less the person likes it. Now we can more formally define single-peaked preferences. First, with subsequent applications in mind, let us define q as the policy choice, Q as the set of all possible policy choices, with an ordering ">" over this set (again, if these choices are simply unidimensional, e.g., tax rates, this ordering is natural because it is simple to talk about higher and lower taxes rates), and $V^i(q)$ as the *indirect utility function* of individual i where $V^i : Q \to \mathbb{R}$. This is simply the maximized value of utility given particular values of the policy variables. It is this indirect utility function that captures the induced preferences of i and consider a society with n individuals. The *ideal point* (sometimes called the 'political bliss point') of this individual, q^i, is such that $V^i(q^i) \geq V^i(q)$ for all other $q \in Q$. Single-peaked preferences can be more formally defined as follows.

Definition 4.1: (Single-Peaked Preferences) Policy preferences of voter i are single peaked if and only if:

$$\text{If } q'' \; < \; q' < q^i \text{ or, if } q'' > q' > q^i, \text{ then}$$
$$V^i(q'') \; < \; V^i(q').$$

Strict concavity of $V^i(q)$ is sufficient for it to be single peaked.[2]

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[2] In fact, the weaker concept of strict quasi-concavity is all that is necessary for V^i to be single-peaked. However, in all examples we look at in this book V^i will be strictly concave so we do not introduce the notion of quasi-concavity. It is also possible to state the definition of single-peaked preferences with weak inequalities, e.g.: if $q'' \leq q' \leq q^i$ or, if $q'' \geq q' \geq q^i$, then $V^i(q'') \leq V^i(q')$. In this case the corresponding concept would be quasi-concavity (or concavity). Such a formulation allows for indifference over policy choices (the utility function could be flat over a range of policies). We find it more intuitive to rule out this case which will not be relevant for the models we study in this book.

It is also useful here to define the median individual. As individual M is the median voter, if there are exactly as many individuals with $q^i < q^M$ as with $q^i > q^M$ where q^M is the ideal point of the median person.

To assume that people have single-peaked preferences is a restriction on the set of admissible preferences. It is important to note here however that this restriction is not really about the form or nature of people's intrinsic tastes or utility function over goods or income. It is a statement about people's induced preferences over social choices or policy outcomes (the choices over which people are voting, such as tax rates), hence our reference to the 'indirect utility function'. To derive people's induced preferences, we need to take into account not just their innate preferences, but also the structure of the environment and institutions in which they form their induced preferences. It will usually turn out to be the features of this environment which will be crucial in determining whether or not people's induced preferences are single peaked or not.

We shall often make assumptions in this book to guarantee that individual preferences are single-peaked. Is the restriction reasonable? Guaranteeing that induced preferences over policies are single-peaked entails making major restrictions on the set of alternatives that voters can vote on. These restrictions often need to take the form of restricting the types of policies that the government can use, in particular, ruling out policies where all individuals are taxed in order to redistribute the income to one individual, or ruling out person-specific transfers. Assuming preferences are single-peaked is again an application of Occam's razor. We attempt to build parsimonious models of complex social phenomena and by focusing on situations where the MVT or analogues hold, we are making the assumption that in reality, democratic decision processes do lead to coherent majorities in favor or against various policies or choices. This seems a fairly reasonable premise.

A large political science and political economy literature focuses on such single-peaked preferences. This is because single-peaked preferences generate the famous and powerful *Median Voter Theorem (MVT)*, which constitutes a simple way of determining equilibrium policies from the set of individual preferences. In this book, we will either follow this practice of assuming single-peaked preferences and making use of the Median Voter Theorem, or simply focus on a polity that consists of a few different groups, e.g., the rich and poor, where it is easy to determine the social choice (see Section 4.2 below). This is because our focus is not on specific democratic institutions that could aggregate preferences in the absence of non-single-peaked preferences, but rather some general implications of democratic politics.

3.2. The Median Voter Theorem. Let's now move to an analysis of the MVT, originally due to Black (1948). We can use the above restrictions on preferences to show that individual preferences can be aggregated into a social choice. The MVT tells us not only that such a choice exists, but also that the outcome of majority voting in a situation with single-peaked preferences will be the ideal point of the 'median voter'. There are various ways to state the MVT. We do this first in a simple model of direct democracy with an open agenda. In a direct democracy

individuals vote directly on pairs of alternatives (some $q, q' \in Q$) with the alternative that gets the most votes being the winner. When there is an open agenda any individual can propose a new pairwise vote pitting any alternative against the winner from the previous vote.

> **Proposition 4.1: (The Median Voter Theorem)** Consider a set of policy choices $Q \subset \mathbb{R}$, let $q \in Q$ be a policy, and let M be the median voter whose ideal point is q^M. If all individuals have single-peaked preferences over Q, then (1) q^M always defeats any other alternative $q' \in Q$ with $q' \neq q^M$, in a pairwise vote, (2) q^M is the winner in a direct democracy with an open agenda.

To see the argument behind this theorem, imagine the individuals are voting in a contest between q^M and some policy $\tilde{q} > q^M$. Because preferences are single peaked, all individuals who have ideal points less than q^M strictly prefer q^M to $\tilde{q}$. This follows because indirect utility functions fall monotonically as we move away from the ideal points of individuals. In this case, since the median voter prefers q^M to $\tilde{q}$, this individual plus all the people with ideal points smaller than q^M constitute a majority, so q^M defeats $\tilde{q}$ in a pairwise vote. This argument is easily applied to show that any $\tilde{q}$ where $\tilde{q} < q^M$ is defeated by q^M (now all individuals with ideal points greater than q^M vote against $\tilde{q}$). Using this type of reasoning we can see that the policy that wins in a direct democracy must be q^M—this is the ideal point of the median voter who clearly has an incentive to propose this policy.

Why does this work? When citizens have single peaked preferences and the collective choice is one-dimensional, despite the fact that individuals preferences differ, a determinate collective choice arises. Intuitively this is because people can be separated into those who want more q and those who want less, and these groups are just balanced by the median voter. Preferences can be aggregated into a decision because people who prefer levels of q less than q^M have nothing in common with people who prefer levels of q greater than q^M. Therefore, no sub-set of people who prefer low q can ever get together with some sub-set of those who prefer high q to constitute an alternative majority. It is these 'peripheral' majorities that prevent determinate social choices in general, and they cannot form with single-peaked preferences.

The MVT therefore makes sharp predictions about which policies win when preferences are single-peaked, and society is a direct democracy with an open agenda.

It is useful at this point to think of the model underlying Proposition 4.1 as an extensive form game. There are three elements in such a game (Osborne and Rubinstein, 1994, pp. 89-90). First the set of players, here the n individuals. Second, the description of the game tree which determines which players play when and what actions are available to them at each node of the tree when they have to make a choice. Third, the preferences of individuals here captured by $V^i(q)$. (In game theory preferences and utility functions are often called payoffs and payoff functions and we shall use this terminology interchangeably below.) A player chooses a strategy to maximize this function where a strategy is a function that determines what action to take at every node in which a player has to make a decision.[3] A strategy here is simply how to

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[3]Throughout this book we shall only consider pure strategies.

vote in different pairwise comparisons. The basic solution concept for such a game is a Nash equilibrium. A Nash equilibrium is a set of n strategies, one for each player, such that no player can increase their payoff by unilaterally changing their strategy. One way of saying this is that players' strategies have to be mutual best responses. We shall also extensively use a refinement of Nash equilibrium, the concept of subgame perfect Nash equilibrium, where players strategies have to be mutual best responses on every proper subgame, not just the whole game. We defer discussion of the relationship between these two concepts until Chapter 5. Nevertheless, compared to the models we shall now discuss, the assumption of open agenda makes it difficult to write down the game more carefully. To do this we would have to be much more specific about who could propose what alternatives when and how they make these decisions.

3.3. Downsian Party Competition and Policy Convergence. The above story was based on a direct democracy, an institutional setting where individuals directly vote over policies. In practice, most democratic societies are better approximated by representative democracy, where individuals vote for parties in elections, and the winner of the election then implements policies. What does the MVT imply for party platforms?

To answer this question, imagine a society with two parties competing for an election by offering one-dimensional policies. Individuals vote for parties, and the policy promised by the winning party is implemented. The two parties only care about coming to office. This is essentially the model considered in the seminal study by Downs (1957), though his argument was anticipated to a large degree by Hotelling (1929).

How will the voters vote? They anticipate that whichever party comes to power, their promised policy will be implemented. So imagine a situation in which two parties, A and B, are offering two alternative policies, e.g., tax rates, $q_A \in Q$ and $q_B \in Q$—in the sense that, they have made a *credible commitment* to implementing the tax rates q_A and q_B, respectively. Let $P(q_A, q_B)$ be the probability that party A wins power when the parties offer the policy platform (q_A, q_B). Party B, naturally, wins with probability $1 - P(q_A, q_B)$. We can now introduce a simple objective function for the parties: each party gets a rent or benefit $R > 0$ when it comes to power and 0 otherwise. Neither party cares about anything else. More formally parties choose policy platforms to solve the following pair of maximization problems,

$$(4.1) \qquad \begin{aligned} \text{Party } A \;\; &: \;\; \max_{q_A \in Q} \; P(q_A, q_B) R \\ \text{Party } B \;\; &: \;\; \max_{q_B \in Q} \; \left(1 - P(q_A, q_B)\right) R \end{aligned}$$

If the majority of the population prefer q_A to q_B, then they will vote for party A, and we will have $P(q_A, q_B) = 1$. If they prefer q_B to q_A, then they will choose party B, so we have $P(q_A, q_B) = 0$. Finally, if the same number of voters prefer one policy to the other, we might think either party is elected with probability $1/2$, so that $P(q_A, q_B) = 1/2$ (though the exact value of $P(q_A, q_B)$ in this case is not important for the outcomes that the model predicts).

Since preferences are single peaked, from Proposition 4.1, we know that whether a majority of voters will prefer tax rate q_A or q_B depends on the preferences of the median voter. More

specifically, let the median voter again be denoted by superscript M, then Proposition 4.1 immediately implies that if $V^M(q_A) > V^M(q_B)$, we will have a majority for party A over party B. The opposite obtains when $V^M(q_A) < V^M(q_B)$. Finally, if $V^M(q_A) = V^M(q_B)$ one of the parties will come to power with probability $1/2$. Therefore, we have

$$(4.2) \qquad P(q_A, q_B) = \begin{cases} 1 \text{ if } V^M(q_A) > V^M(q_B) \\ \frac{1}{2} \text{ if } V^M(q_A) = V^M(q_B) \\ 0 \text{ if } V^M(q_A) < V^M(q_B) \end{cases}$$

The model we have now developed can be analyzed as a game much more explicitly than the direct democracy model of the previous section. This game consists of the following stages.

(1) The two political parties non-cooperatively choose their platforms (q_A, q_B).
(2) Individuals vote for the party they prefer.
(3) Whichever party wins the election comes to power and implements the policy it promised at the first stage.

There are $n + 2$ players in this game, the n citizens with payoff functions $V^i(q)$ and the two political parties with payoff functions given by (4.1). Individual voters do not propose policy platforms, only parties do so simultaneously at the first stage of the game. Parties have to choose an action $q_j \in Q$ for $j = A, B$, and citizens again have to vote. Thus in this model a subgame perfect Nash equilibrium would be a set of $n + 2$ strategies, one for each of the political parties, and one for each of the n voters, which would determine what policies the parties offered and how individuals would vote. If such a set of strategies constituted an equilibrium, then it would have the property that neither party and no voters could improve their payoff by changing their strategy (for example by offering a different policy, for parties, or voting differently, for citizens).

In the present model, however, we can simplify the description of a subgame perfect Nash equilibrium because, given a policy vector $(q_A, q_B) \in Q \times Q$, voters simply vote for the party offering the policy closest to their ideal point and since preferences are single-peaked, the MVT implies that the winner of such an election is determined by (4.2). Hence the only interesting strategic interaction is between the parties. More formally, we can solve the game by backward induction. To do this we begin at the end of the game and work backwards. Parties are committed to platforms so whichever party wins implements the policy it offered in the election. Then (4.2) determines which party wins, and taking this into account at the initial stage of the game parties choose policies to maximize (4.1).

This implies that a subgame perfect Nash equilibrium in this game reduces to a pair of policies (q_A^*, q_B^*) such that q_A^* maximizes $P(q_A, q_B^*)R$, taking the equilibrium choice of party B as given, and simultaneously q_B^* maximizes $(1 - P(q_A^*, q_B))R$, taking the equilibrium choice of party A as given. In this case neither party can improve its payoff by choosing an alternative policy (or in the language of game theory, by 'deviating').

Formally, the following theorem characterizes the unique subgame perfect Nash equilibrium of this game.

Proposition 4.2: (Downsian Policy Convergence Theorem) Consider a vector of policy choices $(q_A, q_B) \in Q \times Q$ where $Q \subset \mathbb{R}$, two parties A and B that only care about coming to office, and can commit to policy platforms. Let M be the median voter, with the ideal point of the 'median voter,' being q^M. If all individuals have single-peaked preferences over Q, then in the unique subgame perfect Nash equilibrium, both parties will choose the platforms $q_A^* = q_B^* = q^M$.

Put differently, both parties converge to offering exactly the ideal point of the median voter. To see why there is this type of policy convergence, imagine a configuration where the two parties have offered policies q_A and q_B such that $q_A < q_B \leq q^M$. In this case, we have $V^M(q_A) < V^M(q_B)$ by the fact that the median voter's preferences are single peaked. There will therefore be a clear majority in favor of the policy of party B over party A, and hence $P(q_A, q_B) = 0$, and party B will win the election. Clearly, A has an incentive to increase q_A to some $q \in (q_B, q^M)$ if $q_B < q^M$, to win the election, and to $q = q^M$ if $q_B = q^M$ to have the chance of winning the election with probability $1/2$. Therefore, a configuration of platforms such that $q_A < q_B \leq q^M$ cannot be an equilibrium. The same argument applies: if $q_B < q_A \leq q^M$ or if $q_A > q_B \geq q^M$, etc.

Next consider a configuration where $q_A = q_B < q^M$. Could this be an equilibrium? The answer is no: if both parties offer the same policy then $P(q_A, q_B) = 1/2$ (hence $1 - P(q_A, q_B) = 1/2$ also). But then if A increases q_A slightly so that $q_B < q_A < q^M$ then $P(q_A, q_B) = 1$. Clearly, the only equilibrium involves $q_A = q_B = q^M$ with $P(q_A = q^M, q_B = q^M) = 1/2$ (hence $1 - P(q_A = q^M, q_B = q^M) = 1/2$). This is an equilibrium because no party can propose an alternative policy (make a deviation) and increase their probability of winning. For instance, if $q_A = q_B = q^M$ and A changes its policy holding the policy of B fixed, we have $P(q_A, q_B) = 0 < 1/2$ for $q_A > q^M$ or $q_A < q^M$. Therefore, $q_A = q^M$ is a best response to $q_B = q^M$. A similar argument establishes that $q_B = q^M$ is a best response to $q_A = q^M$.

As we noted, the MVT does not simply entail the stipulation that people's preferences are single-peaked. We require that the policy space be unidimensional. In the conditions of Proposition 4.1 we stated that policies must lie in a sub-set of the real numbers ($Q \subset \mathbb{R}$). This is because although the idea of single-peaked preferences extends very naturally to higher dimensions of policy, the MVT does not.

Nevertheless, there are various ways to proceed if we want to model situations where collective choices are multi-dimensional. Firstly, despite Arrow's theorem, it may be the case that the type of balance of power between conflicting interests that we saw in the MVT occurs also in higher dimensions. For this to be true in general we need not simply that preferences be single-peaked, but also that the ideal points of voters be distributed in very particular ways. Important theorems of this sort are due to Plott (1967) and McKelvey and Schofield (1987) (see Austen-Smith and Banks, 1999, Chapter 5 for a detailed treatment). There are also ideas related to single peaked preferences, particularly the idea of value restricted preferences, which do extend to multi-dimensional policy spaces (see for example Grandmont, 1978). Restrictions

of this type allow the sort of 'balance of power' that emerges with the MVT to exist with a multi-dimensional policy space.

Secondly, once we introduce uncertainty into the model, equilibria often exist even if the policy space is multi-dimensional. This is the so-called 'probabilistic voting' model (see Lindbeck and Weibull, 1987, Coughlin, 1992, Dixit and Londregan, 1996, 1998) analyzed in the Appendix to this chapter.

Thirdly, following Osborne and Slivinski (1996) and Besley and Coate (1997), once one assumes that politicians cannot commit to policies, one can establish the existence of equilibrium with many dimensions of policy. Intuitively, when politicians cannot commit to arbitrary policies to build majorities, many possibilities for cycling coalitions are removed.

Also notice that we are referring to the type of political competition in this section as Downsian political competition. The key result of this section, Proposition 4.2, resulting from this type of competition contains two important implications. The first is policy convergence, that is both parties will choose the same policy platform. The second is that this policy platform coincides with the most preferred policy of the median voter. As we show in the Appendix to this chapter, in non-Downsian models of political competition, for example, with ideological voters or ideological parties, there may still be policy convergence, but this convergence may not be to the most preferred policy of the median voter. There may also be non-convergence where the equilibrium policy is partially determined by the preferences of political parties.

4. Our Workhorse Models

In this section, we introduce some basic models that will be used throughout the book. As already explained, our theory of democracy and democratization will be based on political and distributional conflict, and in an effort to isolate the major interactions, we will use models of pure redistribution, where the proceeds of proportional taxation are redistributed lump sum to the citizens. In addition, the major conflict will be between those who lose from redistribution versus those who benefit from redistribution—two groups we will often conceptualize as the rich and the poor. Hence, a two-class model consisting of only the rich and the poor is a natural starting point. This model will be discussed in the next three subsections. Another advantage of a two-class model is that something analogous to the MVT will hold even if the policy space is multi-dimensional. This is because the poor are the majority and we restrict the policy space so that no intra-poor conflict can ever emerge. As a consequence, no sub-set of the poor ever find it advantageous to form a 'peripheral' coalition with the rich. In this case the policies preferred by the poor will win over policies preferred by the rich. Later in the book in Chapter 8 we will extend this model by introducing another group, the middle class, and show how this changes a range of the predictions of the model, including the relationship between inequality and redistribution.

In addition to a model where political conflict is between the rich and the poor we shall also want to examine what happens when conflict is based on other political identities. We introduce such a model in section 4.4.

4.1. The Median Voter model of Redistributive Politics. We consider a society consisting of an odd number of n citizens (the model we shall developed builds on the seminal papers of Romer, 1975, Roberts, 1977, and Meltzer and Richard, 1981). Person $i = 1, 2, .., n$ has income y^i and let us order people from poorest to richest and let us think of the median person as being the person with median income, denoted y^M. Then, given that we are indexing people according to their incomes, the person with the median income is exactly individual $M = (n + 1)/2$. Let $\bar{y}$ denote average income in this society, thus

$$(4.3) \qquad \bar{y} = \frac{1}{n} \sum_{i=1}^{n} y^i,$$

The political system determines a nonnegative tax rate $\tau \geq 0$ proportional to income, the proceeds of which are redistributed lump sum to all citizens. Moreover, this tax rate has to be bounded above by 100 percent, i.e., $\tau \leq 1$. Let the resulting lump-sum transfer be T.

We also assume it is costly to raise taxes so we introduce a general deadweight cost of taxation related to the tax rate. The greater are taxes, the greater are the costs. The economist Arthur Okun (1975) characterized these in terms of the metaphor of the 'leaky bucket'. Redistributing income or assets is a leaky bucket in the sense that when you take income or assets from someone, as you transfer them to somebody else, part of what you took dissipates, like water falling through the leaks in a bucket. These leaks come because of the costs of administering taxes and creating a bureaucracy, and possibly also because of corruption and sheer incompetence. More important than these, however, greater taxes will also distort the investment and labor supply incentives of asset holders, and create distortions in the production process. For these reasons, the citizens, who form the majority in democracy, determine the level of taxation and redistribution by trading off the benefits from redistribution and the costs from distortions (the leaks in the bucket).

Economists often discuss these distortions in terms of the 'Laffer Curve' which is the relationship between the tax rate and the amount of tax revenues. The Laffer curve looks like an inverted-U shape. When tax rates are low, increasing the tax rate increases tax revenues. However, as tax rates increase distortions becomes greater and greater and eventually tax revenues reach a maximum. After this point, increases in the tax rate actually lead to decreases in tax revenues because the distortions created by taxation are so high.

In our model, these distortions are captured by an aggregate cost, coming out of the government budget constraint of $C(\tau)n\bar{y}$ when the tax rate is τ. Total income in the economy, $n\bar{y}$, is included simply as a normalization. We adopt this normalization because we do not want the equilibrium tax rate to depend in an arbitrary way on the scale of the economy. For example, if we vary $n\bar{y}$ we do not want equilibrium tax rates to rise simply because the costs of taxation are fixed while the benefits of taxation to voters increase. It seems likely that as $n\bar{y}$ increases the costs of taxation also increase (for example the wages of tax inspectors increase) and this normalization takes this into account. We assume that $C : [0, 1] \to \mathbb{R}_+$ where $C(0) = 0$, so that there are no costs when there is no taxation; $C'(\cdot) > 0$ so that costs are increasing in the level of

taxation; $C''(\cdot) > 0$, so that these costs are strictly convex, that is they increase faster and faster as tax rates increase (thus ensuring the second-order condition of the maximization problem is satisfied); and finally, $C'(0) = 0$ and $C'(1) = 1$, so that an interior solution is ensured: the first says that marginal costs are very small when the tax rate is low, and the second implies that costs increase rapidly at very high levels of taxation. Together with the convexity assumption, both of these are plausible: they emphasize that the disincentive effects of taxation become substantial as tax rates become very high. Think, for example, of the incentives to work and to produce when there is a 100 percent tax rate on your earnings!

From this it follows that the government budget constraint is:

$$(4.4) \qquad T = \frac{1}{n}\left(\sum_{i=1}^{n} \tau y^i - C(\tau)n\bar{y}\right) = (\tau - C(\tau))\,\bar{y},$$

which uses the definition of average income above, (4.3). This equation emphasizes that there are proportional income taxes, and equal redistribution of the proceeds, so higher taxes are more redistributive. For example, a higher τ increases the lump-sum transfer, and since rich and poor agents receive the same transfer but pay taxes proportional to their incomes, richer agents bear a greater tax burden.

All individuals in this society maximize their consumption, which is equal to their post-tax income, which is denoted by $\hat{y}^i(\tau)$ for individual i at tax rate τ. Using the government budget constraint, (4.4), we have that, when the tax rate is τ, the indirect utility of individual i and his post-tax income are

$$(4.5) \qquad \begin{aligned} V\left(y^i \mid \tau\right) &= \hat{y}^i(\tau) \\ &= (1-\tau)\,y^i + T \\ &= (1-\tau)\,y^i + (\tau - C(\tau))\,\bar{y}. \end{aligned}$$

The indirect utility function is conditioned only one policy variable, τ, because we have eliminated the lump-sum transfer T by using (4.4). We also condition it on y^i because for the rest of the book it will be useful to keep this income explicit. Thus we shall use the notation $V\left(y^i \mid \tau\right)$ instead of $V^i(\tau)$.

More generally individuals will also make economic choices which depend on the policy variables. In this case, to construct $V\left(y^i \mid \tau\right)$, we first need to solve for individual i's optimal economic decisions given the values of the policy variables, and then define the induced preferences over policies given these optimally-taken decisions (see Persson and Tabellini, 2000, pp. 19-21).

It is straightforward to derive each individual i's ideal tax rate from this indirect utility function. Recall that this is defined as the tax rate τ^i that maximizes $V\left(y^i \mid \tau\right)$. Under the assumptions made about $C(\tau)$, $V\left(y^i \mid \tau\right)$ is strictly concave and twice continuously differentiable. This tax rate can then be found simply from an unconstrained maximization problem, so we need to set the derivative of $V\left(y^i \mid \tau\right)$ with respect to τ equal to zero. In other words, τ^i needs

to satisfy the first-order condition:

$$(4.6) \qquad \begin{aligned} -y^i + \left(1 - C'(\tau^i)\right)\bar{y} &= 0 \text{ and } \tau^i > 0, \text{or} \\ -y^i + \left(1 - C'(\tau^i)\right)\bar{y} &\leq 0 \text{ and } \tau^i = 0. \end{aligned}$$

The assumption that $C''(\cdot) > 0$ ensures that the second-order condition for maximization is satisfied, and that (4.6) gives a maximum. More explicitly, the second-order condition (which is derived by differentiating (4.6) with respect to τ) is $-C''(\tau^i)\bar{y} < 0$, which is always true given $C''(\cdot) > 0$. This second-order condition also implies that $V\left(y^i \mid \tau\right)$ is a strictly concave function which is a sufficient condition for it to be single-peaked.

We have written the first-order condition, (4.6), in the Kuhn-Tucker form (see Blume and Simon, 1994, pp. 439-441) to allow for the fact that the preferred tax rate of agent i may be zero. In this case we have a corner solution and the first-order condition does not hold as an equality. If $\tau^i > 0$ then (4.6) says that the ideal tax rate of voter i has the property that its marginal cost to individual i is equal to its marginal benefit. The marginal cost is measured by y^i, individual i's own income, since an incremental increase in the tax rate leads to a decline in the individual i's utility proportional to his income (consumption). The benefit, on the other hand, is $\left(1 - C'(\tau^i)\right)\bar{y}$, which comes from the fact that with higher taxes there will be more income redistribution. The term $\left(1 - C'(\tau^i)\right)\bar{y}$ is the extra income redistribution, net of costs, generated by a small increase in the tax rate.

The conditions in (4.6) imply the intuitive result that rich people prefer lower tax rates and less redistribution than poor people. To see this note that for a rich person the ratio $y^i/\bar{y}$ is higher than it would be for a poor person. This means that, for (4.6) to hold, $1 - C'(\tau^i)$ must be higher, so that $C'(\tau^i)$ must be lower. Since $C'(\tau^i)$ is an increasing function (by the convexity of $C(\cdot)$) this implies that the preferred tax rate must be lower. The model actually has a more specific prediction than this. Note that for a person whose income is the same as the mean, (4.6) becomes $0 = -C'(\tau^i)$ which implies that $\tau^i = 0$ for such a person. Moreover, for any person with income $y^i > \bar{y}$, the Kuhn-Tucker conditions imply that there is a corner solution. Hence people whose income is above average favor no income redistribution at all, while people with $y^i < \bar{y}$ favor a strictly positive tax rate. This is why we have to use the Kuhn-Tucker formulation.

To derive these comparative static results more formally let us assume $\tau^i > 0$, and use the implicit function theorem (Blume and Simon, 1994, p. 341) to write the optimal tax rate of individual i as a function of his own income, $\tau(y^i)$. This satisfies (4.6). The implicit function theorem tells us that the derivative of this function, denoted $\tau'(y^i)$, exists and is given by

$$\tau'(y^i) = -\frac{1}{C''(\tau(y^i))\bar{y}} < 0.$$

Throughout the book we appeal frequently to the implicit function theorem to undertake comparative static analysis of the models we study.

We shall undertake two sorts of comparative statics. One type is the type we have just analyzed. Here we will be able to use the conditions for an equilibrium to express a particular endogenous variable, such as the tax rate, as a function of the various exogenous variables or

parameters of the model, such as the extent of inequality. Comparative statics then amounts to investigating the effect of changes in exogenous variables or parameters, such as inequality, on the value of the endogenous variable (when inequality is higher does the tax rate increase?). We will often use the answers to such questions not just to derive predictions for what would happen within one country if inequality increased, but also to compare across countries: would a country where inequality was higher have a higher tax rate than a country with lower inequality?

We shall also conduct a different type of comparative statics. In game theoretic models various types of behavior may be equilibria in different types of circumstances. For instance, in the repeated prisoner's dilemma, cooperation forever may be an equilibrium if players value the future sufficiently. We shall derive conditions under which particular types of behavior, for instance the creation of democracy, are an equilibrium. We will then conduct comparative statics of these conditions to investigate what factors make democracy more or less likely to be created. But when we do this we are not directly investigating how a change in an exogenous variable (smoothly) changes the equilibrium value of an endogenous variable. Rather, we examine how changes in exogenous variables influence the 'size of the parameter space' for which democracy is created. In essence, democracy can only be created in certain circumstances and we want to know what makes such circumstances more likely.

We can now think of a game, the (Nash) equilibrium of which will determine the level of redistributive taxation. We can do this either in the context of a direct democracy or a representative democracy, but the most intuitive approach is the one we developed leading up to Proposition 4.2. This result implies that the equilibrium of the game will be for both political parties to propose the ideal point of the median voter and this will be the tax rate chosen in a democracy. The model has this prediction despite the fact that there is political conflict. Poor people would like high taxes and a lot of redistribution, rich people, those with greater than average income, are opposed to any redistribution. How can we aggregate these conflicting preferences? The MVT says that the outcome is the tax rate preferred by the median voter and for most income distributions the income of the median person is less than average income, i.e. $y^M < \bar{y}$. In this case the median voter prefers a strictly positive tax rate τ^M that satisfies the first-order condition

$$\frac{y^M}{\bar{y}} = 1 - C'(\tau^M).$$

The comparative statics of this condition follow from the discussion of (4.6) above. If y^M decreases relative to $\bar{y}$, then the median voter, who becomes poorer relative to the mean, prefers greater tax rates and more redistribution.

4.2. A Two-Group Model of Redistributive Politics. Though many of the results in this book follow from the above model where the income of each person is different, a useful simpler model is one where there are just two income levels. Consider therefore a society consisting of two sorts of individuals, the rich with fixed income y^r and the poor with income $y^p < y^r$. To economize on notation, total population is normalized to 1, a fraction $1 - \delta > 1/2$ of the agents are poor, with income y^p, and the remaining fraction δ are rich with income y^r. Mean

income is denoted by $\bar{y}$. Our focus is on distributional conflict, so it is important to parameterize inequality. To do so, we introduce the notation θ as the share of total income accruing to the rich, hence, we have that:

$$(4.7) \qquad y^p = \frac{(1-\theta)\bar{y}}{1-\delta} \text{ and } y^r = \frac{\theta\bar{y}}{\delta}.$$

Notice that an increase in θ represents an increase in inequality. Of course we need $y^p < \bar{y} < y^r$ which requires that

$$\frac{(1-\theta)\bar{y}}{1-\delta} < \frac{\theta\bar{y}}{\delta} \text{ or } \theta > \delta.$$

As in the last subsection, the political system determines a nonnegative income tax rate $\tau \geq 0$, the proceeds of which are redistributed lump sum to all citizens. We assume that taxation is costly as before and from this it follows that the government budget constraint is:

$$(4.8) \qquad T = \tau\left((1-\delta)y^p + \delta y^r\right) - C(\tau)\bar{y} = (\tau - C(\tau))\,\bar{y}.$$

With a slight abuse of notation, we now use the superscript i to denote social classes as well as individuals, so for most of the discussion we have $i = p$ or r. Using the government budget constraint, (4.8), we have that, when the tax rate is τ, the indirect utility of individual i and his post-tax income are

$$(4.9) \qquad V\left(y^i \mid \tau\right) = \hat{y}^i\left(\tau\right) = (1-\tau)\,y^i + (\tau - C(\tau))\,\bar{y}.$$

As in the last section all agents have single-peaked preferences and since there are more poor agents than rich agents, the median voter is a poor agent. We can think of the model as constituting a game as in the previous section and democratic politics will then lead to the tax rate most preferred by the median voter, here a poor agent. Notice that because they have the same utility functions and because of the restrictions of the form of tax policy (i.e., taxes and transfers are not person specific), all poor agents have the same ideal point and vote for the same policy. Here there is no need for coordination and no sort of collective action problem (which we discuss in the next chapter).

Let this equilibrium tax rate be τ^p. We can find it by maximizing the post-tax income of the poor agent, i.e., by choosing τ to maximize $V\left(y^p \mid \tau\right)$. The first order condition for maximizing this indirect utility now gives

$$(4.10) \qquad -y^p + \left(1 - C'(\tau^p)\right)\bar{y} = 0 \text{ with } \tau^p > 0,$$

since $y^p < \bar{y}$. Equation (4.10) therefore implicitly defines the most preferred tax rate of a poor agent, and the political equilibrium tax rate. For identical reasons to those in the previous subsection it is immediate that preferences are single-peaked.

Now using the definitions in (4.7), we can write the equation for τ^p in a more convenient form:

$$(4.11) \qquad \left(\frac{\theta - \delta}{1 - \delta}\right) = C'(\tau^p)$$

where both sides of (4.11) are positive since $\theta > \delta$ by the fact that the poor have less income than the rich.

Equation (4.11) is useful for comparative statics. Most importantly, consider an increase in θ, so that a smaller share of income accrues to the poor, or the gap between the rich and the poor widens. Since there is a plus sign in front of θ, the left side of (4.11) increases. Therefore, for (4.11) to hold, τ^p must change so that the value of the right side increases as well. Since $C''(\cdot) > 0$, when τ^p increases the derivative increases, therefore for the right side to increase τ^p must increase. This establishes that greater inequality (higher θ) induces a higher tax rate. Or written mathematically using the implicit function theorem,

$$\frac{d\tau^p}{d\theta} = \frac{1}{C''(\tau^p)(1-\delta)} > 0.$$

It is also the case that total (net) tax revenues as a proportion of national income increase when inequality rises. Total net tax revenues as a proportion of national income are

$$\frac{(\tau^p - C(\tau^p))\,\bar{y}}{\bar{y}} = \tau^p - C(\tau^p).$$

Notice that $d\left(\tau^p - C(\tau^p)\right)/d\theta = (1 - C'(\tau^p)) \cdot d\tau^p/d\theta$. We know that higher inequality leads to higher taxes, i.e., $d\tau^p/d\theta > 0$. Moreover, (4.11) implies that $C'(\tau^p) = (\theta - \delta)/(1-\delta) < 1$, so $1 - C'(\tau^p) > 0$, which then implies that $d\left(\tau^p - C(\tau^p)\right)/d\theta > 0$. In other words, greater inequality leads to a higher proportion of net tax revenues in national income, as argued by Meltzer and Richard (1981) in the context of a slightly different model. In fact it is straightforward to see that the burden of taxation on the rich is heavier when inequality is greater even if the tax rate is unchanged. Let us first define the burden of taxation as the net redistribution away from the rich at some tax rate τ. This is

$$\text{Burden}(\tau) = C(\tau)\,\bar{y} - \tau(1 - \frac{\theta}{\delta})\bar{y}.$$

As inequality increases, i.e., θ increases, this burden increases. This simply reflects the fact that with constant average incomes, transfers are constant, and as inequality increases, a greater fraction of tax revenues are collected from the rich. This observation implies that, even with unchanged tax rates, this burden increases, and therefore with great inequality, the rich will be typically more opposed to taxation.

Finally, it is useful to conclude this subsection with a brief discussion of efficiency. In this model, taxes are purely redistributive and create distortionary costs as captured by the function $C(\tau^p)$. Whether or not democracy is efficient depends on the criterion that one applies. If we adopted the Pareto criterion (Mas-Colell, Whinston and Green, 1995, p. 313), the political equilibrium allocation would be Pareto optimal, since it is impossible to change the tax policy to make any individual better off without making the median voter worse off—since the democratic tax rate maximizes the utility of the median voter any other tax rate must lower his utility.

However, in many cases the Pareto criterion might be thought of as unsatisfactory since it implies that many possible situations cannot be distinguished from an efficiency point of view. An alternative approach is to propose a stronger definition of social welfare, such as a utilitarian social welfare function, and examine if political equilibria coincide with allocations that maximize this function (Mas-Colell, Whinston and Green, 1995, pp. 825-831). The democratic political

equilibrium here is inefficient compared to the utilitarian social optimum, which would involve no taxation. That taxation creates distortionary costs will be a feature of most of the models we will see throughout this book. In some sense, this is plausible, since taxation creates disincentive effects, distorting the allocation of resources.

Its tendency to redistribute income with its potential distortions might suggest that democracy is inefficient relative to a regime that allocates political power to richer agents, who would choose less redistribution. Nevertheless, there are also plausible reasons in general for why greater redistribution might improve the allocation of resources. First, if we allowed people to get utility from public goods which were provided out of tax revenues, then it is a standard result in median voter models that the rich prefer too few public goods while the poor prefer too many (Persson and Tabellini, 2000). In this case, depending on the shape of the income distribution, the level preferred by the poor may be closer to the social optimum, and democracy, giving political power to the poor, would improve the social efficiency of public goods provision.

Second, though we do not consider such models in this book, we can imagine a situation where agents undertake investments in human capital, and the poor are credit constrained and underinvest relative to the optimal amount. Then redistributive taxation, even without public good provision, by increasing the post-tax incomes of the poor, may contribute to aggregate human capital investments and improve the allocation of resources (e.g., Galor and Zeira, 1993, Benabou, 1999, Acemoglu and Robinson, 2000a, 2002). Moreover, as we show later, democracy may in fact be more efficient than nondemocracy even when there are taxes raised in democracy. This is because nondemocracies may allocate resources to socially wasteful activities, such as repression, to stay in power and the costs of taxation may well be less than the costs of repression.

4.3. Targeted Transfers. The model of redistributive politics we have analyzed so far places a lot of restrictions of the form of fiscal policy. For instance, all agents receive the same amount of redistribution. As we have suggested earlier, allowing for completely arbitrary forms of redistribution quickly leads to a situation where collective choices are not determinate. However, it is possible to introduce more complicated forms of redistribution without losing the determinateness of social choices, and the comparison of economies with different structures of taxation yields interesting results.

Most relevant in this context is an extension of the two-group model to allow for targeted transfers, that is, different levels of transfers for the rich and the poor. More concretely, after tax revenues have been collected, they may be redistributed in the form of a lump-sum transfer T_r which only goes to rich people, or transfer T_p, which only goes to poor individuals. This implies that the government budget constraint is now

$$(4.12) \qquad (1-\delta)T_p + \delta T_r = \tau\left((1-\delta)y^p + \delta y^r\right) - C(\tau)\bar{y} = \ (\tau - C(\tau))\,\bar{y}.$$

The indirect utility of a poor person in general is

$$V\left(y^p \mid \tau, T_p\right) = (1-\tau)y^p + T_p.$$

This problem has a three dimensional policy space, since voting will be over the tax rate τ and the two transfers T_p and T_r, but where one of these variables can be determined residually from the government budget constraint. This is why we condition the indirect utility function $V(y^p \mid \tau, T_p)$ on only two of these variables with T_r following from (4.12). Since the policy space is now two-dimensional, the MVT does not apply. However, collective choices are determinate and the equilibrium policy will still be that preferred by the poor. The poor are more numerous and all prefer the same policy. The reason for this is that targeted transfers, like lump-sum transfers, do not allow the formation of a coalition of rich and a sub-set of the poor to overturn the majority formed by the poor.

To characterize the equilibrium we can again think of the model as a game where two political parties propose policy platforms. The unique Nash equilibrium involves both parties offering the ideal point of the poor. To see what this ideal point is note that a poor agent clearly does not wish to redistribute to the rich, hence $T_r = 0$. Hence the intuitive outcome is that the poor choose τ to maximize,

$$
\begin{aligned}
V(y^p \mid \tau, T_p) &= (1-\tau)y^p + T_p, \\
&= (1-\tau)y^p + \frac{(\tau - C(\tau))\bar{y}}{1-\delta},
\end{aligned}
$$

with first-order condition, $y^p(1-\delta) = \left(1 - C'(\tau^{pT})\right)\bar{y}$ gives an ideal point of (τ^{pT}, T_p^{pT}) where $\tau^{pT} > 0$. Here we use the superscript T to indicate that τ^{pT} is the tax rate preferred by a poor agent when targeted transfers are allowed. Similarly, T_p^{pT} and T_r^{pT} are the preferred levels of transfers of a poor agent. Substituting for y^p we see that τ^{pT} satisfies the equation

(4.13) $$\theta = C'(\tau^{pT}).$$

and since $T_r^{pT} = 0$ from the government budget constraint we have $T_p^{pT} = (\tau - C(\tau))\bar{y}/(1-\delta)$.

The first important implication of this analysis is that the equilibrium tax rate in democracy with targeted transfers, τ^{pT}, is greater than the tax rate without targeted transfers, τ^p given by (4.11). Mathematically, this follows from the fact that $\theta > (\theta - \delta)/(1-\delta)$. The intuitive reason for this is also simple: without targeted transfers, because redistribution goes both to the poor and the rich, each dollar of tax revenue creates lower net benefit for the poor than in the presence of targeted transfers. τ^{pT} and τ^p converge to each other when $\delta \to 0$, i.e., when the fraction of the rich in population becomes negligible. This is natural; in this case, there are so few rich agents that whether or not they obtain some of the transfers is inconsequential.

More important than the comparison of the tax rates is the comparative statics of τ^{pT}. It can be seen that those are identical to the results obtained in the model without targeted transfers. In particular, greater inequality again increases taxes.

It is instructive to examine the burden of taxation on the elite in this model, which is now

$$
\text{Burden}^T(\tau) = \tau \frac{\theta}{\delta}\bar{y}
$$

Obviously, $\text{Burden}^T(\tau) > \text{Burden}(\tau)$ where $\text{Burden}(\tau)$ was the burden of taxation defined in the last section when there were no targeted transfers. Hence the introduction of targeted

transfers increases the burden of democracy on the rich. Moreover, as before, higher inequality increases this burden at unchanged tax rates.

An important implication of this result is that targeted transfers increase the degree of conflict in society. In particular, since with targeted transfers, democracy charges higher taxes and redistributes the proceeds only to the poor, the rich are worse off than in democracy without targeted transfers. Furthermore, for similar reasons, nondemocracy is now worse for the poor. This is because, as we discussed in Chapter 2, we can think of nondemocracy as the rule of an elite who we associate with the rich. In particular, and as we shall now show, in nondemocracy when targetted transfers are available, the rich elite would prefer to set positive taxes and redistribute the proceeds to themselves. In particular, their ideal point would be a vector (τ^{rT}, T_r^{rT}) (with T_p^{rT} following from (4.12)) where τ^{rT} satisfies the first-order condition, $-y^r \delta + \left(1 - C'(\tau^{rT})\right) \bar{y} = 0$ if $\tau^{rT} > 0$ or $-y^r \delta + \left(1 - C'(\tau^{rT})\right) \bar{y} < 0$ and $\tau^{rT} = 0$. Unlike in the model without targeted transfers, the first-order condition for the rich does have an interior solution with τ^{rT} implicitly defined by the equation

$$(4.14) \qquad\qquad\qquad 1 - \theta = C'(\tau^{rT})$$

which has a solution for some $\tau^{rT} > 0$. Hence introducing targeted transfers makes nondemocracy better for the rich and worse for the poor.

We will see below that the increased degree of conflict in society with targeted transfers will have the effect of making different regimes more unstable, in particular, making democratic consolidation more difficult.

4.4. Alternative Political Identities. In the previous subsection we allowed transfers to go to some sub-set of society, the poor or the rich. More generally, we are interested in what a democratic political equilibrium looks like when voting takes place not along the lines of poor versus rich, but perhaps along the lines of ethnicity or some other politically salient characteristic. There are very few analytical studies where researchers have tried to understand when socioeconomic class, rather than something else, such as ethnicity, might be important for politics (see Roemer, 1998, and Austen-Smith and Wallerstein, 2003). Our aim here is not to develop a general model but just to illustrate how democratic politics might work when other identities are salient and how this influences the comparative statics, for example with respect to inequality, of the democratic equilibrium. In later chapters we shall use this model to discuss how our theory of the creation and consolidation of democracy works when political identities differ.

Consider then a model of pure income redistribution with rich and poor people, but where people are also part of two other groups, perhaps based on religion, culture or ethnicity, which we call X and Z. SThus, some members of type X are relatively poor and some are relatively rich, and the same is true for type Z. To capture in a simple way the idea that politics is not poor versus rich, but rather type X against type Z, we assume that income is taxed proportionately at rate τ as usual, but that it can be redistributed either as a transfer to type X, denoted T_X or as a transfer to type Z, denoted T_Z. Let there be δ_X type X's and δ_Z type Z's where $\delta_X + \delta_Z = 1$.

We also introduce the notation δ_j^i for $i = p, r$ and $j = X, Z$ for the sub-populations. Throughout we assume that $\delta_X > 1/2$ so that type X's are in a majority and let y_j^i be the income of type $i = p, r$ in group $j = X, Z$.

The government budget constraint is

$$\delta_X T_X + \delta_Z T_Z = (\tau - C(\tau))\,\bar{y}.$$

here average income is defined as

$$\bar{y} = \delta_X^p y_X^p + \delta_X^r y_X^r + \delta_Z^p y_Z^p + \delta_Z^r y_Z^r$$

where the total population size is again 1. To be more specific about incomes, we assume that group X get a fraction $1 - \alpha$ of total income, with group Z getting α. Thus, $\delta_X^p y_X^p + \delta_X^r y_X^r = (1 - \alpha)\bar{y}$ and $\delta_Z^p y_Z^p + \delta_Z^r y_Z^r = \alpha\bar{y}$. Income is distributed within the groups in the following way: $\delta_X^r y_X^r = \alpha_X^r (1 - \alpha)\bar{y}$ and $\delta_X^p y_X^p = (1 - \alpha_X^r)(1 - \alpha)\bar{y}$, so that α_X^r is the fraction of the income which accrues to the rich in group X. Similarly we have $\delta_Z^r y_Z^r = \alpha_Z^r \alpha\bar{y}$ and $\delta_Z^p y_Z^p = (1 - \alpha_Z^r)\alpha\bar{y}$. We assume

$$y_X^r \;\; > \;\; y_X^p \text{ which implies } \frac{\alpha_X^r}{\delta_X^r} > \frac{1 - \alpha_X^r}{\delta_X^p},$$

$$y_Z^r \;\; > \;\; y_Z^p \text{ which implies } \frac{\alpha_Z^r}{\delta_Z^r} > \frac{1 - \alpha_Z^r}{\delta_Z^p}$$

It is straightforward to calculate the ideal points of the four types of agents. Both poor and rich type X agents prefer $T_Z = 0$ and both may prefer $T_X > 0$. However, poor type X's prefer more redistribution than rich type X's. To see this note that the preferred tax rates of poor and rich type X's (conditional on $T_Z = 0$), denoted τ_X^p and τ_X^r satisfy the first-order conditions

$$(4.15) \qquad C'(\tau_X^p) = 1 - \frac{\delta_X y_X^p}{\bar{y}} \text{ if } \tau_X^p > 0, \text{ and } C'(\tau_X^r) = 1 - \frac{\delta_X y_X^r}{\bar{y}} \text{ if } \tau_X^r > 0.$$

As usual, a priori we do not know if the solutions are interior or at a corner. The first-order condition for a rich agent can imply a positive tax rate when $\delta_X y_X^r / \bar{y} < 1$. Intuitively, in this model redistribution is not from the rich to the poor but from one type of agent to another. Therefore, even rich people may benefit from this sort of redistribution. If both tax rates τ_X^p and τ_X^r are interior then $\tau_X^p > \tau_X^r$ follows from (4.15) so that the poor members of group X prefer higher tax rates and more redistribution. The ideal points of group Z are also easy to understand. All members of group Z prefer $T_X = 0$ and both may also prefer $T_Z > 0$, but poor members of Z prefer higher taxes and more redistribution than rich members of the group.

We now formulate a game to determine the tax rate in democracy. If we formulate the model as we have done so far in this chapter, where all issues are voted on simultaneously, then since the model has a three dimensional policy space, it may not possess a Nash equilibrium. To circumvent this problem in a simple way we formulate the game by assuming that the tax rate and the transfers are voted on sequentially. The timing of the game is as follows

(1) All citizens vote over the tax rate to be levied on income, τ.

(2) Given this tax rate, voting takes place over, T_X or T_Z, the form of the transfers to be used to redistribute income.

We shall solve this game by backward induction and show that there is always a unique subgame perfect Nash equilibrium. We focus on two types of equilibria. In the first when $\delta_X^p > 1/2$, so that poor type X's form an absolute majority, there is a unique equilibrium of this model which has the property that the equilibrium policy is τ_X^p, that preferred by the poor type X's.

In the second, $\delta_X^p < 1/2$, so that poor type X's do not form an absolute majority, there is a unique equilibrium of this model which has the property that the equilibrium policy is τ_X^r, that preferred by the rich type X's.

To see why these are equilibria, we start by considering the first case. Solving by backward induction at the second stage, since $\delta_X > 1/2$, it is clear that a proposal to redistribute income only to X's (i.e., propose $T_X > 0$ and $T_Z = 0$) will defeat a proposal to redistribute to Z's, or to redistribute to both X's and Z's. That this is the unique equilibrium follows immediately from the fact that X's are in a majority. Next, given that only T_X will be used to redistribute, in the first stage of the game all agents have single peaked preferences with respect to τ. Note the ideal point of all type Z's, given that subsequently $T_Z = 0$, is $\tau = 0$. The ideal points of poor and richer members of X are τ_X^p and τ_X^r as above. When $\delta_X^p > 1/2$, poor X's form an absolute majority and hence the median voter is a poor type X. Since only T_X will subsequently be used to redistribute income, the MVT applies and the tax rate determined at the first stage of the game must be the ideal one for poor type X's, τ_X^p. Therefore in this case there is a unique subgame perfect Nash equilibrium which we denote $(\tau_X^p, T_Z = 0, T_X = \left(\tau_X^p - C(\tau_X^p)\right) \bar{y}/\delta_X)$.

In the second case, where poor X's are not an absolute majority, the difference is that the median voter is now a rich type X. Hence the MVT implies that τ_X^r will be the tax rate determined at the first stage. Therefore in this case there is a unique subgame perfect Nash equilibrium $(\tau_X^r, T_Z = 0, T_X = (\tau_X^r - C(\tau_X^r)) \bar{y}/\delta_X)$.

It is important to observe that the equilibrium of this game does not depend on the timing of play. To see this consider the following game where we have reversed the order in which the policies are voted on.

(1) All citizens vote on the type of transfers, T_X or T_Z, to be used to redistribute income.
(2) Given the form of income transfer to be used, all citizens vote on the rate of income tax, τ.

We can again see that there in a unique subgame perfect equilibrium, identical to the one we calculated above. Begin at the end of the game where, given that either T_X or T_Z has been chosen, individuals vote on τ. In the subgame where T_X has been chosen, all agents again have single-peaked preferences over τ. Thus when $\delta_X^p > 1/2$, the median voter is a poor member of X and the equilibrium tax rate chosen is τ_X^p. When $\delta_X^p < 1/2$, the median voter is a rich member of X and the equilibrium tax rate chosen is τ_X^r. In the subgame where T_Z has been chosen, since type X's do not benefit from any redistribution, the ideal point of all X's must be

to set a tax rate of zero. Since type X's are a majority the equilibrium must have $\tau = 0$ since the median voter is a type X. Now moving back to the first stage of the game. Since X's are in a majority, the outcome will be that income will be redistributed only according to T_X and from this we see that the unique subgame perfect equilibrium is identical to the one we analyzed above.

For our present purposes the most interesting features of these equilibria are the comparative statics with respect to inequality. The first thing to note is that in both types of equilibria an increase in inter-group inequality, in the sense that the income of type X's falls relative to the income of type Z's, holding inequality within group Z constant, leads to higher tax rates and greater redistribution. Note that if there is an increase in Z's income share, holding $\bar{y}$ constant, then both y_X^p and y_X^r will fall and both poor and rich type X's favor higher taxes. To see this we use the definitions of income and substitute them into (4.15):

$$C'(\tau_X^p) = 1 - \frac{\delta_X(1 - \alpha_X^r)(1 - \alpha)}{\delta_X^p} \text{ and } C'(\tau_X^r) = 1 - \frac{\delta_X \alpha_X^r (1 - \alpha)}{\delta_X^r},$$

where we assumed for notational simplicity that both first-order conditions have interior solutions. An increase in the share of income accruing to the Z's increases α and this increases both τ_X^p and τ_X^r, i.e.,

$$\frac{d\tau_X^p}{d\alpha} = \frac{\delta_X(1 - \alpha_X^r)}{C''(\tau_X^p)\delta_X^p} > 0$$

i.e. an increase in α increases the tax rate. Similarly, $d\tau_X^r/d\alpha > 0$.

However, such a change in income distribution does not map easily into the standard measures such as the Gini coefficient. Moreover, if there is a change in inequality which redistributes within groups, for example, α_X^r increases (so that y_X^p falls and y_X^r rises), then the comparative statics are different in the two equilibria. In the first, taxes will increase, while in the second they will decrease.

It is worth pausing at this point to discuss the empirical evidence on the relationship between inequality and redistribution. Our model predicts that greater inequality between groups will lead to greater inter-group redistribution in democracy. However, since political identities do not always form along the lines of class, this does not imply that an increase in inequality, as conventionally measured by the Gini coefficient or the share of labor in national income, will lead to more measured redistribution. The empirical literature reflects this. For example, Perotti (1996) noted following the papers of Alesina and Rodrik (1994) and Persson and Tabellini (1994), that tax revenues and transfers as a fraction of GDP are not higher in more unequal societies.

Nevertheless, so far this relationship has not been investigated with a careful research design. One obvious pitfall here is that of reverse causality. Though Sweden is a very equal country today, what we are observing is the result of 70 years of very aggressive income redistribution and egalitarian policies (for example in the labor market). Indeed, existing historical evidence suggests that inequality has fallen dramatically over the last 100 years in Sweden.

There are also many potential omitted variables that could bias the relationship between inequality and redistribution, even in the absence of reverse causality. Put simply, many of the

institutional and potentially cultural determinants of redistribution are likely to be correlated with inequality. For example, Sweden is a much more homogeneous society than either Brazil or the United States, and many have argued that the homogeneity of the population is a key factor determining the level of redistribution (e.g. Alesina, Glaeser, and Sacerdote, 2001, Alesina and Glaeser, 2004). Moreover, there may well be much more of a 'taste for redistribution' in Sweden given that for most of the last 70 years the country has been governed by socialists with a highly egalitarian social philosophy.

5. Democracy and Political Equality

While the MVT is at the heart of this book and much positive political economy, there are of course many other theoretical approaches to modelling democratic politics. A useful way of thinking about all of these theories is that they imply different distributions of power in the society. The median voter model is the simplest, and perhaps the most naive set-up where each person has one vote. In the two group model, numbers win, and the citizens get what they want.

Nevertheless, as we have mentioned, in reality some people's preferences are 'worth' more than others. There are many ways in which this can happen. Firstly, preferences may be defined not just over income but people may also care about ideological positions which are associated with different political parties. Voters who are less ideological will be those who are more willing to vote according to the policies offered by different of parties. Such voters, often called swing voters, will therefore tend to be more responsive to policies and as a result the parties will tailor their policies to them. To take an extreme situation, imagine that poor people are very ideological and just prefer to vote for socialist parties, whatever policy the party offers. In this case, policy will not reflect the preferences of the poor because right wing parties can never persuade the poor to vote for them and socialist parties already have their vote and can thus design their policies to attract the votes of other groups, perhaps the rich. These ideas stem from the work on the probabilistic voting model by Lindbeck and Weibull (1987), Coughlin (1992), and Dixit and Londregan (1996, 1998). In this model the preferences of all agents influence the equilibrium policy in democracy and the more a group tends to consist of swing voters, the more their preferences will count. Thus, for instance, if the rich are less ideological than the poor, this can give them considerable power in democracy even though they are in a numerical minority.

Secondly, equilibrium policy may be influenced not just by voting, but also by campaign contributions and the activities of lobbies and special interests. In such a situation groups that are represented by an organized special interest, or who have more resources to channel through special interests, will tend to have more influence over policy than groups with less organization and resources. If the rich have an advantage in either of these dimensions, then this will allow their preferences to influence democratic policies. A model along these lines was developed initially by Becker (1983) and this work has been greatly developed and extended by Grossman and Helpman (1994, 2000).

Thirdly, so far political parties have in a sense been perfect agents of the voters. In reality however, political parties have objectives which are to some extent autonomous from those

of citizens, and the policies they offer will reflect these, not simply the wishes of the median voter. This will be particularly the case when, as first emphasized by Wittman (1983), there is uncertainly in the outcome of elections, or as shown by Alesina (1988), parties cannot commit to arbitrary policy platforms. When either of these things is true, political parties' objectives, not simply the preferences of the voters, will be important in influencing political outcomes. In this case groups which can capture the agendas of political parties will be able to influence democratic policy to a greater extent than their numbers would indicate.

Finally, and probably most interestingly, the Downsian model and many of its extensions, including models of probabilistic voting, feature a very thin description of political institutions. The Downsian model we introduced in this chapter is almost like a presidential election (though not in the U.S. since then we would have to introduce the electoral college). For example, we did not distinguish between electoral districts. If we wanted to use the model to capture the outcome of elections for the British Parliament, we would have to introduce such districts and model how the disaggregated vote share mapped into seat shares in Parliament. This may be significant because, as was pointed out by Edgeworth in the 19th century and formalized by Kendall and Stuart (1950), small parties tend to be underrepresented in such majoritarian institutions. There is thus not a one to one relationship between vote share in aggregate and seat share in Parliament. Many other aspects of institutions might matter. For example, institutions influence voter turnout and institutions also influence the abilities of minority groups to get what they want in legislatures.

This is interesting because the institutions matter for who has power in a democracy. Consider one specific example, motivated by the large attention it has received in the political science literature: the difference between presidential and parliamentary democracy. As we noted, Linz (1978, 1994) argued that presidential regimes tended to be more prone to coups and Przeworski et al. (2000) present econometric evidence consistent with this claim. The intuitive idea is that presidents, since they are elected in a popular vote, tend to represent the preferences of the median voter in society. On the other hand, parliament may have to reconcile more diverse interests. In this case, if we compared the same country under these two different sets of institutions, we would expect the outcome with a president to be closer to that preferred by the citizens.

Motivated by these considerations, throughout the book, we use a simple reduced-form model parameterizing the political power of different groups in democracy. In the Appendix to this chapter, we formally develop the first three of these ideas on modeling the distribution of political power in democracy, and show how they map into the simple reduced-form model used here. Different specific models, whether they emphasize different institutional details, lobbying, relatively autonomous political parties, or the presence of swing voters, provide alternative microfoundations for our reduced form. Naturally, these details are also interesting and may be very significant in specific cases, and we provide some discussion of this in the text as we go along.

Let us now return to our basic two-class model with a unique policy instrument, the tax rate on income, τ. Given that the citizens are the majority, i.e., $1 - \delta > 1/2$, Downsian political competition simply maximized the indirect utility of the citizens, $V^p(\tau)$. In this model the preferences of the elite are irrelevant for determining the tax rate. More generally however the elite, or in models with different political identities the elite, will have some power and the equilibrium policy will reflect this. The simplest way of capturing this idea is to think of the equilibrium policy as maximizing a weighted sum of the indirect utilities of the elite and citizens where the weights determine how much the equilibrium policy will reflect the preferences of the different groups. We call the weight of a group the 'political power' of that group. Let those weights be χ and $1 - \chi$ for the elite and the citizens respectively. Then, the equilibrium tax rate would be that which maximizes:

$$\max_{\tau \in [0,1]} \ (1 - \chi)(1 - \delta)\left((1 - \tau)y^p + (\tau - C(\tau))\bar{y}\right) + \chi\delta\left((1 - \tau)y^r + (\tau - C(\tau))\bar{y}\right),$$

which has a first-order condition,

$$-\left((1 - \chi)(1 - \delta)y^p + \chi\delta y^r\right) + \left((1 - \chi)(1 - \delta) + \chi\delta\right)\left(1 - C'(\tau)\right)\bar{y} = 0 \text{ If } \tau > 0.$$

This yields

(4.16) $$\frac{(1 - \chi)(1 - \theta) + \chi\theta}{(1 - \chi)(1 - \delta) + \chi\delta} = 1 - C'(\tau(\chi)).$$

where we define $\tau(\chi)$ to be the equilibrium tax rate when the political power parameter is χ.

It is instructive to compare (4.16) with (4.11) which determined equilibrium policy in the two-class model with Downsian political competition. It is clear that the Downsian outcome is a special case of the current model for $\chi = 0$, in which case (4.16) becomes identical to (4.11) so that $\tau(\chi = 0) = \tau^p$. However, for all values of $\chi > 0$, the preferences of the elite also matter for equilibrium policies so that $\tau(\chi > 0) < \tau^p$. Moreover, the greater is χ, the more political power the elite have despite the fact that they are the minority. To see the implications of this, notice that if χ rises then the left-side of (4.16) increases. This implies that the right side must increase also so that $C'(\tau)$ must fall. Since $C'(\tau)$ is increasing in τ, this implies that τ falls. In other words, $d\tau(\chi)/d\chi < 0$. Thus, an increase in the power of the rich, or in their ability to influence the equilibrium policy in democracy through whatever channel, pulls the tax rate down and closer to their ideal point. The different models in the appendix provide different mechanisms by which the power of the elite is exerted and how the equilibrium tax rate responds as a result.

This is an important point to highlight, since so far we have emphasized that democracies generate more pro-citizen policies than nondemocracies. If in fact we have that as $\chi \to 1$ and the tax rate generated by democratic politics tends to that most preferred by the elite, there will be little difference between democracies and nondemocracies. Our perspective is that there are often reasons for the elite to be powerful in democracies even when they are a minority and so $\chi > 0$ may be a good approximation to reality. Nevertheless, both the evidence discussed so far and introspection suggest that most democratic societieswe are far from the case where

$\chi = 1$. As a result, democracies do not simply cater to the preferences of the rich the same way as a typical nondemocracy would do.

6. Conclusion

In this chapter we have developed some basic models of democratic politics. We also discussed in detail the workhorse models and some of their properties that we will use to characterize democracy in the rest of the book. Our analysis will focus on the two-group model in conditions where either the MVT applies, or where, when the policy space is multi-dimensional, the equilibrium policy will be that preferred by the poor. We shall focus therefore on situations where the median voter will be a poor agent and his preferences will determine what happens in a democracy. We will also consider extensively three substantive extensions of this model. First, a three class model where the middle class enter as a separate group from the rich and the poor. We defer a formal introduction of this model until the first time it is used in Chapter 8. Second, the reduced form model of democracy where different groups 'power' can vary depending on the nature of democratic institutions, on whether or not they are swing voters, whether they are an organized lobby etc. In the appendix to this chapter we discuss in detail different micro-foundations for the power parameter χ, but for the rest of the book we simply work with this reduced form rather than present detailed models where institutions, lobbying, party capture, or probabilistic voting are explicitly introduced. Finally we developed a simple model where political identities differ and can be different from ones based purely on socioeconomic class or income level, and analyzed how this affects distributional conflict in society.

Nondemocratic Politics

1. Introduction

In this chapter, we discuss various issues that arise in thinking about policy determination in nondemocracy. For our purposes the most basic distinction between a democracy and a nondemocracy is that democracies are situations of political equality. Each citizen has one vote. As a result, in democracy the preferences of all citizens matter in the determination of the political outcomes. In nondemocracy, this is not the case since only a subset of the people, an elite, have political rights. In principal this could be any subset. Soviet socialism claimed to be the dictatorship of the proletariat and did not even consider 'dictatorship' a word with pejorative connotations. Similarly, the dictatorship of Juvenal Habyarimana in Rwanda between 1973 and 1994 might be considered the dictatorship of a particular ethnic group, the Hutu. In Brazil between 1964 and 1985 there was a military dictatorship, with Bureaucratic Authoritarian and corporatist tendencies; this regime emphasized industrialization, while also protecting the economic interests of the relatively rich and avoiding any radical, particularly agrarian, reforms. In contrast, the dictatorship of Mobutu Sese Seko in the Congo between 1965 and 1997 was a highly personalistic, kleptocratic regime, where the main use of state power was to enrich Mobutu and his entourage. Despite these differences among nondemocracies (see Linz and Stepan, 1996, for an influential taxonomy), our purpose here is to emphasize the major differences between democracies and nondemocracies which we see as the extent of political equality.

In general there are two features that shape economic policies in nondemocracies: first, the preferences of the group in power; second, the constraints faced by that group. Everything else equal, the group in power, the elite, will choose policies that will maximize their utilities. However, elites typically live in fear of being replaced by different social groups or by other individuals within the same group. Therefore, an important issue in nondemocracies is to ensure that no group is unhappy enough to attempt to overthrow the regime, or take other political or economic actions that are detrimental to the utility of the group in power.

Our analysis in this chapter will build on the model of democracy from Chapter 4. Thus we will think of a society made up of heterogeneous individuals. Nondemocracy will be the rule of some subset of this society. In Chapter 4 we showed that democracy is the rule of the more numerous group, either the poor, or if political identities are along other lines, group X. Here, we are going to think of nondemocracy as the rule of the less numerous group (either the rich or group Z).

To start with, we focus on models in which nondemocracy is simply the rule of the rich. In many circumstances this is a perfectly sensible postulate. For example, formal restrictions on suffrage have typically been on the poor, those with no assets, low income, or those who are illiterate. There have also been racial restrictions on voting, for example in the United States before the Civil War and in South Africa before the collapse of the apartheid system, but again the racial groups disenfranchised have always been poor. Even apparently autonomous military regimes often serve the interests of the affluent, an obvious case being the Pinochet dictatorship in Chile between 1973 and 1990. Many other Latin American dictatorships in the twentieth century were induced by the threat of radical redistributive and social policies, for example those in Argentina after 1930, after 1955, and again between 1976 and 1983. Other examples of coups against democracy aimed at avoiding radical policies are those in Venezuela in 1948, in Guatemala in 1954, or in Brazil in 1964. Though the regimes which took power after these coups were military, the coups themselves were induced by the threat of radical redistributive policies. Drake (1996, p. 2) argues in this context that

> "In many ways, the anti-labor stance of these despotisms defined their raison
> d'être ... it motivated their seizure of power, legitimized their existence, mar-
> shalled their supporters and opponents, underlay their model of economic growth,
> drove their social policies, and propelled their political practices. That conflict
> with workers also substantially affected their tenure and terminations."

To us, these examples suggest that there is often a close association between what nondemocratic regimes do and what the rich want. Nevertheless, as we discussed in Chapter 2, our basic framework and many of the empirical results carry over to a situation where nondemocracy is not simply the rule of the rich.

The models we develop in this chapter emphasize the interplay between elites' preferences and the constraints placed on them by the preferences of other groups, centrally the disenfranchised citizens, in society. Our aim is again to search for general tendencies that will hold true across different types of nondemocratic regimes, and contrast those with the tendencies in a typical democracy. The dichotomous distinction we draw between democracy and nondemocracy, our desire to bring out the common elements within each regime, and our relentless reliance on Occam's razor may appear stark, even simplistic. Nevertheless, we believe that this is the right way to make progress and our conviction is that this dichotomy is useful for developing intuitive ideas about the forces which lead different societies to have different political institutions.

2. Power and Constraints in Nondemocratic Politics

2.1. The Elite in Democratic Politics. We have already discussed in the previous chapter how the elite may be more powerful in democracy than their mere numbers suggest. We saw that a general model which allows the elite to have some amount of power in democracy will imply that the equilibrium tax rate is $\tau(\chi)$ where χ can be thought of as a measure of the power

of the elite in democratic politics. In particular, consider the limit of $\chi \to 1$ in (4.16), then in this case the equilibrium policy will always be the policy preferred by the elite which is τ^r.

We will think of nondemocratic politics as very similar to this limit. Because the society is not a well-functioning democracy, the wishes of the majority of the population are ignored, and policies are chosen to maximize the welfare of the elite. This discussion also highlights that despite our dichotomous distinction between democracy and nondemocracy, we can think of a more continuous distinction between the two. A society is more democratic when the wishes of the majority are incorporated substantially into major policy choices. This corresponds to a situation where χ is close to 0 in this model. Nondemocracy, on the other hand, is a situation where the wishes of the majority of the population are ignored in favor of the desires of a subsection, the elite. Here this corresponds to the equilibrium where $\chi \to 1$.

2.2. The Revolution Constraint. The above discussion highlights how we can think of nondemocracy as a situation that maximizes the utility of the elite. However, nondemocracy, especially compared to the ideal of democracy, is neither egalitarian nor fair. Therefore, the citizens would have a constant desire to change the outcome, the policies and the regime. What prevents them is the fact that elites control the political institutions and military power in nondemocratic societies. Thanks to this control, they can maximize their utility, but given that they are the minority and would like to pursue policies not in line with the interest of the majority, there can also be certain constraints on the policies they would like to pursue.

The major constraint that will face those controlling political power in nondemocracy is that there is a danger that those excluded from political power might make attempts to gain political power or to overthrow those who are controlling politics.

In terms of the discussion in Chapter 2, recall that we distinguish between *de jure political power* and *de facto political power*. De jure political power is that which comes from political institutions. In contrast, de facto political power comes from the ability of one group to overwhelm the other, by fighting in a battle, or through other means. In democracy, de jure political power rests with the citizens. In nondemocracy, the citizens have no de jure political power; they are excluded from the political system. But nevertheless, they may have de facto political power, by virtue of the fact that they are the majority, and they may be able to coordinate their actions to overthrow the existing regime. In the extreme, the citizens can undertake a *revolution* against a nondemocracy in order to change the political system to one that's more beneficial for them. We will summarize the constraints placed on the elite by this type of de facto political power of the citizens by a *revolution constraint*.

In this section, we discuss the origins of the revolution constraint, and the restrictions it places on the actions of the elite controlling the political system in nondemocracy. As a starting point, we have to discuss ways of formalizing revolutions, and also introduce concepts related to the collective action problems that might arise in organizing the citizens so that they can exert de facto power. Throughout we focus on the two-class model introduced in the last chapter to

make the discussion more concrete. In this model society is divided into a rich elite and poor citizens who are more numerous.

First, let us think about what will happen after a revolution. By definition, a revolution in this environment corresponds to the citizens using their sheer numbers to overwhelm the elite in nondemocracy, and take control of the society and its wealth and income-generating assets. Hence, in some way we are thinking of revolution leading to a post-revolutionary society where the control passes from the elite to the citizens.

The simplest way to think of a post-revolutionary society is therefore one where the citizens divide the resources of the economy. However, it is plausible that a violent event like a revolution will create significant turbulence and destruction, and consequently reduce the productive capacity of the economy. So let us think that after revolution a fraction μ of the resources of the society are destroyed, and the remainder can be divided among the citizens. This is clearly a big simplification. Most revolutions do not act in such an egalitarian way and redistribute the resources of the post-revolutionary society only to the citizens. Some will invariably benefit much more than others. Nevertheless, our purpose here is not to develop a realistic theory of revolutions, but to use the threat of revolution as a constraint on nondemocratic politics. For this reason, we will again appeal to Occam's razor and model payoffs in the post-revolutionary society in the simplest possible way. Assuming that part of the resources of the economy are destroyed in the turbulence of the revolution, and the rest are distributed in some way among the citizens is both a simple and appealing formulation for this purpose.

This assumption implies that after the revolution each citizen, here a poor agent, will receive a net income of

$$(5.1) \qquad\qquad V^p\left(R, \mu\right) = \frac{(1-\mu)\bar{y}}{1-\delta},$$

since the total income they will divide among themselves is $(1-\mu)\bar{y}$, and there are $1-\delta$ of them. The notation $V^p\left(R, \mu\right)$ denotes the value (utility) to the citizen in a post-revolutionary society conditional on μ. Ignoring collective action problems which will be discussed below, we can see that the revolution will be beneficial, when the payoff given in (5.1) is greater than the payoff that a citizen will receive without revolution. Let τ^N denote the tax rate set by the elite, where N denotes nondemocracy, and suppose that without revolution, the elite simply set their most preferred tax rate, $\tau^r \left(= 0\right)$. then this payoff is

$$(5.2) \qquad\qquad V^p\left(y^p \,\middle|\, \tau^N = \tau^r\right) = y^p.$$

We will say that *the revolution constraint* binds if (5.1) is greater than (5.2), or if

$$(5.3) \qquad\qquad \frac{(1-\mu)\bar{y}}{1-\delta} > y^p.$$

We write this constraint with a strict inequality because we assume that if $(1-\mu)\bar{y}/(1-\delta) = y^p$, so that the citizens are indifferent between the political status quo and revolution, they do not revolt.[1] We stick with this convention throughout the book.

Notice an important feature of this inequality. It compares the payoff from revolution to the payoff from the status quo. This comparison is conceptually the right one either for the group as a whole or for a "pivotal" agent, who, by his or her participation, determines whether the revolution will succeed or not. Either interpretation is adequate for what follows, though other possibilities are also discussed in the next section.

Recalling the definitions from the last chapter in (4.7), the revolution constraint in (5.3) is equivalent to

$$(5.4) \qquad\qquad\qquad\qquad \theta > \mu.$$

Our model of revolution is simple. Nevertheless, it has two plausible features that are important for our discussion. The first is that the revolution constraint, (5.4) is more likely to bind when the society is more unequal, i.e., when θ is high. This is intuitive. In a more unequal society, the citizens only receive a small fraction of the resources, and with a revolution, they can take control of all the productive capacity (minus what's destroyed in the process of the revolution). It is therefore natural that revolution becomes more attractive for the citizens in a more unequal society. Second, the revolution is more attractive when $1-\mu$, the fraction of the output that remains to be distributed in the post-revolutionary society, is high either for technological reasons or because the citizens have been able to successfully solve the collective action problem.

2.3. Collective Action Problems in Revolution. Before the revolution threat becomes a reality, and hence before the revolution constraint becomes a constraint that the elite have to deal with, the citizens have to overcome the potential collective action problems inherent in coordinating participation in revolutionary activity. The importance of collective action problems in group decisions was highlighted by Mancur Olson in his classic book, *The Logic of Collective Action*, where he analyzed the problems that groups will have in convincing individuals to take actions which are costly for themselves, but beneficial for the whole group. His analysis was applied to revolutions by Tullock (1971).

To see the potential collective action problems in organizing a revolution, suppose, plausibly, that taking part in revolutionary activity or in the revolution itself is costly, and denote this cost by $\varepsilon\bar{y}$. As usual we normalize these costs by average income. This can include the actual cost of exerting effort for revolutionary activities, the implied costs posed by the danger of taking part in illegal activities, as well as costs of forgone earnings due to the fact that revolutionary activities may replace working in the labor market. We first need to specify the circumstances under which a revolution attempt will succeed. Clearly, if none of the citizens take part in

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[1]More formally, in the case of equality, the citizens would be indifferent between revolution and no revolution, and their choice should also be determined as part of the equilibrium. In the models studied throughout this book, there is no loss in generality in assuming that in case of equality, they do not revolt.

revolutionary activities, there will be no revolution. Let's suppose that we need at least a number $\xi^p \leq 1 - \delta$ of the citizens to take part in revolutionary activities in order for them to succeed.

Now consider the payoff to an agent who has taken part in revolutionary activities. This is given by the post-revolution payoff minus the cost of revolution activities, i.e., $(1-\mu)\bar{y}/(1-\delta) - \varepsilon\bar{y}$ if the revolution succeeds and by $y^p - \varepsilon\bar{y}$ if the revolution fails. In contrast, the payoff of a citizen not taking part in revolutionary activities is $(1-\mu)\bar{y}/(1-\delta)$ or y^p in these two cases. The benefits are the same because a revolution is a public good in the sense that when it occurs it changes the whole of society and affects all the citizens in the same way. Hence, whatever the outcome, the payoff to not taking part in a revolution is always greater than the payoff of taking part in revolution. Therefore, all citizens will prefer to free ride on others' revolutionary activities rather than incurring the costs themselves. The only obvious exception to this would be when the agent making the decision between taking part and not taking part in revolutionary activities is "pivotal," in the sense that his participation would ensure or significantly increase the chance of success of the revolution, and his non-participation would mean failure or a significantly reduced chance of success. Since there are a very large number of citizens, the action of a single one is typically not decisive for the outcome of the revolution. This introduces the famous collective action or free rider the problem; no citizen should be willing to make the necessary investment in revolutionary activities, and the threat of revolution will disappear.

The literature on the collective action problem, including Mancur Olson's *The Logic of Collective Action*, has identified a number of ways that groups can attempt to deal with collective action problems. These include the use of ideology and pecuniary benefits. Pecuniary benefits, in turn, can be usefully disaggregated into two categories, private benefits and exclusion.

First, groups may try to indoctrinate their members so that they view participation in activities that are beneficial for the group as a positive action that directly adds to their utility. In the case of the citizens trying to organize revolutionary activities, this might mean that in addition to the cost $\varepsilon\bar{y}$, citizen i may view participation in revolutionary activities as bringing a non-pecuniary benefit of $\vartheta^i\bar{y}$. In this case, if the revolution succeeds, participation would have a payoff of $(1-\mu)\bar{y}/(1-\delta) + \vartheta^i\bar{y} - \varepsilon\bar{y}$ to citizen i, while non-participation would yield $(1-\mu)\bar{y}/(1-\delta)$. If the revolution fails, participation yields $y^p + \vartheta^i\bar{y} - \varepsilon\bar{y}$, while non-participation gives y^p. Hence there will be participation in revolutionary activities by all citizens for whom $\vartheta^i - \varepsilon > 0$, and if a critical mass of individuals derive sufficient ideological benefits, the revolution will take place. This type of indoctrination is clearly a very common strategy by all revolutionary groups, since, without it, revolutions will typically not succeed. We can then think of the leadership of a potential revolutionary group using this type of indoctrination when revolution is beneficial for the group as a whole, i.e., when (5.3) holds.

Second, groups may attempt to generate private pecuniary benefits for those who participate in collective action. Consider first the strategy of providing private benefits to individuals, denoted by $b\bar{y}$, who take part in collective action. As we discuss shortly, most real world revolutionaries try to generate private benefits, monetary or otherwise, for taking part in revolutionary

activities which the participants can keep, even if the revolution fails. In this case the return to taking part in collective action when the revolution succeeds would be $(1-\mu)\bar{y}/(1-\delta)+b\bar{y}-\varepsilon\bar{y}$, while that of not taking part would be $(1-\mu)\bar{y}/(1-\delta)$. When a revolution fails the respective payoffs would be $y^p+b\bar{y}-\varepsilon\bar{y}$ and y^p. This implies that as long as $b > \varepsilon$, collective action would be rational for agents receiving the private benefits. Once again, we can think that when collective action, for example, revolution, is more beneficial for the group as a whole, the leadership of the group will be more willing to provide private benefits to a critical mass, thus we may expect private benefits to also encourage revolutionary activities more when (5.3) holds.

In practice, the most common strategy to deal with collective action problems is "exclusion." Exclusion limits the benefits resulting from collective action to only those who take part in the action. The empirical literature, which we discuss below, illustrates the importance of exclusion in practice. For example, let the number of citizens taking part be ξ. Clearly $\xi \leq 1-\delta$ since the total number of citizens is $1-\delta$. Moreover, suppose, as above, that the revolution will succeed if $\xi \geq \xi^p$. Assume that all citizens keep their own income whatever happens (including a successful revolution). In addition, if a revolution takes place the income of the elite is distributed between all those that take part. In other words, each revolutionary agent will receive a total income of $y^p + (1-\mu)y^r/\xi$ as long as $\xi \geq \xi^p$. Then, given that revolutionary activity has a cost of $\varepsilon\bar{y}$, the revolution will take place as long as

$$(5.5) \qquad y^p + \frac{(1-\mu)y^r}{\xi^p} - \varepsilon\bar{y} > \ y^p \Rightarrow \frac{(1-\mu)y^r}{\xi^p} > \varepsilon\bar{y}.$$

This condition implies that the maximum net gain from revolution should be greater than the cost of getting involved in revolutionary activities. The left-hand side is the maximum net gain, since this is the gain to a citizen from taking part in the revolution when the minimum number of agents necessary take part. It therefore maximizes the per person gain. When condition (5.5) holds, there exists a revolutionary equilibrium with $\bar{\xi} > \xi^p$ agents taking part in revolution, and revolution succeeding,[2] where $\bar{\xi}$ is given by

$$(5.6) \qquad \frac{(1-\mu)\theta\bar{y}}{\bar{\xi}\delta} = \varepsilon\bar{y}.$$

using the fact that $y^r = \theta\bar{y}/\delta$. That $\bar{\xi} > \xi^p$ immediately follows from the fact that (5.5) holds, and the fact that the left-hand side of (5.6) is decreasing in ξ.

In this case, where collective action problems are present, but are being solved by exclusion, we can think of the revolution constraint as corresponding to equation (5.5), or

$$(5.7) \qquad \theta > \frac{\varepsilon\bar{\xi}\delta}{1-\mu}.$$

The results of interest which come from (5.7), are very similar to the case where the relevant constraint is given by (5.4). For example, in both cases an increase in intergroup inequality

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[2]There is another Nash equilibrium where, even though (5.5) is satisfied, there is a "coordination failure", so that no agent takes part in a revolution because he believes that nobody else will take part. In the remainder, we presume that the group is somehow able to solve the coordination problem, for example, again thanks to the actions of its leaders, and avoids this less attractive equilibrium.

parameterized as a rise in θ will make the revolution constraint more likely to hold. In the rest of the book, we will work with the simpler condition, (5.4).

Notice also another implication of using exclusion to solve the collective action problem. We can think that a greater ξ^p corresponds to a more severe collective action problem, since more citizens need to participate in the revolution for it to succeed, and therefore more individuals need to be convinced to act for the group. In terms of the more reduced form condition (5.4), this is similar to a higher μ. We will therefore loosely talk of the level of μ reflecting both technological factors, related to how much of the productive capacity of the economy the citizens can make use of in a post-revolutionary society, and the severity of the collective action problem.

Finally, it is worth noting that the presence of the collective action problem in revolution implies that the revolution constraint will not always be binding. It might be that the citizens are able to solve the collective action problem during some periods, but not others. Later when we consider dynamic models, this will be one of the sources of transitory political power for citizens in nondemocracy.

2.4. Evidence on the Collective Action Problem. A rich empirical literature has investigated how the collective action problem is solved in practice (see, for example, the surveys in Lichbach, 1995, and Moore, 1995). Though there are different ways of classifying putative solutions to the collective action problem (see Lichbach, 1995, pp. 20-21), most scholars emphasize, as we have done, the importance of ideology. Nevertheless, most of the empirical evidence is more about how private benefits and exclusion are used by those trying to organize collective action.

Popkin (1979) provides a seminal account of the solution to the collective action problem in the Vietnamese revolution. He argues that "The problem of building support and overcoming free riders was ... central to Viet Minh strategy." (p. 223). Their main tool was to break down large problems, such as mounting a revolution, into many small problems where each person could see how his contribution was important and where each benefitted directly. Popkin (1979, p. 262) argues, "one consideration in particular may have been crucial for effective mobilization of the peasantry ... the initial organization of peasants focused on local goals and goods with immediate payoffs." This is similar to our model where individuals get a private benefit of $b\bar{y}$, irrespective of the outcome of the action. When the Communists took over villages, they aimed at selectively providing what peasants wanted, such as land, in exchange for their participation. "Even when an organization produces divisible goods for individual consumption, there are collective goods aspects to the organization itself ... it is possible to produce benefits for the peasants as well as a "revolutionary surplus" which can then be used to support a supra-village organization and applied to broader organizational goals." A nice illustration of how this worked is again given in Popkin (1979, p. 257)

> "After land was redistributed and rents reduced in Cochinchina, peasants commonly went out of their way to warn Viet Minh cadres that French soldiers or

agents were in the area; they did not risk free riding on warnings by waiting for someone else to notify the cadre."

Thus once the Communist party had framed the issues in the right way and used selective incentives, individuals found it rational to engage in collective action. For example, Popkin notes that even though giving out land to peasants as private property was against the philosophical commitment of the Communists, since they favored communal ownership and collective farms, they nevertheless gave lands to peasants who cooperated with the revolution. He quotes a senior Communist official as saying (p. 241)

"the system [private property] is far from perfect ... However, we have been obliged to stick to it because our entire political action among the peasants is based upon the right of each to individual property. We would have risked losing their support had we stopped breaking up landholdings."

The fact that one goal of the Revolution was radical land reform and that land could be redistributed to those who took part, and withheld from those who did not, allowed the Viet Minh to use the strategy of exclusion for encouraging people to take part in collective action.

Part of the strategy of the Viet Minh for solving the collective action problem was also to exploit existing social networks and community institutions: "The Communists were forming small self-help fraternal organizations, one-fourth of whose members had been political prisoners. These organizations were built around friendship associations, groups to build straw huts, associations to celebrate the cult of the genii, and insurance systems" (Popkin, 1979, p. 230, see also Woodside, 1976, p. 179).

There are several other informative case studies which also show the power of selective incentives in sustaining collective action. Kriger (1992) showed how participation in Zimbabwe's revolutionary war was driven by the expectation of personal gain. She interviewed people who had been members of ZANU (Zimbabwe African National Union) guerillas and found that they joined because they expected personal gain, and in particular they expected to enhance their status within their local community. High status people had to be coerced into joining ZANU.

The effectiveness of private benefits in stimulating collective action is graphically illustrated by evidence from the Rwandan Genocide. In the comprehensive study of this by Human Rights Watch, under the chief authorship of the historian Alison Des Forges, there are many examples of how the Hutu political elite solved the collective action problem inherent in mobilizing the Hutu population to massacre Tutsis. For instance (Des Forges, 1999, pp. 236-237)

"They (the Burgomasters) directed or permitted communal police, militia, or simply other citizens to burn down houses and to threaten the lives of those who refused to join in the violence. They also offered powerful incentives to draw the hesitant into killing. They or others solicited by them provided cash payments, food, drink and, in some cases, marijuana to assailants. They encouraged the looting of Tutsi property, even to the point of having the pillage supervised by the communal police ... In several places police reprimanded the people who wanted

> only to pillage and not to kill ... One of the most important resources for the burgomaster in enlisting participants was his authority to control the distribution of land, a much desired and scare source of wealth for the largely agricultural population. Hutu who had attacked Tutsi in the 1960's had acquired the field of their victims. A generation later, people again hoped to get more land by killing or driving Tutsi away."

No doubt it is also true in the Rwandan case that ideology was important and the long running animosity between the Hutu and Tutsi ethnic groups played an important role in the conflict. The above evidence also suggests another type of selective incentives, negative sanctions against those who failed to take part in the genocide, were also useful.

A key feature of our theoretical framework is that collective action is intrinsically transitory. Even with the use of ideology or incentives, solving the collective action problem is difficult to begin with and very hard to sustain. The empirical literature also emphasizes that the difficulty of solving the collective action problems lead collective action to typically be transitory. Lichbach (1995, p. 17) notes "collective action, if undertaken on a short-term basis, may indeed occur; collective action that requires long periods to time does not ... Given that most people's commitments to particular causes face inevitable decline, most dissident groups are ephemeral, most dissident campaigns brief." This transitory nature of collective action is echoed by Tarrow (1991, p. 15) who notes "the exhaustion of mass political involvement," while Ross and Gurr (1989, p. 414) discuss political "burnout." Similarly, Hardin (1995, p. 18) argues that

> "the extensive political participation of civil society receives enthusiastic expression only in moments of state collapse or great crisis. It cannot be maintained at a perpetually high level."

3. Modeling Preferences and Constraints in Nondemocracies

Let us now put the collective action problem aside, and start investigating the implications of the revolution constraint, (5.4) binding on nondemocratic politics. To do so, consider the following game depicted in Figure 5.1. In writing down this game and the others in the rest of the book, we shall take the step of treating the elite and the poor as single players. In general, to specify what an equilibrium is in such a game we would have to write down the payoff functions and strategies for all members of the elite and all citizens. A Nash equilibrium would then entail a specification of strategies, one for each player, such that no member of the elite and no citizen could increase their payoff by changing their strategy. Nevertheless, this level of generality is redundant here. All members of the elite are the same, as are all citizens. Moreover, as discussed above, we assume that both groups have solved their collective action problems. This justifies us in treating both groups collectively and talking about 'the elite' and 'the citizens' and examining an equilibrium stemming from interactions between these two groups. Nevertheless, in specifying payoffs we shall do so at the individual level since even when the collective action problem has been solved, behavior has to be individually rational.

In Figure 5.1 the elite move first, and set the tax rate, τ^N and we use the notation $\hat{\tau}$ to refer to a specific value of τ^N set to avoid a revolution. After observing this tax rate, the citizens decide whether to undertake a revolution or not. If they don't undertake a revolution, the game ends with payoffs

$$(5.8) \qquad \begin{aligned} V\left(y^p \mid \tau^N = \hat{\tau}\right) &= (1 - \hat{\tau})y^p + \hat{T} = y^p + (\hat{\tau}\left(\bar{y} - y^p\right) - C(\hat{\tau})\bar{y}) \text{ and} \\ V\left(y^r \mid \tau^N = \hat{\tau}\right) &= (1 - \hat{\tau})y^r + \hat{T} = y^r + (\hat{\tau}\left(\bar{y} - y^r\right) - C(\hat{\tau})\bar{y}). \end{aligned}$$

where $\hat{T} = (\hat{\tau} - C(\hat{\tau}))\bar{y}$. These payoffs follow from redistribution in nondemocracy at the tax rate $\hat{\tau}$. The second equality in these equations rearranges the expression for $V\left(y^i \mid \tau^N = \hat{\tau}\right)$ in a way particularly instructive for the rest of the book. In particular, $\hat{\tau}\left(\bar{y} - y^i\right) - C(\hat{\tau})\bar{y}$ is the net amount of redistribution for $i = p, r$ so that $\hat{\tau}\left(\bar{y} - y^p\right) - C(\hat{\tau})\bar{y} > 0$ while $\hat{\tau}\left(\bar{y} - y^r\right) - C(\hat{\tau})\bar{y} < 0$, i.e., members of the elite lose from income redistribution.

Alternatively, they might choose to attempt a revolution, in which case we assume that the revolution always succeeds, and they receive the payoffs

$$V^p\left(R, \mu\right) = \frac{(1 - \mu)\bar{y}}{1 - \delta} \text{ and } V^r\left(R, \mu\right) = 0,$$

where the payoff to the citizens comes from the way we have specified the revolution technology above, and the elite receive nothing because all the income is expropriated from them. What matters is not that the elite receive nothing, but simply that what they receive is sufficiently low that they want to avoid revolution.

How do we solve a game like this? The answer is "backward induction", starting at the end of the game tree. This technique, which we already appealed to in Chapter 4, is useful because it characterizes the subgame perfection Nash equilibria of the game. Subgame perfection is a refinement of the original Nash equilibrium concept, useful in games with sequential moves and in dynamic games. The key feature of such an equilibrium, noted originally by Selten (1975), is that it rules out Nash equilibria that are supported by non-credible threats 'off the equilibrium path.' By 'off the equilibrium path' we mean that the equilibrium strategies are such that the threat will not be carried out—it remains just a threat. An non-credible threat is a threat that the player making it would not find it optimal to actually undertake if called upon to do so.

To consider an extreme example, imagine that the citizens can demand all the money of the elite or they will blow up the world, including themselves. Faced with this threat, it is optimal for the elite to give the citizens all their money. This is one Nash equilibrium. However, it rests on the threat that should the elite refuse, the citizens will blow up the world. This threat is off the equilibrium path in this particular equilibrium, because the elite hand over their money and the citizens therefore do not have to carry out their threat. Imagine however that the elite refuses. Now the citizens must decide whether or not to blow up the world. Faced with this situation the citizens renege on their threat since, plausibly, it is better to get nothing from the elite than to kill themselves. Therefore, their threat is not credible, and the Nash equilibrium supported by this non-credible threat is not appealing. Fortunately, there is another, more plausible, Nash equilibrium where the elite refuse to give the citizens anything and the citizens

do not blow up the world. This second Nash equilibrium is indeed subgame perfect, whereas the first is not because it rests on non-credible threats. Given the importance in this book of the credibility of threats and promises we will be making heavy use of the restriction that equilibria be subgame perfect.

We need to distinguish two cases. In the first, the revolution constraint, (5.4), does not bind. This implies that even if the elite set the tax rate most preferable for themselves, $\tau^N = \tau^r$, undertaking the revolution is not in the interests of the citizens. Then in the subgame perfect equilibrium of the game, the elite anticipate that the revolution will never occur, and therefore set their most preferred tax rate, $\tau^N = \tau^r = 0$.

The more interesting case for our exposition here is the one where (5.4) binds. Now, if the elite were to set $\tau^N = \tau^r$, it would be in the interests of the citizens to undertake a revolution. Anticipating this, the elite would try to make a concession, for example change policy to that closer to that preferred by the citizens. In this context, this implies that they will set a tax rate sufficient to prevent the revolution. The first question to ask is therefore whether such a tax rate exists. The best tax rate from the point of view of the citizens is $\tau^N = \tau^p$ as given by (4.11)—after all, τ^p is the tax rate that the citizens would have set themselves, so the elite can never do better than setting this tax rate in trying to maximize the utility of the citizens. Thus the question is whether

$$y^p + (\tau^p (\bar{y} - y^p) - C(\tau^p)\bar{y}) \geq \frac{(1-\mu)\bar{y}}{1-\delta},$$

holds, or using the definitions in (4.7), whether

(5.9) $\mu \geq \theta - (\tau^p(\theta - \delta) - (1-\delta)C(\tau^p))$

holds. We use a weak inequality here because, as noted above, we assume that if the citizens are indifferent between democracy and revolution then they do not revolt.

If (5.9) does not hold, then even the best tax rate for the citizens is not enough to prevent the revolution. This might be because the citizens are very well-organized and have managed to solve the collective action problem fully, or because they can use the economy's productive resources quite productively after the revolution. Both of these stories translate into a low value of μ. Alternatively, (5.9) may fail to hold because taxation is costly, so even the best tax for the citizens is not sufficiently redistributive. In this case, the unique equilibrium will involve the citizens undertaking a revolution.

The other case, which is arguably more interesting from the point of view of our analysis, is that where (5.9) holds. In this case, there will exist a unique tax rate $\hat{\tau}$ such that $V\left(y^p \mid \tau^N = \hat{\tau}\right) = V^r\left(R, \mu\right)$ given by:

(5.10) $\mu = \theta - (\hat{\tau}(\theta - \delta) - (1-\delta)C(\hat{\tau}))$.

It follows from (5.9) that this tax rate is such that, $\hat{\tau} \leq \tau^p$. Therefore, in this case, the unique equilibrium will involve the elite setting the tax $\hat{\tau}$ in order to prevent the revolution.

The interesting feature of this simple game is that despite the fact that the elite have complete control of formal political power in nondemocracy, they may have to deviate from their most

preferred tax rate, τ^r, because there are other sources of political power in nondemocracy, constraining their actions—in our formulation captured by the *revolution constraint*. This type of political power is de facto, the citizens are excluded from the political system, but they can pose an effective challenge from the outside. Fearing a revolution coming from this de facto political power of the citizens, the elite make concessions, and set a tax rate that redistributes some of their resources towards the citizens.

Before stating the main result here we need to introduce a more formal definition of strategies. Let $\sigma^r = \{\tau^N\}$ be the actions taken by the elite, which just consists of a tax rate $\tau^N \in [0,1]$, where the superscript N refers to nondemocracy. Similarly, $\sigma^p = \{\rho(\cdot)\}$ are the actions of the citizens which consists of a decision to initiate a revolution, $\rho(\tau^N)$ ($\rho = 1$ representing a revolution) where this decision is conditioned on the current actions of the elite who move before the citizens in the game according to the timing of events depicted in Figure 5.1. Hence, ρ is a function, $\rho : [0,1] \rightarrow \{0,1\}$. Then a subgame perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other in all proper subgames. We shall always use the tildas to represent a particular equilibrium.

There are various strategy profiles which can be in equilibrium depending on the parameters. Nevertheless, for any specification of parameters, the equilibrium is unique. When $\theta \leq \mu$ the revolution constraint does not bind and the following strategies constitute an equilibrium: $\tau^N = 0$ and $\rho(\tau^N) = 0$ for all τ^N. According to these strategies the elite set the tax rate at zero and the citizens never revolt whatever the tax rate is. Here it does not matter what the elite does, i.e., $\rho = 0$ irrespective of τ^N, since the poor have a dominant strategy. Note the important property that strategies must specify behavior both on and off the equilibrium path. Even though the elite's strategy stipulates a zero tax rate, the citizen's strategy specifies what action to take for all tax rates, not just zero.

When $\theta > \mu$ and (5.9) does not hold, then the following strategy profile is the unique equilibrium: $\rho(\tau^N) = 1$ for all τ^N. In this case even setting the tax rate τ^p will not stop a revolution so whatever the elite does, the citizens revolt. The citizens again have a dominant strategy, this time to revolt irrespective of τ^N.

Finally and most interestingly, when $\theta > \mu$ and (5.9) does hold, the following strategy profile is the unique equilibrium: $\tau^N = \hat{\tau}$ and $\rho(\tau^N) = 0$, for all $\tau^N \geq \hat{\tau}$, also off the equilibrium path, $\rho\left(\tau^N\right) = 1$ for all $\tau^N < \hat{\tau}$. Here a revolution is attractive if the elite make no concessions, but since (5.9) holds the citizens can be dissuaded from revolution by concessions, specifically by setting the tax rate $\hat{\tau}$ such that (5.10) holds. Note again the specification of behavior off the equilibrium path. The rich set the tax rate $\hat{\tau}$ and the citizens do not revolt if offered a tax rate $\tau^N \geq \hat{\tau}$. Nevertheless, the strategy of the citizens says that if offered a tax rate $\tau^N < \hat{\tau}$, they will revolt. It is this 'threat' off the equilibrium path which induces the elite to give redistribution. This threat is credible because if the elite deviated and tried to get away with less redistribution, it would be optimal for the citizens to undertake a revolution. The concept of subgame perfect Nash equilibrium explicitly imposes that such threats have to be credible.

Now, summarizing this analysis, we have:

Proposition 5.1: There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 5.1 and it is such that
- If (5.4) does not bind, $\tau^N = 0$ and $\rho(\tau^N) = 0$ for all τ^N.
- If (5.4) binds and (5.9) does not hold then $\rho(\tau^N) = 1$ for all τ^N.
- If (5.4) binds and (5.9) does hold, then $\tau^N = \hat{\tau}$ where $\hat{\tau}$ is given by (5.10), and $\rho(\tau^N) = 0$, for all $\tau^N \geq \hat{\tau}$, and $\rho\left(\tau^N\right) = 1$ for all $\tau^N < \hat{\tau}$.

The above discussion and Proposition 5.1 therefore highlight how in nondemocracy equilibrium policies will be determined by a combination of the preferences of the elite and the constraints that they face. When these constraints are absent or very loose, as in the case where (5.4) does not bind, what matters is the preferences of the elite. When the constraints are tight, e.g., when (5.4) binds, the elite are constrained in the choices they can make.

Our model builds in a natural way on existing models of revolutions. This research, for example Roemer (1985), Grossman (1991, 1994), Wintrobe (1998), Bueno de Mesquita et al. (2003), examine simple games where authoritarian regimes can be overthrown by the citizens and in response can make various types of responses, concessions such as cutting taxes and redistributing assets, or repression. Like our analysis, these papers abstract from the collective action problem. Our main innovation comes later when we show how democratization can emerge when concessions are infeasible and when repression is too costly. To understand when concessions are or are not feasible, we need to examine their credibility and it is to this issue that we now turn.

4. Commitment Problems

4.1. Basic Issues. An important issue throughout this book will be the inability of those controlling political power to commit not to use it. In other words, the problem will be that when those with political power make promises to those without, these promises may sometimes be non-credible. This is important, in turn, because without such credible promises, those in power will have fewer options open to them, and in particular, they may sometimes be unable to deal satisfactorily with crises, like an eminent threat of revolution as in the previous section.

The issue of commitment is intimately linked to that of political power. To see this, consider a nondemocracy where political power lies with the elite. For one reason or another, but as we will see, most probably to avoid revolution, the elite would like to promise to choose policies in the future which were more to the liking of the citizens, for example they might want to promise to redistribute income to the citizens. But the elite hold political power in nondemocracy, and therefore, have the right to determine the level of taxes and transfers in the future. They can promise to make transfers in the future, but these promises may be non-credible. Tomorrow, they will get to decide these transfers, and if it's not in their interest to be making them *tomorrow*, they will not make these transfers. They get to decide whether to make the transfers tomorrow, because they are the ones holding political power.

It is important to emphasize that the commitment problem arises from the potential decoupling between the beneficiaries of the decisions and the identity of those holding political power. The transfers will benefit the citizens. But they are made by the elite, who are not the beneficiaries; on the contrary, they are the ones who bear the burden of any transfers. Therefore, typically it will not be in their interests to make these transfers in the future, and their promises of future transfers and redistribution will not be credible. Contrast this with a situation in which political power is in the hands of the citizens. Now, there is a congruence between the identity of those holding political power and those benefiting from the transfers. The citizens would certainly like to implement the transfers from the elite to themselves. This highlights that *commitment problems* arise when political power is not in the hands of the beneficiaries of the promised policies. In essence, those with political power cannot commit not to use their political power to change the promises that were made in the past.[3]

Commitment problems are not only present in politics, but in all areas of social life. Almost all economic transactions have a temporal dimension. Traders typically deliver goods today but receive the payments tomorrow. A commitment problem arises if customers promise to make payments tomorrow, but then when tomorrow comes, it is not their interest to make the payments. In this case they will renege on their promises, and fail to make the payments. Therefore, there is ample room for commitment problems in social and economic relations. However, in most instances, society has relatively low-cost ways of dealing with the most major potential commitment problems. To remove potential commitment problems, we need to remove the freedom of the customer to decide whether to make a payment tomorrow or not without facing any repercussions if he reneges on his promises. As we saw, the problem is that whenever he gets to make such a decision in an unconstrained manner, he would prefer not to make a payment (and thus keep the money in his pocket). There has to be some "constraints" on his actions or some potential repercussions (punishments) if he decides not to make the payment. There are three potential ways of dealing with these commitment problems: contracts, repeated transactions and changing the identity of who gets to make the decision.

The most common way of dealing with potential commitment problems is to write enforceable contracts. For example, the trader could get the customer to sign a contract at the time of delivery, and the contract would stipulate that in a number of days, the customer will make a payment to the trader. What happens if the customer fails to make the payment? If the contract is in fact enforceable, there will be an outside agency, typically a court of law, where the trader would file a complaint that the customer broke the terms of the contract. This agency, after determining the truth of the claim, would punish the customer, and force him to make the payment if possible. Contracts would solve most potential commitment problems

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[3]Many scholars have emphasized the fact that a key feature on political economy is that there is no third party which can enforce the promises made by the state and that this leads to problems of commitment and endemic inefficiencies. This idea is discussed by North (1990) and Olson (1993), is central to the work of North and Weingast (1989) and Weingast (e.g., 1997, 1998) and is implicit in many other studies. See also Grossman and Noh (1994), Dixit (1996), Dixit and Londregan (1995), and Besley and Coate (1998) for discussions of how inability to commit generates inefficiencies in political outcomes.

in an ideal world. However, even in the realm of purely economic transactions, we are far from this ideal world, and there are many problems with these types of contracts in economic transactions. These problems include those stemming from asymmetries of information. They also include those related to the fact that certain important characteristics that one would like to contract upon, such as the quality of the good that the trader delivers to the customer, may not be "contractible" because the outside agency is unable to observe the true quality (and the implications of this type of contracting problems is the topic of a very large literature in organizational economics, see for example Williamson, 1985, and Grossman and Hart, 1986). However, potential problems with contracts are much more severe, even unsurpassable, when we come to the political arena.

An essential feature of the above story is that when the customer decides to renege on his promises, the outside agency steps in and "enforces the contract". Without such enforcement, the contract would be worth little. The customer would renege, and would suffer no repercussions. In economic transactions, such enforcement is sometimes difficult, but essentially possible, because there is "the state," with its monopoly of legitimate coercive power, and the fact that it delegates this power to other agencies, such as the courts of law, so that they can enforce the contract. In the political realm, however, the groups that control political power are essentially "the state". And herein lies the problem. When it comes to contracts that the state or social groups controlling the state would like to write with others (e.g., the elite controlling political power in nondemocracy writing contracts with the citizens), they will, by definition, not be enforceable because groups controlling the state cannot *commit* not to using their power to renege on their promises and change the terms of the contract. This implies contractual solutions will seldom be useful in political commitment problems, since, most often, the agent violating the contract is precisely the party supposed to enforce it (Acemoglu, 2003a).

The second possible solution is repeated game interactions. The customer may be deterred from reneging on his promises, if he expects to do business with the same trader in the future, and the implicit (or explicit) agreement between them is that if he reneges on his payments, they will no longer be able to trade in the future. Such repeated game interactions are an imperfect substitute for contracts. They are imperfect because they will only work if behavior is sufficiently forward-looking and the rents that are generated by a continuing relationship are large enough that it is worthwhile for the customer to incur the costs of making the payments today—so that he receives these rents by trading in the future, or faces the punishment of being excluded from a potentially beneficial relationship. We will discuss below how this type of repeated game interaction might help, but will often fall short.

This leaves us with the third possibility, which is to take the decision-making powers out of the hands of the customer. If whether the payment will be made is decided by the trader, not by the customer, the problem will be solved. One way of doing so in the economic example above is for the customer to give a post-dated check to the trader, who will then cash it on the prespecified date. It will clearly be in the interest of the trader to cash the check, since the costs are borne by the customer, and she is the beneficiary herself. In other words, the commitment

problem has been solved by removing the de-coupling between the identities of the beneficiary of the action, the trader, and the person taking the action, the customer. Now, the trader is taking the action, and she will take the action that's in her interests, solving the commitment problem. Although such simple solutions are not available in the political arena, something that's similar in spirit may be the most useful remedy: change the identity of who has political power, so that there is no longer a de-coupling between the beneficiary of the policy and the identity of the group holding political power.

The commitment problem, and how political institutions deal with it, are essential for understanding much of what is going to come in the rest of the book. In fact, as already indicated in the Introduction, the key role of political institutions in our model is to regulate the future allocation of political power, and democratization, a radical change in political institutions, will arise as a way of transferring political power from the elite to the citizens. The need for such a transfer of power arises from the inherent commitment problem in politics. Just like the customer not wanting to make a payment, the elite who hold political power in nondemocracy will not want to make any concessions, such as income transfers, to the citizens. Therefore, with the citizens excluded from the political system, promises of future redistribution and transfers made by the elite will be non-credible. Democratization, by transferring political power to the citizens, is a way of making such promises credible. We shall also see in Chapter 7 that democracy itself suffers from commitment problems. In a democracy the majority of citizens may enact policies that are highly unfavorable to the elite. In response the elite may threaten to mount a coup which democrats will wish to avoid by making concessions. Nevertheless, just as an elite in nondemocracy may not be able to avoid revolution by making promises because they are not credible, in a democracy it may not be possible to avoid coups by making promises.

4.2. The Difficulty of Committing not to use Political Power. Before embarking on the formal analysis of commitment in political contexts, we discuss three extended historical examples of how it is difficult for those who possess political power to commit not to use it. We have already seen some interesting examples of this and some of its consequences in South Africa. In Chapter 1 we discussed how following the Soweto Uprising of 1976, the white government promised many concessions, including putting a stop to the creation of black homelands. However, once Soweto had been pacified and the threat dissipated, the white government reneged on its promises. Another interesting South African example emerges from the 1994 election. As it became evident what a large majority the ANC would have, its leaders became concerned that it should not be too large. For example, were the ANC to have over 66% of the vote they would be able to make unilateral changes to the Constitution. The ANC, presumably because of its objective of creating a consolidated democracy that would prevent subversive action and perhaps capital flight by the white minority, preferred a more limited majority in the parliament. In consequence, the ANC tried to avoid getting an electoral majority in the 1994 election which would have been so large as to enable it to re-write the Constitution. The Constitution was an important part of securing democracy in South Africa and the ANC understood that if

they were able to re-write it, they might not be able to stop themselves doing so, a step with potentially disastrous consequences.

Here we focus on three other examples all of which concern a state making concessions in the face of the threat of revolution. In all cases the promise of these concessions worked in the sense that the revolution was aborted without the revolutionaries achieving a transfer of political power. Because of this, and because of the transitory nature of de facto power, in all three cases the state reneged on its promises. This raises the natural question: Why would such promises stop a revolution? This is for the natural reason that in reality, and as the models we develop will show, the actual extent of credibility is typically uncertain. Even though revolutionaries know that there will be some circumstances in which promises are reneged on, it may be better to gamble on such promises being upheld than to disregard the promises completely.

4.2.1. *The Peasants Revolt of 1381.* The Peasants' Revolt of 1381 was one of the most important popular rebellions in British history. Our account here follows Hilton (1973), Dobson (1983) and Dyer (1984). It began as a local revolt in Essex and quickly spread across much of the south east of England, and in the end an army of peasants marched on London, captured the Tower of London, killed the Archbishop of Canterbury and the King's Treasurer, and took their grievances directly to the 14 year old King Richard II at a famous meeting at Mile End.

The main background to the revolt was the fallout from the Black Death. This epidemic in the 1340's had greatly increased wages and led to many changes in feudal institutions to the benefit of peasants. However, during this period there was a continual attempt by Lords to reassert their powers, which led to many conflicts. Peasants wanted to be free of feudal labor restrictions, regulations and taxes. The English state was also continually fighting expensive wars and to help finance these in 1380 Richard II introduced a poll tax. This made everyone who was on the tax register pay 5 pence. It was the third time in four years that such a tax had been used. If peasants were unable to pay the tax in money, then they had to pay in kind.

In May 1381, a tax collector arrived at the Essex village of Fobbing to find out why the people there had not paid their poll tax. He was thrown out by the villagers. In June, soldiers arrived to establish law and order. They too were thrown out as the villagers of Fobbing had now organized themselves and many other local villages in Essex had joined them. The revolt quickly spread to the counties of Kent, Suffolk, Hertfordshire and Norfolk. One man had emerged as the leader of the peasants—Wat Tyler from Kent. As the peasants from Kent and Essex marched to London, they destroyed tax records, tax registers and government buildings.

By 12th June, the Essex men were camped at Mile End, in fields just beyond Aldgate, and on the following day the Kentish men arrived at Blackheath. The authorities were unprepared and during the next few days, the different bands of rebels from Essex and Kent were joined by some of London's poor, and they set about attacking political targets in the city. They burned down the Savoy Palace, which was the home of John of Gaunt—Richard II's uncle, and probably the most powerful magnate in the realm. They set fire to the Treasurer's Highbury Manor, opened prisons and destroyed legal records.

On 14th June, King Richard and a handful of lords and knights met the Essex peasants at Mile End. The peasants pledged their allegiance to Richard, and handed him a petition which asked for the abolition of villeinage, for labor services based on free contracts, and for the right to rent land at fourpence an acre. The King said he would grant these demands. Remarkably, later that day some peasants entered the Tower itself and invaded the Royal bedchambers and the privy wardrobe. Whilst in the Tower, some rebels took the Archbishop of Canterbury, the Chancellor and John of Gaunt's physician into custody. They then dragged them onto Tower Hill and executed them. After these events many of the Essex rebels began to disperse.

The next day, King Richard met the Kentish peasants at Smithfield. They demanded an end to all lordship beyond that of the King, that the Church's estates be confiscated and divided among the wider populace and that there be only Bishops throughout the whole kingdom. As before, the King agreed to all the demands put before him. However, the rebel leader, Wat Tyler, supposedly addressed the King with insolence and the Mayor of London pulled Tyler from his horse and a squire killed him. The crowd prepared to rush the King and his men, but Richard confronted them. The death of Tyler and another promise by Richard to give the peasants what they asked for were enough to send them home.

London was made safe from 16th June 1381 and, over time, the authorities gained control in all the regions that had experienced insurrection. King Richard issued a proclamation denying rumors that he had approved of what the rebels had done and, soon after, revoked the pardons he had granted them. A judicial enquiry followed and the King toured the areas that had experienced revolt. In Essex and Hertfordshire, the rebels were dealt with severely, many of the main leaders of the revolt were already dead, while those who had survived were executed. As a chronicler at the time put it

> "Afterwards the King sent out his messengers into divers parts, to capture the malefactors and put them to death. And many were taken and hanged at London, and they set up many gallows around the City of London, and in other cities and boroughs of the south country. At last, as it pleased God, the King seeing that too many of his liege subjects would be undone, and too much blood spilt, took pity in his heart, and granted them all pardon, on condition that they should never rise again, under pain of losing life or members, and that each of them should get his charter of pardon, and pay the King as fee for his seal twenty shillings, to make him rich. And so finished this wicked war." (quoted in Oman, 1906, pp. 200-203, 205).

Richard did not keep any of his promises claiming that they were made under threat and were therefore not valid in law. The peasants' revolt is therefore a classic example of how, once the threat vanishes, the promise of concessions can be reneged on, because there was no change in the structure of de jure political power.

4.2.2. *The Comunero Uprising in New Grenada (Colombia).* Another classic example of reneging on promises comes from the late colonial Spanish empire in Latin America. When the

Bourbon dynasty assumed the Spanish throne in the early eighteenth century, they attempted to implement a large number of changes in colonial institutions, mostly with an eye to increasing the amount of taxes raised. This led to widespread discontent and two very large revolts, the famous Tupac Amaru rebellion in Peru (on which see Stavig, 1999, Robins, 2002) and the Comunero Rebellion in Colombia in 1781 (known during the colonial period as New Grenada).

We follow the definitive recent account of Safford and Palacios (2002), but see also the major works on the topic by Arcinegas (1938), Cardenas Acosta (1960), Phelan (1978) and Aguilera Peña (1985). Safford and Palacios (2002, pp. 54-55) note

> "innovations under the Spanish Bourbons helped sow the seeds of colonial rebellion. Administrative reform in the colonies meant ... a conscious policy of preferring Spaniards to Creoles in filling high positions, a policy that further intensified colonials' irritation with the system. Attempts to increase tax collections provoked popular insurrection and tended to undermine the authority of Spanish officials ... The fiscal demands of war stirred substantial tax riots in New Grenada in the 1760's and full-scale rebellion in 1781."

In New Grenada,

> "In the 1750's ... administrators began to push for more effective revenue collection. A government monopoly of the sale of cane liquor ... became a significant revenue earner. In the 1760's the royal government established monopoly control of the sale of tobacco ... Later officials ... raised prices for both liquor and tobacco, and doubled existing sales tax exactions, among other impositions." (Safford and Palacios, 2002, pp. 63-64).

The Comunero rebellion began with protests in Bogotá in 1778 against the tobacco monopoly. Tobacco was widely grown by small farmers in New Grenada and the monopoly gradually restricted the areas in which it could be grown, to limit the supply and maximize returns to the royal government. The Guanentá region of north east New Grenada (in the present day department of Santander) was particularly hard hit by this. In 1780 riots broke out in Charalá, Mogotes and Simacota. These actions induced no concessions from the government and the royal regent, Gutiérrez de Piñeres not only tightened the tobacco and cane liquor monopolies, but also doubled the sales tax in the same year. These tax increases

> "were particularly grievous to the people in the Guanentá, as raw cotton and cotton yarn were among the commodities affected, and the Guanentá was the chief center of cotton weaving in the viceroyalty. For poor people in the Guanentá, these measures eliminated one of their chief measures of support, tobacco, and endangered a second, cotton weaving." Safford and Palacios (2002, p. 65).

In addition, bad weather caused food shortages in the region and there was a serious outbreak of smallpox. Starting in March 1781, riots continually broke out in the region. Royal stores of tobacco and liquor were destroyed and the rebellion, though initiated by poor people was soon organized by "men of middling fortune—butchers, weavers, cattle traders and small farmers,"

moreover "men of substance came to accept formal positions of leadership," (p. 66). In May, the rebels crushed a small force that Gutiérrez de Piñeres sent against them and support spread widely in northern and north-eastern New Grenada. After this initial victory the rebels, now calling themselves the Comuneros, marched south towards Bogotá and by the end of May, numbering perhaps 15,000-20,000, they were within reach of the capital.

By this time Gutiérrez de Piñeres had fled the city and effective power was in the hands of Archbishop Caballero y Góngora. He immediately agreed to a list of 35 demands put by the Comuneros. These demands included the abolition of many taxes including the new sales tax. The tobacco monopoly was to be ended. In short as Safford and Palacios put it (2002, p. 67) "the implementation of all of these provisions would have meant the abandonment of virtually all of the new Bourbon revenue measures of the previous two decades." In addition the Comuneros demanded the expulsion of Gutiérrez de Piñeres and the promotion of Creoles in the government.

Once the Archbishop had agreed to all of the demands he was able to persuade the rebels to go home. However,

> "After the fervor of rebellion cooled somewhat in the Guanentá, and reinforcements of royal troops arrived from Cartagena ... the royal government carried out exemplary punishments. José Antonio Galán, who had persisted in rebellion after the capitulation of June 1781, and three other Comuneros were hanged in January 1782; their heads, hands and feet were placed on poles in public squares in the capital and towns that had figured prominently in the rebellion. Others ... were sentenced to 200 lashes, public shame, and imprisonment in Africa. Landless peasants in the Guanentá were sent as colonists to the Isthmus on Panama ... Once the most severe punishments had been administered, royal officials ... revoked the agreement with the Comuneros."

Thus though the promise of concessions was sufficient to appease the Comuneros in June 1781, once the threat had subsided, the royal government reneged on the promises it had made.

4.2.3. *The 1905 Russian Revolution.* Our final example is the Russian Revolution of 1905 (see Ascher, 1998, 1992, Verner, 1990, Rawson, 1995). The revolution was precipitated by the disastrous military defeat of Russia at the hands of the Japanese, particularly the battle of Tsushima in May 1905, but it also reflected the many social tensions inherent in Russian society. Though the serfs had been freed in 1865, there were still many restrictions on their abilities to buy land or move, and conditions in the factories of the newly industrializing cities were very harsh. Attempts by workers to form trade unions were resisted by the factory owners. In 1903, a priest, Father Georgi Gapon, succeeded in forming the Assembly of Russian Workers. Within a year it had over 9,000 members.

Gapon's movement gathered momentum in 1904 when rapid inflation caused by the war against Japan (which had started in February) led to a 20% decline in real wages. When four members of the Assembly of Russian Workers were dismissed at the Putilov Iron Works, Gapon

called for industrial action. Over the next few days over 110,000 workers in St. Petersburg went on strike.

In an attempt to settle the dispute, Gapon decided to make a personal appeal to Nicholas II and in January 1905 he drew up a petition outlining the workers' sufferings and demands. This petition demanded an 8-hour day, freedom to organize trade unions, improved working conditions, free medical aid, higher wages for women workers, elections to be held for a constituent assembly by universal, equal and secret suffrage, freedom of speech, press, association and religion, and an end to the war with Japan.

On January 22 Gapon led a demonstration to the Winter Palace in St. Petersburg to present the petition to the Tzar. When the procession of workers reached the Palace it was attacked by the police and the Cossacks. Over 100 workers were killed and some 300 wounded. The incident, known as Bloody Sunday, started a series of events that became known as the 1905 Revolution. Strikes took place all over the country and the universities closed down when the whole student body complained about the lack of civil liberties by staging a walkout. Lawyers, doctor, engineers, and other middle-class workers established the Union of Unions and demanded a constituent assembly.

In June, 1905, sailors on the battleship Potemkin protested against the serving of rotten meat. In response, the captain ordered that the ringleaders be shot. The firing-squad refused to carry out the order and joined with the rest of the crew in throwing the officers overboard. The Potemkin mutiny spread to other units in the army and navy.

Industrial workers all over Russia went on strike and in October, 1905, the railwaymen went on strike, which paralyzed the whole Russian railway network. Later that month, Leon Trotsky and other Mensheviks established the St. Petersburg Soviet. Over the next few weeks over 50 of these soviets were formed all over Russia.

Sergei Witte, the new Chief Minister, advised Nicholas II to make concessions. He eventually agreed and published the October Manifesto. This granted freedom of conscience, speech, meeting and association. He also promised that in future people would not be imprisoned without trial. Finally he announced that no law would become operative without the approval of a new organization called the Duma. As this was only a consultative body, many Russians felt that this reform did not go far enough. Leon Trotsky and other revolutionaries denounced the plan. In December, 1905, Trotsky and the rest of the executive committee of the St. Petersburg Soviet were arrested. Nevertheless, the announcement of the concessions made in the October manifesto had the effect of calming the country and undermining the revolutionary threat.

The First Duma was elected on the basis of indirect universal male suffrage. The peasants, the townsmen and the gentry all elected their own representatives. Delegates from all the provinces met in the provincial town and chose the members of the Duma. However, since the publication of the October Manifesto, Nicholas had already made several changes in the composition of the Duma. He had created a State Council, an upper chamber, of which he would nominate half its members. He also retained for himself the right to declare war, to control the Orthodox Church and to dissolve the Duma. The Tsar also had the power to

appoint and dismiss ministers. Even before the first Duma met, Nicholas was backtracking on the promises he had made in October.

Nevertheless, the First Duma had a left majority consisting of Socialist-Revolutionaries, Mensheviks, Bolsheviks, Octobrists and members of the Constitutional Democrat Party. At their first meeting in May 1906, members of the Duma put forward a series of demands including the release of political prisoners, trade union rights and land reform. Nicholas II rejected all these proposals and dissolved the Duma in July, 1906. In April, 1906, Nicholas II had forced Witte to resign and replaced him with the more conservative Peter Stolypin. Stolypin attempted to provide a balance between the introduction of much needed social reforms, such as land reform, and the suppression of the radicals.

Elections for the Second Duma took place in 1907. Stolypin now made changes to the electoral law and used his powers to exclude large numbers from voting. The new electoral law also gave better representation to the nobility and gave greater power to the large landowners to the detriment of the peasants. Changes were also made to the voting in towns and now those owning their own homes elected over half the urban deputies. This reduced the influence of the left but when the Second Duma convened in February, 1907, it still included a large number of reformers. After three months of heated debate, Nicholas II closed down the Duma on the 16th June, 1907.

The Third Duma met on 14th November 1907. The former coalition of Socialist-Revolutionaries, Mensheviks, Bolsheviks, Octobrists and the Constitutional Democrat Party were now outnumbered by the reactionaries and the nationalists. Unlike the previous Dumas, this one ran its full-term of five years.

The 1905 revolution is our final example of how, without fundamental changes in the nature of de jure political power, promises can be reneged on. In response to the uprisings and unrest of 1905, Nicholas II made concessions, including, to some extent, the creation of a democratic institution—the Duma. Yet the Duma was not powerful enough to guarantee that Nicholas II would carry through with his concessions and once the revolutionary moment had passed, Nicholas II duly reneged.

4.3. Modeling Commitment Problems in Nondemocracy. We will now start laying the scene by introducing simple ways of modeling potential commitment problems in politics. Let us first go back to the game shown in Figure 5.1. The key feature of that game was that the elite decided the tax rate before the citizens took the revolution decision. Now imagine an alternative game shown in Figure 5.2, where the citizens decide whether to take the revolution decision first, and then if there is no revolution, the elite get to set the tax rate. The difference between this game and that of the previous section, the one shown in Figure 5.1, might appear minor. But there is in fact a major difference: in the game of the last section, there was no commitment problem. The elite set the tax rate before the revolution decision of the citizens, and could use the tax rate to avoid the threat of revolution. Now, the elite no longer have that option, because they set the tax rate after the revolution decision.

Let us analyze the subgame perfect equilibrium of this game. As usual, we will do this by backward induction, starting in the last subgame, which is the one after the citizens decide not to undertake a revolution. In this subgame, the elite have to decide the tax rate, this tax rate gets implemented and the game ends. Since there are no longer any constraints left, they will simply choose their most preferred tax rate, $\tau^r = 0$, giving payoffs

$$(5.11) \qquad \begin{aligned} V^p(N) &= V\left(y^p \mid \tau^N = \tau^r\right) = y^p \text{ and} \\ V^r(N) &= V\left(y^r \mid \tau^N = \tau^r\right) = y^r, \end{aligned}$$

to the citizens and the elite. We use the notation $V^i(N)$ as the value to $i = p, r$ in nondemocracy when the elite set their ideal policy. Moving to the previous stage of the game, the citizens have to decide between revolution, which will yield them the payoff $V^p(R, \mu)$ as given by (5.1), or no revolution, which will give them the payoff $V^p(N) = V\left(y^p \mid \tau^N = \tau^r\right)$. The former is greater whenever (5.4) holds, so the citizens will undertake a revolution whenever (5.4) holds.

In specifying the equilibrium here we again use the notation $\sigma^p = \{\rho\}$ and $\sigma^r = \{\tau^N\}$. The citizens play first and choose $\rho \in \{0, 1\}$, i.e., whether or not to revolt, while the elite play second and choose the tax rate τ^N. Since the elite only get to play if $\rho = 0$ we specify this as a choice (not a function) $\tau^N \in [0, 1]$. Then a subgame perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other in all proper subgames.

We can see that the following strategy profiles will be the unique equilibria. When $\theta \leq \mu$ we have $\rho = 0$ and $\tau^N = 0$. In this equilibrium the revolution constraint does not bind so the citizens do not revolt and the elite set their preferred tax rate of zero. When $\theta > \mu$, then the following strategy profile is the unique equilibrium: $\rho = 1$. In this case a revolution is the optimal action and the poor undertake it. We now have the following proposition:

Proposition 5.2: There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 5.2 and it is such that
- If (5.4) does not bind then $\rho = 0$ and $\tau^N = 0$.
- If (5.4) binds then $\rho = 1$.

The results of this proposition are very different from those of Proposition 5.1, and an equilibrium revolution happens for a much larger set of parameter values. This reflects the commitment problem of the elite. In the game of the previous section, there was no commitment problem because there the elite moved before the citizens had to decide whether or not to undertake a revolution. Now, there is a serious commitment problem. To highlight the essence of this commitment problem, we can think of the elite "promising" redistribution in order to avoid the revolution, but this is not credible, since according to the game of Figure 5.2, they move after the revolution decision of the citizens, and whatever promise they make will not be credible.

This game illustrates the more general commitment problem outlined above: those with political power, here the elite, cannot promise to make transfers in the future as long as they hold onto their political power. In the game of Figure 5.2, the taxation decision of the elite was

placed after the revolution decision of the citizens and this implies that the elite have to promise to make transfers in the future. It is this promise about the future which is not credible. This is in some sense quite a reduced form situation however, since there is no real sense of present or future, and we can only talk of promises in a loose sense, since the game does not really involve promises. We will gradually enrich this game, and use it as a building block for our analysis of democratization in Chapter 6. In the next section, we introduce a version of the simple game that will be used throughout this book, which is in turn a simplification of a full dynamic game, which will be introduced in the following section.

5. A Simple Game of Promises

We have so far discussed the revolution constraint and how the elite can try to prevent a revolution by making promises of redistribution, and we indicated why these promises may not be credible because the elite hold on to political power, and given their political power, they can renege on their promises. There are two important elements missing from this picture: an effective threat of revolution is a rare event, and occurs only when the citizens manage to solve the collective action problem inherent in revolution. Second, we have so far analyzed games where either the elite move before the revolution decision, and there is no commitment problem, or they move after the revolution decision, and there is no possibility of promises. Instead, we would like a game which has some possibility of promises by the elite, but these promises are only partially credible.

The game in Figure 5.3 is the simplest game incorporating these features. Nature moves first and selects between two threat states, low and high, $S = L$ or H. The motivation for introducing these two states is to emphasize the idea that only in some situations will there be an effective threat of a revolution. In general this could be because some types of circumstances are uniquely propitious for solving the collective action problem—such as a harvest failure, business cycle depression, the end of a war, or some other important economic, social or political crisis. We assume that the effectiveness of the revolution threat differs between these two states. In particular, we assume that the payoff to the citizens from a revolution in the state S is:

$$(5.12) \qquad\qquad V^p\left(R, \mu^S\right) = \frac{(1 - \mu^S)\bar{y}}{1 - \delta},$$

where we think that the low threat state corresponds to the case were it is relatively costly for the citizens to solve the collective action problem, or face other problems in organizing a revolution, so μ^L is high. To simplify the discussion, we take the extreme case where $\mu^L = 1$. In contrast, in the high threat state, the citizens are able to solve the collective action problem relatively costlessly and/or the elite are not well-organized in their defense, so there may be an effective threat of revolution, which we capture by assuming that $1 > \mu^H > 0$. Since μ^L will not play any real role in our analysis, and indeed we will suppress this state later in the book to simplify the game trees, from now on we use the notation $\mu^H = \mu$.

After nature reveals the threat state, the elite set the tax rate τ^N. Observing this tax rate, the citizens decide whether to undertake a revolution or not. So far, the game is not very

different from that in Figure 5.1. In fact, if it ended here, it would be almost identical to that, enriched only by having two states instead of one. However, after the revolution decision of the citizens, there is a continuation game capturing in a reduced-form way the problems that those with political power will have in promising to undertake future actions that are not in their immediate interest. In particular, nature moves and determines whether the elite get to reset the tax from τ^N to a new one different from that which they promised. More specifically, with probability p, the promise that the elite made to redistribute at the tax rate τ^N stands. But with probability $1 - p$, the promise is void, and the elite get to reset the tax. We use $\bar{\tau}^N$ to denote this tax rate. At this point, because the opportunity to mount a revolution has passed, the elite are unconstrained, and will set their most preferred tax, $\bar{\tau}^N = \tau^r$. We use the notation $\nu \in \{0, 1\}$ for nature's choice with $\nu = 1$ indicating that the elite can re-set the tax rate.

This continuation game after the revolution decision of the citizens is a reduced-form way of modeling the inability of those with political power to commit to future redistribution and taxation decisions. Notice that when $p = 1$ there is no commitment problem and we have the situation depicted in Figure 5.1, while when $p = 0$ there is a complete inability to commit and we have the game in Figure 5.2. We can therefore use p as a way of parameterizing the ability of the nondemocratic regime to commit. In this game, there is no "future" in the proper sense, since there is only one period of redistribution, rather than an explicit difference between decisions today and decisions in the future. Nevertheless, the continuation game incorporates, in a relatively simple way, the possibility that after the threat of revolution is gone, the elite can backtrack from their promises. We will see in the next section that when we have a fully dynamic model where the revolution threat recurs in the future, the model will have a reduced form very similar to the simpler game of Figure 5.3 we are analyzing here.

The relevant payoffs are as follows. If the citizens undertake a revolution, the payoffs are $V^p\left(R, \mu^S\right)$ given by (5.12) and $V^r\left(R, \mu^S\right) = 0$. If the elite get to reset the tax, they will choose their most preferred tax rate, τ^r, so the payoffs are $V^p\left(N\right)$ and $V^r\left(N\right)$ given by (5.11) above. If they are unable to reset the tax, and the promised tax rate of τ^N stands, then the values of the two groups are $V\left(y^p \mid \tau^N\right)$ and $V\left(y^r \mid \tau^N\right)$ as given by (5.8) above. This implies that the expected payoffs at the time the elite make a promise to redistribute at τ^N are: $(V^p(N, \tau^N), V^r(N, \tau^N))$, such that

$$(5.13) \qquad \begin{aligned} V^p(N, \tau^N) &= y^p + p\left(\tau^N\left(\bar{y} - y^p\right) - C(\tau^N)\bar{y}\right) \text{ and} \\ V^r(N, \tau^N) &= y^r + p\left(\tau^N\left(\bar{y} - y^r\right) - C(\tau^N)\bar{y}\right), \end{aligned}$$

which take account of the fact that redistribution at the tax rate τ^N happens only with probability p, while with probability $1 - p$, the elite reset the tax to τ^r. Notice also that we are using the notation $V^i(N, \tau^N)$, which refers to the case where the elite make a promise of redistribution at the tax rate τ^N. This is distinct from $V^i(N)$, which refers to the values when the elite are unconstrained. We will use this type of notation throughout the book.

Therefore, after observing the promise of redistribution at the tax rate τ^N, the citizens have to make a comparison between $V^p(N, \tau^N)$ as given by (5.13) and the payoff from revolution,

$V^p(R, \mu^S)$ as given by (5.12). Clearly, $V^p(N, \tau^N) > V^p(R, \mu^L)$ for any τ^N by virtue of the fact that $\mu^L = 1$. Therefore, in the low state, $\mu^S = \mu^L$, the elite will not suffer a revolution, and anticipating this, they will make no concessions and will simply set their most preferred tax rate, $\tau^N = \tau^r = 0$ (or using the notation we will use below, $\tau^N (\mu^L) = \tau^r$).

In contrast, in the high threat state $S = H$, the revolution constraint could be binding. As before, we say that the revolution constraint binds if $V^p(R, \mu^H) > V^p(N)$, that is, if the citizens receive more from a revolution then they would do when the elite set their most preferred tax rate in nondemocracy. Using (4.7) and (5.12), this revolution constraint is again equal to (5.4). If this revolution constraint does not bind, then even in the high state, the elite are unconstrained, and again they set their most preferred tax rate. Suppose, on the other hand, that the revolution constraint binds, i.e., $\theta > \mu$. What will happen then?

The elite would like to prevent a revolution if at all possible. Whether they can do so or not will depend on the value they can promise to the citizens. Clearly, the most favorable tax rate they can offer to the citizens is $\tau^N = \tau^p$ as given by (4.11). Notice however that this is not as good as offering τ^p for certain because of the commitment problem. Whether the elite can prevent a revolution or not will depend on whether $V^p(N, \tau^N = \tau^p)$ is greater than $V^p(R, \mu^H)$ or not. Written more explicitly, the key condition is whether

$$y^p + p\left(\tau^p \left(\bar{y} - y^p\right) - C(\tau^p)\bar{y}\right) \geq \frac{(1-\mu)\bar{y}}{1-\delta},$$

recalling that μ^H takes the specific value μ, or whether

(5.14) $$\mu \geq \theta - p\left(\tau^p(\theta - \delta) - (1-\delta)C(\tau^p)\right).$$

If inequality is limited (i.e., θ is relatively low), or if there is a high probability that the promise made by the elite will be upheld (i.e., p is relatively high), then living under nondemocracy is not too bad for the citizens, and the condition (5.14) will hold and a revolution can be avoided.

To analyze the model let us determine a critical value of the revolution cost μ^* such that (5.14) holds as an equality:

(5.15) $$\mu^* = \theta - p\left(\tau^p \left(\theta - \delta\right) - (1-\delta)C(\tau^p)\right).$$

Then when $\mu > \mu^*$, we have $V^p(N, \tau^N = \tau^p) > V^p(R, \mu^H)$, or in other words, (5.14) will hold. We can then define a $\hat{\tau} \leq \tau^p$ such that $V^p(N, \tau^N = \hat{\tau}) = V^p(R, \mu^H)$, so that the elite can prevent revolution by setting (by promising) this tax rate. $\hat{\tau}$ therefore satisfies

(5.16) $$\mu = \theta - p\left(\hat{\tau} \left(\theta - \delta\right) - (1-\delta)C(\hat{\tau})\right).$$

As before we let σ^r and σ^p refer to the generic vector of actions. Here, $\sigma^r = \{\tau^N(\cdot), \bar{\tau}^N\}$ and $\sigma^p = \{\rho(\cdot, \cdot)\}$. Now strategies are also conditioned on whether or not the state is low threat or high threat, thus the strategy of the elite is a function $\tau^N : \{\mu^L, \mu^H\} \to [0, 1]$ (we use the notation $\{\mu^L, \mu^H\}$ instead of $\{1, \mu\}$ for clarity) and that for the citizens a function $\rho : \{\mu^L, \mu^H\} \times [0, 1] \to \{0, 1\}$. Here, $\tau^N(\mu^S)$ is the taxation decision of the elite when the threat state is μ^S and $\rho(\mu^S, \tau^N)$ is the revolution decision when the state is μ^S and the elite chose

the tax rate τ^N. In this game the elite may play twice. If there is no revolution and nature chooses $\nu = 1$, then the elite get to re-set the tax rate, but since when $\nu = 0$ the elite do not get to play again we just represent this in σ^r by a choice $\bar{\tau}^N \in [0, 1]$, and not as a function of ν. Then a subgame perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other in all proper subgames.

When $\theta \le \mu$ the following strategy profile is the unique equilibrium: for the elite $\tau^N(\mu^S) = 0$ and $\bar{\tau}^N = 0$, and for the citizens $\rho(\mu^S, \tau^N) = 0$ for all μ^S. Here the revolution constraint binds in neither state, the elite never have to make any concessions and the citizens never find it optimal to undertake a revolution.

When $\theta > \mu$ and $\mu < \mu^*$, the following strategy profile is the unique equilibrium: for the elite $\tau^N(\mu^L) = 0$ and $\bar{\tau}^N = 0$, and for the citizens $\rho(\mu^L, \tau^N) = 0$ and $\rho(\mu^H, \tau^N) = 1$ for all τ^N. Here a revolution is sufficiently attractive that concessions will not work. In words this says that the strategy of the elite is that if the state is μ^L, they do not undertake any redistribution ($\tau^N = 0$) and the citizens' strategy implies that they do not undertake a revolution in μ^L whatever tax rate is set ($\rho = 0$). If the state is μ^H, then it does not matter what tax rate the elite set since in this case the citizens mount a revolution ($\rho = 1$) whatever the tax rate is. To see that these strategies constitute an equilibrium note that neither the elite nor the citizens could change their strategy and increase their payoff. For example, given that the citizens play $\rho(\mu^L, \tau^N) = 0$, then the elite cannot increase their payoff by setting any other tax rate than zero, so that $\tau^N(\mu^L) = \tau^r = 0$ is a best response. Similarly, given that $\mu^L = 1$ the citizens cannot increase their payoff by having a revolution.

When $\theta > \mu$ and $\mu \ge \mu^*$ the following profile constitutes the unique subgame perfect equilibrium: $\tau^N(\mu^L) = 0$, $\tau^N(\mu^H) = \hat{\tau}$ where $\hat{\tau} \in [0, \tau^p]$ is defined by $V^p(N, \tau^N = \hat{\tau}) = V^p(R, \mu^H)$, and $\bar{\tau}^N = 0$, and for the citizens $\rho(\mu^L, \tau^N) = 0$ and $\rho(\mu^H, \tau^N) = 0$ for $\tau^N \ge \hat{\tau}$. Also, off the equilibrium path, $\rho(\mu^H, \tau^N) = 1$ for $\tau^N < \hat{\tau}$.

We now have the following proposition summarizing the equilibrium of this game:

> **Proposition 5.3:** There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 5.3. Let μ^* and $\hat{\tau}$ be given by (5.15) and (5.16), then in this equilibrium:
> - If $\theta \le \mu$, then $\tau^N(\mu) = 0$, $\bar{\tau}^N = 0$, and $\rho(\mu, \tau^N) = 0$ for all τ^N and μ.
> - If $\theta > \mu$, then:
> (1) If $\mu < \mu^*$, $\tau^N(\mu^L) = 0$, $\bar{\tau}^N = 0$, and $\rho(\mu^L, \tau^N) = 0$ but $\rho(\mu^H, \tau^N) = 1$ for all τ^N.
> (2) If $\mu \ge \mu^*$, $\tau^N(\mu^L) = 0$, $\tau^N(\mu^H) = \hat{\tau}$, $\bar{\tau}^N = 0$, and $\rho(\mu^L, \tau^N) = 0$, $\rho(\mu^H, \tau^N) = 0$ for $\tau^N \ge \hat{\tau}$ and off the equilibrium path, $\rho(\mu^H, \tau^N) = 1$ for $\tau^N < \hat{\tau}$.

This proposition gives a complete description of equilibrium strategies, including actions off the equilibrium path. To avoid the statements of propositions becoming cumbersome, we can write Proposition 5.3 in an alternative more intuitive form that will be useful in the rest of the book. In writing this we abstract from actions off the equilibrium path.

Proposition 5.3 (Alternative form): There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 5.3. Let μ^* and $\hat{\tau}$ be given by (5.15) and (5.16), then in this equilibrium:

- If $\theta \leq \mu$, then the revolution constraint is not binding, the elite never redistribute and the citizens never undertake a revolution.
- If $\theta > \mu$, then the revolution constraint is binding in the high state. In this case:

(1) If $\mu < \mu^*$, promises by the elite are insufficiently credible to avoid a revolution. In the low state, the elite do not redistribute and there is no revolution, but in the high state a revolution occurs whatever tax rate the elite set.

(2) If $\mu \geq \mu^*$, the elite do not redistribute in the low state and set the tax rate $\hat{\tau}$ in the high threat state, just sufficient to stop a revolution. The citizens never revolt.

The most important result for our analysis is the following: When the promise to redistribute by the elite is only imperfectly credible (i.e., p small), during unusual periods where the citizens solve the collective action problem, there will be an equilibrium revolution. A low p means that promises made by the elite are not very credible, since there is a small probability that they will be upheld, and with a relatively large probability, the elite will get to reset the tax once the threat of revolution disappears. This is the case, therefore, where because the elite have the de jure political power, their promises of redistribution in the future are not credible. Formally, μ^* is a decreasing function of p. The greater is p, the more credible the promise of the elite to make concessions, the lower the costs of a revolution must be for it to be attractive to the citizens.

Notice also that μ^* is increasing in θ. To see this, let us again use the implicit function theorem and differentiate (5.15) with respect to θ:

$$\frac{d\mu^*}{d\theta} = 1 - p\tau^p - p\left((\theta - \delta) - (1 - \delta)C'(\tau^p)\right)\frac{d\tau^p}{d\theta} > 0.$$

To see why this expression is positive, first note that by the first-order condition that defines τ^p, (4.11), we have that $(1 - \delta)C'(\tau^p) = \theta - \delta$, and hence the second term in $d\mu^*/d\theta$ is zero. This is an example of the application of the envelope theorem (see Mas-Colell, Whinston and Green, 1995, pp. 964-966). The result them follows from noting that $1 - p\tau^p > 0$ since both p and τ^p are less than one. This implies that a more unequal society has a higher threshold. This simply reflects the fact that revolutions are more attractive in more unequal societies, so the elite need future promises to be highly credible in order to avoid a revolution.

An important prediction of Proposition 5.3 is, therefore, that others things equal, revolutions will happen in very unequal societies, and in societies where the political power of the elite makes it difficult for them to make credible commitments to future concessions (redistribution).

It is useful to reflect here on how these results change if, as in Chapter 4 section 4.3, targeted transfers can be used. In this case the elite will be able to tax the citizens in nondemocracy. The first effect of this is to change the revolution constraint. The preferred tax rate of the elite is given by (4.14) and the revolution constraint becomes

$$\frac{(1 - \mu)\bar{y}}{1 - \delta} > (1 - \tau^{rT})y^p$$

since the citizens pay taxes but get no redistribution. This implies,

$$\theta > \frac{\mu - \tau^{rT}}{1 - \tau^{rT}}.$$

Since $(\mu - \tau^{rT})/(1 - \tau^{rT}) < \mu$ this immediately implies that revolution is attractive for the citizens at lower levels of inequality compared to before. Targeted transfers has one other implication here. They allow the elite to make bigger transfers to the citizens and this reduces μ^* allowing the elite to avoid revolution for a large part of the parameter space.

The static game analyzed in this section, shows how the degree of credibility of promises affects whether the citizens prefer to live under nondemocracy, with political power in the hands of the rich elite, or undertake a revolution. The other important feature of this game is that it has the same structure as many of the games that we will use to analyze the creation and then consolidation of democracy. There, exactly as in this game, those with political power will try to make concessions, and if these concessions are credible, the existing regime will survive. If they are not credible, the regime will not survive; whether it falls to revolution, or to a coup, or whether there is an equilibrium transition to democracy arranged by the elite in order to avoid revolution will depend on the details of the game, and on the particular circumstances we are trying to analyze.

6. A Dynamic Model

The analysis in the last section shows how the degree of credibility of the promises made by the elite affects whether nondemocracy will be able to overcome the constraints placed on it by revolutions, especially by the threat of a revolution during unusual periods where the citizens are able to solve the collective action problem. However, the inability of the elite to commit to future redistribution was modeled in a reduced-form way by introducing the continuation game where the elite, with some probability, were able to reset the tax away from that which they promised.

We will now analyze a dynamic game which will map exactly into the simpler game of the previous section. The advantage of this game is that it captures the same issues in a more plausible and appealing way. Moreover, as mentioned in Chapter 2 and as we shall discuss in detail in the next chapter, the role of institutions in our theory is fundamentally intertemporal, they determine the future allocation of power. To model this we therefore need an intertemporal set-up, which we now start developing.

The elite now can stick to the current taxes that they set within one period, but they cannot commit to future redistribution—unless the future also poses an effective revolution threat. Therefore, the commitment problem will take a more natural form since it arises from the inability of those with political power to bind their hands in the future unless they relinquish their political power. This game will also be the first example of a dynamic model, and a prototype for the dynamic games analyzed throughout this book. Like those games, this one has a relatively simple recursive structure, and we will simplify it further by focusing on Markov perfect equilibria. Markov perfect equilibria are a sub-set of subgame perfect equilibria which

are relatively easy to characterize (see Fudenberg and Tirole, 1991, Chapter 13, pp. 501-535). The main difference is that in general in a repeated game, the actions that a player can take at any date can be a function of the entire history of the game up until that point. In a Markov equilibrium we restrict this element of history dependence, indeed, actions at a particular date can only depend on the 'state' of the game at that point (we return to the question of how to specify the state shortly). Nevertheless, the restriction to Markovian equilibria is really just a simplification of the model. To convince the reader of this, we look at non-Markovian strategies in the next section where we characterize non-Markovian subgame perfect equilibria and compare them to the Markov equilibria we analyze in this section.

There is again a continuum 1 of agents with a rich elite and poor citizens just as before, with fractions, δ and $1 - \delta$. But we are now in a dynamic world, so the production structure outlined previously applies in every period. In particular, pre-tax incomes are constant, and given by (4.7) at all dates. Individual utility is now defined over the discounted sum of post-tax incomes with discount factor $\beta \in (0, 1)$, so for individual i at time $t = 0$, it is

$$(5.17) \qquad U^i = E_0 \sum_{t=0}^{\infty} \beta^t \hat{y}_t^i,$$

which simply gives a discounted sum of the individual's income stream, with E_0 defined as the expectation based on the information set available at time $t = 0$.

If we restrict ourselves to sequences of events where revolution never takes place, then (5.17) can be written in a more informative way:

$$(5.18) \qquad U^i = E_0 \sum_{t=0}^{\infty} \beta^t \left((1 - \tau_t) y^i + (\tau_t - C(\tau_t)) \bar{y} \right),$$

where the second equality uses the expression for post-tax income (4.5), taking into account that tax rates are potentially time-varying, hence indexed by t. However, (5.18) only applies when there is no revolution along the equilibrium path. More generally, we should have

$$U^i = E_0 \sum_{t=0}^{\infty} \beta^t \left[(1 - \bar{\rho}_t) \left((1 - \tau_t) y^i + (\tau_t - C(\tau_t)) \bar{y} \right) + \bar{\rho}_t y_R^i \right],$$

where $\bar{\rho}_t = 1$ if there has been a revolution at any time before t, and $\bar{\rho}_t = 0$ otherwise, and y_R^i is the income of individual i after a revolution.

We denote the infinitely repeated discounted game under consideration here by the standard notation $G^\infty(\beta)$.

As in the previous sections, the $1 - \delta$ poor citizens have de facto political power, and can pose a revolutionary threat. They can overthrow the existing regime in any period $t \geq 0$. If a revolution is attempted, it always succeeds but a fraction μ_t of the productive capacity of the economy is destroyed forever in the process. Therefore, if there is a revolution at time t, each citizen receives a per period return of $(1 - \mu^S)\bar{y}/(1 - \delta)$ in all future periods: total income in the economy is $(1 - \mu^S)\bar{y}$ and is shared between $1 - \delta$ agents. Here, after a revolution, μ^S is the value of μ_t at the date when the revolution took place (μ^H or μ^L). This implies that the

state does not fluctuate once a revolution has taken place. This assumption is just to simplify the algebra and we could allow for the threat state to fluctuate without changing the results. μ changes between two values: $\mu^H = \mu$ and $\mu^L = 1$, with $\Pr(\mu_t = \mu) = q$ irrespective of whether $\mu_{t-1} = \mu^H$ or μ^L.

The fact that μ fluctuates will be crucial in modeling the limited ability of the elite to promise future redistribution. A change in μ corresponds to a change in the underlying environment, so the elite, who hold political power in nondemocracy, will optimize again. As a result, their promise to redistribute today may not materialize due to changes in circumstances tomorrow. A high value of μ means that a revolution is very costly, while a low value of q implies that the threat of revolution is rare, perhaps because the citizens are unorganized. Fluctuations in the threat of revolution will be the source of the commitment problems arising from political power.

The timing of events within a period, say time t, can be summarized as follows.

(1) μ_t is revealed.
(2) The elite set the tax rate τ_t^N.
(3) The citizens decide whether or not to initiate a revolution, denoted by ρ_t with $\rho_t = 1$ corresponding to a revolution at time t. If there is a revolution, they obtain the remaining $1 - \mu_t$ share of output in all future periods.

In this section, we will characterize the pure strategy Markov perfect equilibria of this game, in which strategies only depend on the current state of the world and not on the entire history of the game. In the next section, we will also discuss non-Markovian equilibria.

For Markov perfect equilibria, the crucial concept is that of the "state" of the game or the system which is simply a complete specification of all payoff relevant information. Here, the state of the system consists of the current opportunity for revolution, represented by either μ^L or μ^H. Let $\sigma^r = \{\tau^N(\cdot)\}$ be the actions taken by the elite when the state is $\mu_t = \mu^H$ or μ^L. This consists of a tax rate $\tau^N : \{\mu^L, \mu^H\} \to [0, 1]$. Similarly, $\sigma^p = \{\rho(\cdot, \cdot)\}$ is the action of the citizens which consists of a decision to initiate a revolution, ρ ($\rho = 1$ representing a revolution) conditional on the current actions of the elite. Hence, as in the previous model $\rho : \{\mu^L, \mu^H\} \times [0, 1] \to \{0, 1\}$. Then, a Markov perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other for all μ. Notice that Markov perfect equilibria are a subset of subgame perfect equilibria, since they exclude any subgame perfect equilibria that feature non-Markovian strategies.

The advantage of the concept of Markov perfect equilibrium is that it incorporates the commitment problem in a very simple way: given the state of the system, here the value of μ_t, each party plays the best strategy for itself, irrespective of any promises made before, or how the game was played in the past. Therefore, this equilibrium concept already builds in the commitment problem: all players know that each will play whatever is in their interest in the future. The other convenient thing about this equilibrium concept is that it lends itself to a very tractable analysis using Bellman equations (that is, using simple dynamic programming

arguments, see Sargent, 1987, and Stokey, Lucas and Prescott, 1989, for good introductions to dynamic programming and their uses in economics).

Let us start with the payoffs once there is a revolution. We define $V^p(R, \mu^S)$ as the return to poor citizens if there is a revolution starting in threat state $\mu^S \in \{\mu, 1\}$. Recall that only the value of μ^S at the time of the revolution matters, and after that, a fraction μ^S of the productive capacity of the economy is destroyed forever. This implies that the value of revolution starting in the state μ^S is

$$(5.19) \qquad V^p(R, \mu^S) = \frac{(1 - \mu^S)\bar{y}}{1 - \delta} + \beta\frac{(1 - \mu^S)\bar{y}}{1 - \delta} + \beta^2\frac{(1 - \mu^S)\bar{y}}{1 - \delta} + ...$$

which compounds all the future returns, taking into account that the future is discounted with discount factor $\beta < 1$. We have that

$$V^p(R, \mu^S) = \frac{(1 - \mu^S)\bar{y}}{(1 - \delta)(1 - \beta)}.$$

To see this note that we can write (5.19) as

$$V^p(R, \mu^S) = \frac{(1 - \mu^S)\bar{y}}{1 - \delta} + \beta\left[\frac{(1 - \mu^S)\bar{y}}{1 - \delta} + \beta\frac{(1 - \mu^S)\bar{y}}{1 - \delta} + ...\right]$$

and then observe that the term within the square bracket on the right of this expression is nothing other than $V^p(R, \mu^S)$ itself. Thus (5.19) can be written

$$(5.20) \qquad V^p(R, \mu^S) = \frac{(1 - \mu^S)\bar{y}}{1 - \delta} + \beta V^p(R, \mu^S)$$

and solving this for $V^p(R, \mu^S)$ gives the formula written above and which we use in (5.21) below.

It is important to notice how the infinite horizon helps us analytically. What we have used here is the fact that after a revolution has happened, we look into the future to sum up the benefits from a revolution to the citizens and what (5.20) says is that looking into the infinite future from tomorrow on looks identical to looking into the infinite future today.

Also, because the rich elite lose everything, $V^r(R, \mu^S) = 0$. Next recall that we have also assumed $\mu^L = 1$, the citizens would never attempt a revolution when $\mu_t = \mu^L$. Therefore, the only relevant value is the one starting in the state $\mu^H = \mu$, which is:

$$(5.21) \qquad V^p(R, \mu^H) = \frac{(1 - \mu)\bar{y}}{(1 - \delta)(1 - \beta)}.$$

Let us next turn to the decision of the elite. First consider the state $\mu_t = \mu^L$, where there is no threat of revolution, and let us try to calculate the value to the elite and to the citizens in this state, denoted by $V^r(N, \mu^L)$ and $V^p(N, \mu^L)$. We maintain the superscripts H and L on the μ's in the value functions to facilitate the exposition. The concept of Markov perfect equilibrium implies that irrespective of promises made in the past, in this state, the elite will choose whatever policy is in their best interest at that point. Since there is no threat of revolution, this must be to set $\tau^N = \tau^r$, and engage in no redistribution. However, the state $\mu_t = \mu^L$ in nondemocracy is not permanent. Next period, we could switch to $\mu_t = \mu^H$, and in this case, the elite might have to engage in redistribution, or there might be a revolution.

Let us denote the values to the elite and to the citizens in the state $\mu_t = \mu^H$ by $V^r(N, \mu^H)$ and $V^p(N, \mu^H)$. This implies that the relevant Bellman equation determining the values $V^r(N, \mu^L)$ and $V^p(N, \mu^L)$ can be written as:

(5.22)
$$\begin{aligned} V^r(N, \mu^L) &= y^r + \beta\left[qV^r(N, \mu^H) + (1-q)V^r(N, \mu^L)\right] \\ V^p(N, \mu^L) &= y^p + \beta\left[qV^p(N, \mu^H) + (1-q)V^p(N, \mu^L)\right]. \end{aligned}$$

These value functions have a form that will recur throughout the dynamic analysis in this book, so it is important to understand the reasoning behind them. Let us focus on the elite for concreteness.

The value functions in (5.22) say that the value to a member of the elite in a nondemocracy and in the state $\mu_t = \mu^L$ consist of two terms: (1) what happens today, the first term y^r; and (2) what is expected to happen tomorrow, or the continuation value, represented by the second term, $\beta\left[qV^r(N, \mu^H) + (1-q)V^r(N, \mu^L)\right]$. Today, given the decision $\tau^N = \tau^r$, there is no redistribution, and a member of the elite obtains y^r, which is the first term. The second term is multiplied by β, since it starts tomorrow, and therefore is discounted back to today by the discount factor β. Tomorrow, there is a new draw from the distribution of μ, and with probability $1 - q$, the state μ^L recurs, so we have $\mu_{t+1} = \mu^L$. In this case, exactly the same reasoning as today implies that the value to an elite agent from that point onwards will be $V^r(N, \mu^L)$, hence this term is multiplied by $1 - q$ and included as part of the future value. The value $V^r(N, \mu^L)$ recurs because the world looking forward into the infinite future from state $\mu_t = \mu^L$ looks identical to the world looking forward into the infinite future from state $\mu_{t+1} = \mu^L$ (recall equation (5.20) above). With the remaining probability, q, there is a change in the state, and we have $\mu_{t+1} = \mu^H$, and in this case, we will have a different value for a member of the elite tomorrow, denoted by $V^r(N, \mu^H)$.

The same argument also applies for citizens, and gives the corresponding expression for $V^p(N, \mu^L)$, again consisting of two terms, what they receive today, y^p, and what they will receive tomorrow, $\beta\left[qV^p(N, \mu^H) + (1-q)V^p(N, \mu^L)\right]$.

The nice thing about the value functions in (5.22) is their "recursive" structure. Basically, the future is very much like today, so the same value that applies today in the state μ^L will also apply tomorrow if the state happens to be μ^L. This stationary recursive structure is a consequence of the simple stationary nature of the game (the state μ moves between two values with constant probabilities).

Naturally, (5.22) is not sufficient to characterize the equilibrium, since we do not know what happens in the state $\mu_t = \mu^H$, or in other words we do not know what is $V^r(N, \mu^H)$ and similarly what is $V^p(N, \mu^H)$. In this state, there may be an effective threat of revolution. So the first thing to check is whether the revolution constraint is binding. To do so, define $V^r(N)$ and $V^p(N)$ as the payoffs that would apply if the society remains in nondemocracy all the time (i.e.,

no revolution) and the elite never redistribute to the citizens, i.e., $\tau^N = \tau^r$. We clearly have:

$$
\begin{aligned}
V^r(N) &= y^r + \beta y^r + \beta^2 y^r + ... \\
&= \frac{y^r}{1 - \beta},
\end{aligned}
$$

since the elite always receive the income y^r as there is no taxation, and this future income stream is discounted to the present at the discount factor β. Similarly:

$$
(5.23) \qquad\qquad\qquad\qquad V^p(N) = \frac{y^p}{1 - \beta}
$$

We say that the revolution constraint binds if the poor citizens prefer a revolution in the state $\mu_t = \mu^H$ rather than to live in nondemocracy without any redistribution, i.e., if

$$
V^p(R, \mu^H) > V^p(N)
$$

where $V^p(R, \mu^H)$ is given by (5.21). Using the definitions in (4.7), the revolution constraint is equivalent to

$$
(5.24) \qquad\qquad\qquad\qquad\qquad \theta > \mu.
$$

In other words, inequality needs to be sufficiently high, i.e., θ sufficiently high, for the revolution constraint to bind. If inequality is not that high, so that we have $\theta \leq \mu$, there is no threat of revolution even in the state $\mu_t = \mu^H$, even with no redistribution ever. In this case, the elite will always set their unconstrained best tax rate, $\tau^N = \tau^r$, and we have no revolution along the equilibrium path.

It is useful here to recall the analysis of our 'static' model in the previous section. Note that the formula for the revolution constraint in the dynamic model, (5.24), is identical to that in the static model, (5.4). In both cases they simply link inequality to the cost of mounting a revolution. This is the basis of the parallel we draw between the static and dynamic models.

The more interesting case is the one where the revolution constraint (5.24) binds. If in this case, the elite set $\tau^N = \tau^r$ in the threat state $\mu_t = \mu^H$, there will be a revolution. So the elite will make some concessions by setting a tax rate $\tau^N = \hat{\tau} > 0$. Let us denote the values to the elite and the citizens in the state $\mu_t = \mu^H$ when the elite set a tax rate $\hat{\tau}$ and are expected to do so in the future, and there is no revolution, by $V^r(N, \mu^H, \tau^N = \hat{\tau})$ and $V^p(N, \mu^H, \tau^N = \hat{\tau})$. At this tax rate, we have that an agent of type i has net income of $(1 - \hat{\tau}) y^i$, plus he receives a lump sum transfer of $\hat{T}$. From the government budget constraint, this lump-sum transfer is $\hat{T} = (\hat{\tau} - C(\hat{\tau})) \bar{y}$, where $\hat{\tau}\bar{y}$ is total tax revenue, and $C(\hat{\tau}) \bar{y}$ is the cost of taxation.

By the same argument as before, we have that the value functions $V^r(N, \mu^H, \tau^N = \hat{\tau})$ and $V^p(N, \mu^H, \tau^N = \hat{\tau})$ are given by:

$$
\begin{aligned}
(5.25) \qquad & V^r(N, \mu^H, \tau^N = \hat{\tau}) \\
&= y^r + (\hat{\tau}(\bar{y} - y^r) - C(\hat{\tau})\bar{y}) + \beta \left[qV^r(N, \mu^H, \tau^N = \hat{\tau}) + (1 - q)V^r(N, \mu^L) \right], \\
& V^p(N, \mu^H, \tau^N = \hat{\tau}) \\
&= y^p + (\hat{\tau}(\bar{y} - y^p) - C(\hat{\tau})\bar{y}) + \beta \left[qV^p(N, \mu^H, \tau^N = \hat{\tau}) + (1 - q)V^p(N, \mu^L) \right].
\end{aligned}
$$

For the purposes of illustration, let us focus on the value function for a member of the elite. The first term is now $y^r + (\hat{\tau}(\bar{y} - y^r) - C(\hat{\tau})\bar{y})$, which is his net income after taxation at the rate $\hat{\tau}$. The second term is again the continuation value, $\beta\left[qV^r(N, \mu^H, \tau^N = \hat{\tau}) + (1-q)V^r(N, \mu^L)\right]$. With probability q, the state μ^H arises again tomorrow, and in this case, the rich continue to set $\tau^N = \hat{\tau}$ and receive $V^r(N, \mu^H, \tau^N = \hat{\tau})$. With probability $1 - q$, the state switches to μ^L, and the corresponding value is $V^r(N, \mu^L, \tau^N = \hat{\tau})$. The whole term is multiplied by β to discount it to the present.

A similar argument underlies the expression for $V^p(N, \mu^H, \tau^N = \hat{\tau})$. A citizen receives a relatively high income today, because there is redistribution at the rate $\hat{\tau}$. But what is going to happen in the future is uncertain. If the state remains at μ^H, redistribution continues. However, there is no guarantee of this, and in fact the threat state could switch to μ^L where the threat of revolution disappears, and as we saw above, now irrespective of what they promise, the elite will stop redistributing, and set $\tau^N = \tau^r$. Therefore, the expression for $V^p(N, \mu^H, \tau^N = \hat{\tau})$ already incorporates the potential "non-credibility" of the promise of future redistribution made today. Today's redistribution arises because the citizens have de facto political power: they have a relatively effective revolution threat, and if the elite do not make some concessions in the form of redistribution, they can overthrow the system. This political power therefore gets them additional income. This redistribution might cease tomorrow, however, if what gives political power to the citizens, the revolution threat, disappears. This is the essence of the problem of commitment in this society.

Note also at this point the similarity of the reasoning to that used in the simple game of the previous section. There, the elite made a promise to redistribute at the tax rate $\hat{\tau}$, but after the threat of revolution disappeared, nature decided whether they could reset the tax. Here, the elite can successfully redistribute to the citizens today, but what the citizens care about is not only redistribution today, but redistribution tomorrow, the day after tomorrow and so on. Today's redistribution is supported by the citizens' political power, the threat of revolution. The elite might like to promise redistribution tomorrow, but when nature decides that the revolution threat disappears tomorrow, i.e., the state switches to μ^L with probability $1 - q$, they will no longer keep their promise, and cut taxes down to 0, $\tau^N = \tau^r$. Therefore, as claimed there, the simple game of the previous section was a reduced-form way of capturing the dynamic commitment problems that are being more carefully modeled here.

Now returning to the analysis of the current game, we still need to determine the action of the citizens after the elite decide to redistribute at the tax rate $\hat{\tau}$ in the state μ^H. Clearly, they have a choice between no revolution, $\rho = 0$, and revolution $\rho = 1$. If they decide to undertake a revolution, then once the game reaches this point, the value functions for revolution, $V^r(R, \mu^H)$ and $V^p(R, \mu^H)$, will apply. Otherwise, we will have $V^r(N, \mu^H, \tau^N = \hat{\tau})$ and $V^p(N, \mu^H, \tau^N = \hat{\tau})$. Moreover, clearly, a citizen will choose ρ depending on whether $V^p(N, \mu^H, \tau^N = \hat{\tau})$ or $V^p(R, \mu^H)$ is greater. Hence, we can write:

$$(5.26) \qquad \rho \begin{cases} = 0 & \text{if } V^p(R, \mu^H) \leq V^p(N, \mu^H, \tau^N = \hat{\tau}) \\ = 1 & \text{if } V^p(R, \mu^H) > V^p(N, \mu^H, \tau^N = \hat{\tau}) \end{cases}$$

Note that this decision calculus is the same for all citizens. In other words, a citizen will take part in a revolution if he gets a higher return with a revolution than with redistribution at the rate $\hat{\tau}$ today, which again can be thought of as a "semi-credible promise of redistribution by the elite"—there will be redistribution today at the tax rate $\hat{\tau}$, and there might be tomorrow if nature determines that there is an effective threat of revolution tomorrow. We shall proceed by assuming in (5.26) that if $V^p(R, \mu^H) = V^p(N, \mu^H, \tau^N = \hat{\tau})$ then $\rho = 0$ so that indifference is broken by not undertaking a revolution.

With ρ given by (5.26), we also have that

$$(5.27) \qquad \begin{aligned} V^r(N, \mu^H) &= \rho V^r(R, \mu^H) + (1 - \rho) V^r(N, \mu^H, \tau^N = \hat{\tau}) \\ V^p(N, \mu^H) &= \max_{\rho \in \{0,1\}} \rho V^p(R, \mu^H) + (1 - \rho) V^p(N, \mu^H, \tau^N = \hat{\tau}) \end{aligned}$$

As we know, the elite would like to prevent revolution if they can. The question is whether they will be able to do so. To determine the answer to this question, we need to see what is the maximum value that the elite can promise to the citizens. Clearly this will be when they set the tax most preferred by the citizens, τ^p, given by (4.11). Hence the relevant comparison is between $V^p(R, \mu^H)$ and $V^p(N, \mu^H, \tau^N = \tau^p)$. If $V^p(N, \mu^H, \tau^N = \tau^p) \geq V^p(R, \mu^H)$, then a revolution can be averted, but not otherwise.

Note that, as one would expect, the value function $V^p(N, \mu^H, \tau^N = \tau^p)$ crucially depends on q, the probability that the state will be μ^H in the future, since this is the extent to which redistribution will recur in the future (in some sense, how much future redistribution the rich can credibly promise). To derive an expression for $V^p(N, \mu^H, \tau^N = \tau^p)$ we substitute $V^p(N, \mu^H, \tau^N = \tau^p) = V^p(N, \mu^H)$ in (5.22) and note that (5.22) and (5.25) are two linear equations in two unknowns, the value functions $V^p(N, \mu^H, \tau^N = \tau^p)$ and $V^p(N, \mu^L)$. Solving these two equations we find

$$(5.28) \qquad V^p(N, \mu^H, \tau^N = \tau^p) = \frac{y^p + (1 - \beta(1 - q))\left(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y}\right)}{1 - \beta}.$$

(5.28) has a straightforward interpretation. It says that $V^p(N, \mu^H, \tau^N = \tau^p)$ is equal to the present discounted value of y^p, the pre-tax income of a citizen, plus the expected present value of net redistribution. Net redistribution is $\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y}$, but this only occurs when the state is μ^H, something which happens a proportion q of the time. However, in (5.28), $(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y})$ is multiplied by $(1 - \beta(1 - q))$ not by q. This reflects the fact that today we start in the state μ^H, and given that today is more important than the future because of discounting (i.e., because $\beta < 1$), the state μ^L, where there will be no redistribution, gets the weight $\beta(1 - q)$, not $(1 - q)$, and as a result, the state μ^H, received the remaining weight, $1 - \beta(1 - q)$. (Expressed differently, because we start in the high state, the citizens receive transfers today, and a fraction q of the time in the future, so the net present discounted value of the transfer is multiplied by $1 + \beta q/(1 - \beta) = (1 - \beta(1 - q))/(1 - \beta)$). Notice also that as $\beta \to 1$, i.e., as discounting disappears, the weight of the state μ^H indeed converges to q.

Given this value function, we can see that the revolution can be averted if $V^p(N, \mu^H, \tau^N = \tau^p) \geq V^p(R, \mu^H)$, or if

$$\frac{y^p + (1 - \beta(1 - q))(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y})}{1 - \beta} \geq \frac{(1 - \mu)\bar{y}}{(1 - \delta)(1 - \beta)},$$

which can be simplified to

(5.29) $\mu \geq \theta - (1 - \beta(1 - q))(\tau^p(\theta - \delta) - (1 - \delta)C(\tau^p)).$

If this condition does not hold, even the maximum credible transfer to a citizen is not enough, and there will be a revolution along the equilibrium path. We can now use (5.29) to define a critical value of μ^H, again denoted μ^* such that $V^p(N, \mu^H, \tau^N = \tau^p) = V^p(R, \mu^H)$, when $\mu^H = \mu^*$ or

(5.30) $\mu^* = \theta - (1 - \beta(1 - q))(\tau^p(\theta - \delta) - (1 - \delta)C(\tau^p)).$

where $\mu^* < \theta$. Naturally, we have that when $\mu \geq \mu^*$, $V^p(N, \mu^H, \tau^N = \tau^p) \geq V^p(R, \mu^H)$, and the revolution is averted. Whereas when $\mu < \mu^*$, $V^p(N, \mu^H, \tau^N = \tau^p) < V^p(R, \mu^H)$, future transfers are expected to be sufficiently rare that even at the best possible tax rate for the citizens, there isn't enough redistribution in the future, and the citizens prefer a revolution rather than to live under nondemocracy with political power in the hands of the elite.

It is also useful to point out that the expression in (5.30) is identical to that in (5.15) from the static model with $p = 1 - \beta(1 - q)$, again emphasizing the similarity between the two models.

As in the static model, when $\mu > \mu^*$, the elite can avert revolution by setting a tax rate $\hat{\tau} < \tau^p$. This tax rate is such that $V^p(N, \mu^H, \tau^N = \hat{\tau}) = V^p(R, \mu^H)$, i.e., it just makes the citizens indifferent between revolution and living under nondemocracy with redistribution only during revolutionary periods. Using (5.21) and (5.28), we have that $\hat{\tau}$ is given by:

(5.31) $\mu = \theta - (1 - \beta(1 - q))(\hat{\tau}(\theta - \delta) - (1 - \delta)C(\hat{\tau})).$

Putting all these pieces together, we have the key proposition of this section, which even though more complicated, in many ways mirrors Proposition 5.3. This is also a common feature of many of the games analyzed in this book. We will always start with the simpler reduced-form (static) model, and then most of the time, show that are results hold in a more satisfactory dynamic model.

To state this result properly we shall now be more formal about the nature of Markov strategies in this game. In doing so however we can appeal directly to the notation we used to specify the strategies before Proposition 5.3. There actions were conditioned on whether μ was high or low and now this is the crucial state variable. This implies that a Markov strategy in the repeated game under consideration has exactly the same form as the equilibrium strategies in the game whose equilibria were analyzed in Proposition 5.3. This enables us to state:

Proposition 5.4: There in a unique Markov perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ of the game $G^\infty(\beta)$. Let μ^* and $\hat{\tau}$ be given by (5.30) and (5.31). Then in this equilibrium:

- If $\theta \leq \mu$, the elite never redistribute and the citizens never undertake a revolution.
- If $\theta > \mu$, then we have that:

(1) If $\mu < \mu^*$, promises by the elite are insufficiently credible to avoid a revolution. In the low state, the elite do not redistribute and there is no revolution, but in the high state a revolution occurs whatever tax rate the elite set.

(2) If $\mu \geq \mu^*$, the elite do not redistribute in the low state and set the tax rate $\hat{\tau}$ in the high threat state, just sufficient to stop a revolution. The citizens never revolt.

Here we have used the intuitive alternative form for stating the proposition. The differences between Propositions 5.3 and 5.4 are the formula for μ^* and the fact that the strategies are now Markov strategies in a repeated game, not strategies in an extensive form game.

It is most interesting to focus on the cases where $\theta > \mu$. Starting with the elite in power, if $\mu < \mu^*$, then they set a zero tax rate when $\mu_t = \mu^L$, but when the state transits to μ^H they are swept away by a revolution. The problem here is that although the elite would like to stay in power by offering the citizens redistribution, they cannot offer today enough to make the present value of nondemocracy to the citizens as great as the present value of revolution. To avoid a revolution they would have to pay not just now, but also in the future. Unfortunately, however, they cannot credibly promise to pay enough in the future and as a result the citizens find it optimal to revolt. In contrast, when $\mu \geq \mu^*$, the elite can prevent a revolution by redistributing. So in the state $\mu_t = \mu^L$, they set $\tau^N = 0$, and when $\mu_t = \mu^H$, they set a tax rate, $\tau^N = \hat{\tau}$, just high enough to prevent the revolution.

This proposition therefore shows how in a dynamic setting the ability of the elite to transfer resources to the citizens, in other words, the "credibility" of their promises, depends on the future allocation of political power. When q is very low, the citizens may have de facto political power today because of an effective revolution threat, but are very unlikely to have it again in the future. In this case, any promises made by the elite are not credible, and the citizens prefer to use their political power to transform society towards one that's more beneficial for themselves, taking a bigger slice of the cake. It is only when q is high, so that the de facto political power of the citizens is likely to recur in the future, that the promises made by the elite are sufficiently credible that a revolution can be averted.

There is an interesting paradox here. When q is high, so that the de facto political power of the citizens is more permanent, it is easier to avoid a revolution. This follows from the fact that μ^* defined by (5.30) is decreasing in q in the same way as the μ^* defined by (5.15) is decreasing in p. This is because when the power of the citizens is not transitory it is easier for the elite to make credible promises of redistribution in the future. This is somewhat counterintuitive because a simple intuition might have been that when the citizens were better organized and more powerful, a revolution would have been more of a threat. Here this is not the case because the future threat of revolution also enables more credible promises by the elite to stave off the revolution. We shall see in Chapter 7 that once we introduce democracy into the model this feature of the equilibrium allows us to provide an interesting interpretation to some historical facts about the incidence of democracy.

Notice also that, as in the last section, the critical threshold μ^* depends on the extent of inequality in society. In particular, the more unequal is society, i.e., the higher is θ, the higher is μ^*, and the more likely are revolutions. The reason is simple: with greater inequality, revolution is more attractive, and a greater amount of credible redistribution is necessary to avert the revolution.

7. Incentive Compatible Promises

The analysis in the previous section focused on Markov perfect equilibria, and showed how a revolution may arise as an equilibrium outcome. Since the political power of the citizens in the future was limited, any promise made by the elite when they keep political power in their own hands is imperfectly credible, and the citizens may prefer to take power today by revolution. An important ingredient of this story was the commitment problem: the elite find it optimal to revert back to their most preferred tax rate as soon as the threat of revolution disappears. This was a consequence of our restricting attention to Markovian strategies, since we imposed that, once the threat of revolution subsides, the elite would always choose the strategy that is in their immediate interests.

It is possible, however, that the elite can make certain other promises, for example, they might promise to redistribute in the future even if this is not in their immediate interests, and they can support this by the implicit understanding that if they deviated from this promise, when the threat of the revolution recurs again, the citizens would undertake a revolution, giving the elite a very low payoff—in other words, these promises could be supported by the threat of future punishments, or by "repeated-game" strategies. Punishments here correspond to actions that the citizens will take in the future (i.e., revolution), once the elite deviate from their prescribed behavior (renege on their promises), that will hurt the elite. When we allow players to play non-Markovian strategies the result will be the survival of nondemocracy for a larger set of parameter values. The important difference between Markovian and non-Markovian strategies is that the latter allow players to condition their actions at date t not only on the state at that date, but also on the previous history of play until that date.

This book is not the place to enter into a lengthy discussion of the theory of repeated games, so the analysis here will be brief (see Fudenberg and Tirole, 1991, chapter 5, for more on repeated games and Powell, 2004, for an analysis of the circumstances under which punishments strategies can solve problems of commitment in a class of games close to those we study in this book). What we want to show here is that this type of promise can go some way towards resolving commitment problems, but the underlying commitment problem will remain. It will still be the case that the elite cannot credibly promise arbitrarily large amounts of redistribution in the state where the revolution threat is not present, and as a result, the spirit of Proposition 5.4 will apply even with non-Markovian strategies.

Let us now take a situation where, in terms of Proposition 5.4, $\theta > \mu$ and $\mu < \mu^*$, so with the restriction to Markov perfect equilibria, the unique equilibrium involves a revolution. Let us see whether the elite can avert the revolution by using incentive-compatible promises supported

by future punishments. To do this, we first find the maximum value that the elite can give to the citizens, once we take into account potential punishment strategies. Since in general repeated games have many subgame perfect equilibria, we will focus on the subgame perfect equilibrium that is best for the elite. This subgame perfect equilibrium will prevent revolution for the largest possible set of parameter values, but there are other subgame perfect equilibria, which also prevent revolution for the same set of parameter values but give the citizens more than this. Nevertheless, the analysis of the specific equilibrium here will give the flavor of what types of outcomes can be supported in non-Markovian equilibria.

Suppose also that we start when the state is μ^L. We first calculate the value to the elite if they redistribute at the rate $\tau^N = \tau^H \leq \tau^p$ in the state $\mu_t = \mu^H$ and at the rate $\tau^N = \tau^L \leq \tau^p$ in the state $\mu_t = \mu^L$ (since we are no longer looking at Markovian strategies, $\tau^L > 0$ is now possible). We also suppose for now that the citizens will not undertake a revolution (later we will impose this as a constraint on the tax vector). By the same arguments as in the previous section, this value is given by

(5.32) $V^r(N, \mu^L, [\tau^L, \tau^H])$
$$= y^r + (\tau^L (\bar{y} - y^r) - C (\tau^L) \bar{y}) + \beta [qV^r(N, \mu^H, [\tau^L, \tau^H]) + (1-q)V^r(N, \mu^L, [\tau^L, \tau^H])].$$

Note that we are now using a different notation, $V^r(N, \mu^L, [\tau^L, \tau^H])$, rather than $V^r(N, \mu^L)$ as we did in the previous section. This is because while in the MPE, the elite always set $\tau^N = 0$ when $\mu_t = \mu^L$, this is no longer true. In particular, we are looking at situations in which the elite make credible promises of a tax rate of τ^L when $\mu_t = \mu^L$ and set a tax rate of τ^H when $\mu_t = \mu^H$. Our new notation captures this. The term μ^L refers to the fact that we are in state $\mu_t = \mu^L$, and $[\tau^L, \tau^H]$ is the vector of promised taxes starting with the tax rate in the state $\mu_t = \mu^L$.

The intuition for equation (5.32) is straightforward; the first term, $y^r + (\tau^L (\bar{y} - y^r) - C (\tau^L) \bar{y})$, is again the current return to the elite, given that there is taxation at the rate τ^L, and the second term is the continuation value, taking into account the fact that taxation will change to τ^H if the state switches to μ^H. By the same token, we also have

$$V^r(N, \mu^H, [\tau^L, \tau^H])$$
$$= y^r + (\tau^H (\bar{y} - y^r) - C (\tau^H) \bar{y}) + \beta [qV^r(N, \mu^H, [\tau^L, \tau^H]) + (1-q)V^r(N, \mu^L, [\tau^L, \tau^H])]$$

as the value starting in the state μ^H. Combining these two expressions, we obtain
(5.33)
$$V^r(N, \mu^L, [\tau^L, \tau^H]) = \frac{y^r + (1 - \beta q) (\tau^L (\bar{y} - y^r) - C (\tau^L) \bar{y}) + \beta q (\tau^H(\bar{y} - y^r) - C(\tau^H)\bar{y})}{1 - \beta}$$

as the value that the elite will receive if they stick to their 'promised' behavior summarized by the tax vector $[\tau^L, \tau^H]$. The key will be whether this behavior is "incentive compatible" for them, that is, whether they will wish to deviate from it now or in the future.

What happens if they deviate? Clearly, the answer depends on how the citizens react. We want to see whether we can make the promise by the elite to redistribute at the tax rate $\tau^L > 0$

in state μ^L credible. It is more likely to be credible, when deviation from it is less profitable, or when deviation from this prescribed behavior will be met by a severe punishment. The most severe punishment is that of a revolution by the citizens when the opportunity occurs again (it is never profitable for the citizens to undertake a revolution in the state $\mu_t = \mu^L$, since $\mu^L = 1$, so the threat to undertake such a revolution in the state $\mu_t = \mu^L$ will not be credible, and therefore never part of a subgame perfect equilibrium). Consequently, the best way to ensure that the elite do not deviate from their promises is to threaten them (credibly) with as severe a punishment as possible, that is, a revolution as soon as the state switches to $\mu_t = \mu^H$. So there will be a revolution the first time the state is $\mu_t = \mu^H$. What will happen until then? The elite are now deviating from their promised behavior, so in the meantime, they will adopt the best policy for themselves, so $\tau^N = \tau^r = 0$. Thus, what we have is a value $V_d^r(N, \mu^L)$ for the elite, where the subscript d denotes that they have deviated from their prescribed behavior, and this value is given by the following recursion:

$$V_d^r(N, \mu^L) = y^r + \beta \left[q V^r(R, \mu^H) + (1 - q) V_d^r(N, \mu^L) \right],$$

where we know that $V^r(R, \mu^H) = 0$. Using this fact, we have that

(5.34) $$V_d^r(N, \mu^L) = \frac{y^r}{1 - \beta(1 - q)}.$$

This analysis immediately establishes that only redistribution at the rate τ^L in the state $\mu_t = \mu^L$ such that

(5.35) $$V^r(N, \mu^L, [\tau^L, \tau^H]) \geq V_d^r(N, \mu^L).$$

is credible. If the inequality were reversed, the elite would prefer to deviate and give the citizens no redistribution in the state μ^L, and suffer the consequences, rather than tax themselves at the rate τ^L now (and at the rate τ^H when the state becomes high). Therefore, (5.35) is necessary for redistribution at the tax rate τ^L to be 'incentive compatible' for the elite and thus a credible promise to the citizens. The reader can also note that the tax rate $\tau^H \leq \tau^p$ in the state $\mu_t = \mu^H$ is automatically credible, because we are looking at the part of the parameter space where $\mu < \mu^*$, so any deviation by the elite from their promised actions in the high state can be immediately punished.

Now the subgame perfect equilibrium that is best for the elite, starting in the state μ^L, can be characterized as the solution to the following maximization problem:

(5.36) $$\max_{\tau^L, \tau^H} V^r(N, \mu^L, [\tau^L, \tau^H])$$

subject to (5.35) and

(5.37) $$V^p(N, \mu^H, [\tau^L, \tau^H]) \geq V^p(R, \mu^H),$$

where $V^p(N, \mu^H, [\tau^L, \tau^H])$ is the value to the citizens starting in the state μ^H from the tax vector $[\tau^L, \tau^H]$, and $V^p(R, \mu^H)$, as usual, is the value to the citizens from the revolution in the state μ^H given by (5.21) in the previous section.

While the first constraint ensures that the elite do not wish to renege on their promises, the second constraint requires that the citizens do not wish to undertake a revolution in the high state.

The value $V^p(N, \mu^H, [\tau^L, \tau^H])$ is obtained analogously to the values for the elite. In particular, we have the following value functions for the citizens. In the low state:

$$V^p(N, \mu^L, [\tau^L, \tau^H])$$
$$= y^p + (\tau^L (\bar{y} - y^p) - C(\tau^L) \bar{y}) + \beta [qV^p(N, \mu^H, [\tau^L, \tau^H]) + (1-q)V^p(N, \mu^L, [\tau^L, \tau^H])],$$

and in the high state,

$$V^p(N, \mu^H, [\tau^L, \tau^H])$$
$$= y^p + (\tau^H (\bar{y} - y^p) - C(\tau^H) \bar{y}) + \beta [qV^p(N, \mu^H, [\tau^L, \tau^H]) + (1-q)V^p(N, \mu^L, [\tau^L, \tau^H])].$$

Combining the two expressions, we obtain:

$$(5.38) \quad V^p(N, \mu^H, [\tau^L, \tau^H])$$
$$= \frac{y^p + \beta(1-q)(\tau^L(\bar{y} - y^p) - C(\tau^L)\bar{y}) + (1 - \beta(1-q))(\tau^H(\bar{y} - y^p) - C(\tau^H)\bar{y})}{1-\beta}.$$

Before providing a full solution to this maximization problem, it is straightforward to characterize the minimum value of μ^H, such that a revolution can be averted. We denote this threshold by μ^{**} with an analogy with the the threshold μ^* in the previous section. Formally, this threshold corresponds to the minimum value of μ^H such that the constraint set of the above optimization problem is non-empty. When the constraint set is empty, this implies that there is no tax vector $[\tau^L, \tau^H]$ that is simultaneously credible and can convince the citizens not to undertake a revolution, so there has to be an equilibrium revolution in the state μ^H.

To calculate this threshold, note that the largest value that τ^H can take is τ^p. Intuitively, in the high state, the elite are willing to give the maximum redistribution to avoid a revolution. What about τ^L? Once $\tau^H = \tau^p$, τ^L is then given by setting the incentive compatibility constraint of the elite, (5.35), as equality. Therefore, the largest amount of redistribution that can credibly be promised is that which stems from levying the tax rate $\bar{\tau}'$ in the state $\mu_t = \mu^L$ such that: $V_d^r(N, \mu^L) = V^r(N, \mu^L, [\bar{\tau}', \tau^p])$, or

$$\frac{y^r + (1 - \beta q)(\bar{\tau}'(\bar{y} - y^r) - C(\bar{\tau}')\bar{y}) + \beta q(\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y})}{1-\beta} = \frac{y^r}{1 - \beta(1-q)}.$$

Substituting for the definition of y^r and simplifying terms we obtain the maximum credible tax rate $\bar{\tau}'$ as:

$$(5.39) \quad \bar{\tau}'(\theta - \delta) + \delta C(\bar{\tau}') = \frac{\beta q}{(1 - \beta q)} \left[\frac{\theta}{1 - \beta(1-q)} - (\tau^p(\theta - \delta) + \delta C(\tau^p)) \right].$$

This tax rate, $\bar{\tau}'$, can be shown to be an increasing function of β; the more valuable is the future, the less attractive it is for the elite to deviate from the promised behavior, so the higher will be the maximum tax rate they can promise. This is intuitive, and in fact, a fundamental principle of analyses of repeated games; for a player not to take the action that is in their immediate interest, the benefits from this action need to be counterbalanced by some other,

future, considerations. Here, if they take these actions, they will be punished in the future. The more a player discounts the future or the less severe is the expected punishment, the harder it will be to convince him to stick to these promises.

The important point highlighted by (5.39) is that the elite do not have unrestricted powers to make promises: they have a limited capability, supported by the threat of future punishments. Any promises they make will be credible only if it is in their interests to carry out this promise at the time. Here, some positive redistribution even without the threat of revolution might be in their interests because otherwise they know that they will have to put up with a revolution later down the line. Nevertheless, this threat of future punishments can support only a limited amount of redistribution (the elite cannot credibly promise a tax rate greater than $\bar{\tau}'$ in the low state).

This analysis then implies that the question of whether a revolution can be averted boils down to whether the value to the citizens from redistribution at the tax rate $\bar{\tau}'$ in the state $\mu_t = \mu^L$ and at the tax rate τ^p in the state $\mu_t = \mu^H$, starting in the state $\mu_t = \mu^H$, is better than a revolution for the citizens. Or put differently, this is equivalent to whether the tax vector $[\bar{\tau}', \tau^p]$ is in the constraint set of the above maximization problem given by inequalities (5.35) and (5.37).

By analogy to the analysis in the previous section, we can see that the tax vector $[\bar{\tau}', \tau^p]$ is in the constraint set for all $\mu \geq \mu^{**}$, where μ^{**} is such that $V^p(N, \mu^H, [\bar{\tau}', \tau^p]) = V^p(R, \mu^H)$ when $\mu^H = \mu^{**}$. More explicitly, we have the threshold μ^{**} is the solution to:

$$(5.40) \qquad \mu^{**} = \theta - \beta\,(1-q)\left(\bar{\tau}'\,(\theta - \delta) - (1-\delta)C\left(\bar{\tau}'\right)\right)$$
$$- \left(1 - \beta\,(1-q)\right)\left(\tau^p(\theta - \delta) - (1-\delta)C(\tau^p)\right),$$

where $\bar{\tau}'$ is given by (5.39).

Recall that, using the notation in this section, μ^* is defined by $V^p(N, \mu^H, [0, \tau^p]) = V^p(R, \mu^H)$, so for all $\bar{\tau}' > 0$, we have

$$\mu^{**} < \mu^*,$$

which is clear from the formulas (5.30) and (5.40).

This implies that once we allow for the use of punishment strategies, there will be situations in which a revolution can be averted by incentive compatible promises, but could not have been averted otherwise. This will be true when $\mu \in [\mu^{**}, \mu^*)$. Nevertheless, as long as $\mu^{**} > 0$, there will still be situations, i.e. when $\mu < \mu^{**}$, in which the best that the elite can promise is not enough to avert a revolution. This again underlines the limited capability of the elite to make credible promises: only promises that will eventually be in their interest to carry out are credible.

This discussion leads to the main result of this section, which we informally state as:

>   **Result:** When we allow non-Markovian strategies, a revolution can be averted for all
> $\mu \geq \mu^{**}$. Here $\mu^{**} < \mu^*$, which means that greater redistribution is now possible, but

$\mu^{**} > 0$, which means that there are limits how much credible redistribution the elite can promise.

Now to state the results of this section more carefully and to complete the characterization of the equilibrium, we must define what a strategy is in this game. The main difference with the previous section is that we have dropped the restriction to Markov strategies and now a strategy can depend not just on the state at any date t but also on the history of play up to that date. Let $\mathcal{H}^{t-1}$ denote the set of all possible histories of play up to $t-1$ with a particular history being denoted $h^{t-1} \in \mathcal{H}^{t-1}$. The actions of the elite and citizens are now denoted by $\sigma^r = \{\tau^N(\cdot, \cdot)\}$ and $\sigma^p = \{\rho(\cdot, \cdot, \cdot)\}$ where $\tau^N(\mu_t, h^{t-1})$ is the tax rate set by the elite at date t when the current state is $\mu_t = \mu^H$ or μ^L and the observed history is h^{t-1}. Hence, τ^N : $\{\mu^L, \mu^H\} \times \mathcal{H}^{t-1} \to [0, 1]$. Similarly, $\rho(\mu_t, \tau^N, h^{t-1})$ is the decision by the citizens to initiate a revolution conditional on the the current state, the current actions of the elite, and the history. We have that $\rho : \{\mu^L, \mu^H\} \times [0, 1] \times \mathcal{H}^{t-1} \to \{0, 1\}$. Then, a subgame perfect equilibrium is a strategy combination, $\{\hat{\sigma}^r, \hat{\sigma}^p\}$ such that $\hat{\sigma}^r$ and $\hat{\sigma}^p$ are best-responses to each other for all possible histories $h^{t-1} \in \mathcal{H}^{t-1}$ and prior actions taken within the same stage game.

When $\mu < \mu^{**}$, the following strategy profile is the unique subgame perfect equilibrium: $\tau^N(\mu_t, h^{t-1}) = 0$ for $\mu_t \in \{\mu^L, \mu^H\}$ and any h^{t-1}, $\rho(\mu^L, \cdot, h^{t-1}) = 0$ and $\rho(\mu^H, \cdot, h^{t-1}) = 1$ for any h^{t-1}. For this set of parameter values, a revolution is sufficiently attractive that concessions will not work and the first time μ^H arises there will be a revolution whatever the previous history of play or the current tax rate. Since the elite know this they simply set zero taxes when μ^L occurs.

To understand the nature of the subgame perfect equilibrium when $\mu \geq \mu^{**}$, it is also useful to note that in this case there is an additional motive for the elite, "tax smoothing". Intuitively, the elite would like to deliver a given amount of redistribution to the citizens at the minimum cost to themselves. Since the cost of taxation given by the function $C(\cdot)$ is convex, this implies that taxes should exhibit as little variability as possible, in other words, they should be smooth.[4] This idea was first suggested by Barro (1979) in the context of optimal fiscal policy, but it applies equally here. Such tax smoothing was not possible before, because the elite could never promise to redistribute in the state μ^L. Now that this type of redistribution is possible, tax smoothing also emerges as a possibility.

The tax smoothing argument makes it clear that the cheapest way of providing utility of $V^p(R, \mu^H)$, is to set a constant tax rate, τ^S, such that

$$(5.41) \qquad V^p(N, \mu^H, [\tau^S, \tau^S]) = V^p(R, \mu^H),$$

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[4]More explicitly, consider a pair of taxes, τ^L and $\tau^H > \tau^L$ that satisfy (5.37). Now imagine we construct a weighted average of these two taxes, $\tilde{\tau} = [\beta(1-q)\tau^L + (1 - \beta(1-q))\tau^H]$. Inspection of (5.38) together with the (strict) convexity of $C(\cdot)$ immediately establishes that $V^p(N, \mu^H, [\tilde{\tau}, \tilde{\tau}]) > V^p(N, \mu^H, [\tau^L, \tau^H])$ so the tax vector $[\tilde{\tau}, \tilde{\tau}]$ also avoids a revolution. Moreover, again by the convexity of $C(\cdot)$, $V^r(N, \mu^L, [\tilde{\tau}, \tilde{\tau}]) > V^r(N, \mu^L, [\tau^L, \tau^H])$, so the tax vector $[\tilde{\tau}, \tilde{\tau}]$ also gives higher utility to the elite. This establishes that tax smoothing is preferable (if it is incentive compatible).

or, more explicitly, τ^S is given by:

$$(5.42) \qquad \mu = \theta - \beta \left(1 - q\right) \left(\tau^S \left(\theta - \delta\right) - \left(1 - \delta\right)C\left(\tau^S\right)\right)$$
$$- \left(1 - \beta\left(1 - q\right)\right) \left(\tau^S(\theta - \delta) - (1 - \delta)C(\tau^S)\right).$$

Therefore, redistributing at this rate is the best possible strategy for the elite. The question is whether this tax vector is incentive compatible, i.e., whether it satisfies (5.35). The same arguments as above immediately imply that the vector $\left[\tau^S, \tau^S\right]$ will be incentive compatible as long as $\tau^S \leq \bar{\tau}^S$ where $\bar{\tau}^S$ is given by

$$(5.43) \qquad \bar{\tau}^S \left(\theta - \delta\right) + \delta C \left(\bar{\tau}^S\right) = \frac{\beta q}{(1 - \beta q)} \left[\frac{\theta}{1 - \beta \left(1 - q\right)} - \left(\bar{\tau}^S \left(\theta - \delta\right) + \delta C(\bar{\tau}^S)\right) \right],$$

which is similar to (5.39) above with the vector $\left[\bar{\tau}^S, \bar{\tau}^S\right]$ replacing $\left[\bar{\tau}', \tau^p\right]$.

Then the question of whether perfect tax smoothing can be achieved simply boils down to whether any tax rate $\tau^S \leq \bar{\tau}^S$ satisfies (5.41). Again similar arguments to before immediately establish that there exists a level of μ^H, here denoted $\bar{\mu}^S$, and given by

$$(5.44) \qquad \bar{\mu}^S = \theta - \beta \left(1 - q\right) \left(\bar{\tau}^S \left(\theta - \delta\right) - \left(1 - \delta\right)C\left(\bar{\tau}^S\right)\right)$$
$$- \left(1 - \beta\left(1 - q\right)\right) \left(\bar{\tau}^S(\theta - \delta) - (1 - \delta)C(\bar{\tau}^S)\right),$$

such that when $\mu \geq \bar{\mu}^S$, a perfectly smooth credible tax policy will prevent revolution.

Clearly $\bar{\mu}^S > \mu^{**}$ (on the other hand, $\bar{\mu}^S$ can be greater than or less than μ^*). When $\mu \geq \bar{\mu}^S$, the best possible subgame perfect equilibrium for the elite is a strategy combination that corresponds to the tax vector $\left[\tau^S, \tau^S\right]$ (which, by construction, prevents revolution at the lowest possible cost). More explicitly, let us define the history $\hat{h}^t$ such that $h^t = \hat{h}^t$ if for all $s \leq t$, $\tau^N(\mu^L, h^s) = \tau^S$ where τ^S is given by (5.41) above. Then, the subgame perfect equilibrium is given by the following strategy combination. For the elite:

$$(5.45) \qquad \tau^N(\mu_t, h^{t-1}) = \begin{cases} \tau^S \text{ if } h^{t-1} = \hat{h}^{t-1} \\ 0 \text{ if } h^{t-1} \neq \hat{h}^{t-1} \end{cases}$$

for $\mu_t \in \{\mu^L, \mu^H\}$, and for the citizens: $\rho(\mu^L, \cdot, h^{t-1}) = 0$, and

$$\rho(\mu^H, \tau^N, h^{t-1}) = \begin{cases} 0 \text{ if } h^{t-1} = \hat{h}^{t-1} \text{ and } \tau^N \geq \tau^S \\ 1 \text{ if } h^{t-1} \neq \hat{h}^{t-1} \text{ or } \tau^N < \tau^S \end{cases}.$$

Note that in this case, as before, strategies specify how a player will play even off the equilibrium path, which now includes all possible histories up to that point. In particular, here $\hat{h}^{t-1}$ denotes the equilibrium path. Then as long as play is on this path, the elite set τ^S in both states, and the citizens never revolt. However, if the elite ever set a tax rate less than τ^S, then we will move along some history $h^{t-1} \neq \hat{h}^{t-1}$ and the strategies say that the first time the state is $\mu_t = \mu^H$ the citizens undertake a revolution. How do we know that in such a situation it will actually be credible for the citizens to undertake a revolution? This comes from (5.45), which states that if the elite find themselves setting the tax rate after some history different from $\hat{h}^{t-1}$, then they set the tax rate to zero. Thus the poor understand that if they do not undertake a revolution following a deviation from the prescribed behavior, they will never

get any redistribution from that point on in the game. Therefore, as long as the revolution constraint $\theta > \mu$ holds, it will be optimal to undertake a revolution following a deviation by the elite.

Finally, when $\mu \in [\mu^{**}, \bar{\mu}^S)$, revolution can be averted, but perfect tax smoothing is no longer possible. In this case, it can be seen that the best subgame perfect equilibrium for the elite is a tax vector $\left[\hat{\tau}^L, \hat{\tau}^H\right]$ which is the solution to (**??**) and satisfies:

$$(5.46) \qquad \hat{\tau}^L \left(\theta - \delta\right) + \delta C \left(\hat{\tau}^L\right) = \frac{\beta q}{(1 - \beta q)} \left[\frac{\theta}{1 - \beta \left(1 - q\right)} - \left(\hat{\tau}^H \left(\theta - \delta\right) + \delta C(\hat{\tau}^H)\right) \right],$$

and

$$(5.47) \qquad \mu = \theta - \beta \left(1 - q\right) \left(\hat{\tau}^L \left(\theta - \delta\right) - (1 - \delta)C \left(\hat{\tau}^L\right)\right)$$
$$- \left(1 - \beta \left(1 - q\right)\right) \left(\hat{\tau}^H(\theta - \delta) - (1 - \delta)C(\hat{\tau}^H)\right),$$

and the corresponding subgame perfect strategies are:

$$\tau^N(\mu^L, h^{t-1}) = \left\{ \begin{array}{l} \hat{\tau}^L \text{ if } h^{t-1} = \hat{h}^{t-1} \\ 0 \text{ if } h^{t-1} \neq \hat{h}^{t-1} \end{array} \right. , \quad \tau^N(\mu^H, h^{t-1}) = \left\{ \begin{array}{l} \hat{\tau}^H \text{ if } h^{t-1} = \hat{h}^{t-1} \\ 0 \text{ if } h^{t-1} \neq \hat{h}^{t-1} \end{array} \right. ,$$

$\rho(\mu^L, \cdot, h^{t-1}) = 0$, and

$$\rho(\mu^H, \tau^N, h^{t-1}) = \left\{ \begin{array}{l} 0 \text{ if } h^{t-1} = \hat{h}^{t-1} \text{ and } \tau^N \geq \hat{\tau}^H \\ 1 \text{ if } h^{t-1} \neq \hat{h}^{t-1} \text{ or } \tau^N < \hat{\tau}^H \end{array} \right. .$$

Summarizing this discussion, we have

Proposition 5.5: Assume $\theta > \mu$. Let μ^{**} and $\bar{\mu}^S > \mu^{**}$ be given by (5.40) and (5.44). Then, the subgame perfect equilibrium that is best from the viewpoint of the elite, $\{\hat{\sigma}^r, \hat{\sigma}^p\}$, of the game $G^\infty(\beta)$ is such that:

(1) if $\mu < \mu^{**}$, then $\tau^N(\mu_t, h^{t-1}) = 0$ for $\mu_t \in \{\mu^L, \mu^H\}$ and any h^{t-1}; and $\rho(\mu^L, \cdot, h^{t-1}) = 0$ and $\rho(\mu^H, \cdot, h^{t-1}) = 1$ for any $h^{t-1} \in \mathcal{H}^{t-1}$.

(2) if $\mu \geq \bar{\mu}^S$, $\tau^N(\mu_t, h^{t-1}) = \tau^S$ for $\mu_t \in \{\mu^L, \mu^H\}$ and $h^{t-1} = \hat{h}^{t-1}$, where τ^S is given by (5.42); $\tau^N(\mu_t, h^{t-1}) = 0$ for $\mu_t \in \{\mu^L, \mu^H\}$ and $h^{t-1} \neq \hat{h}^{t-1}$, $\rho(\mu^L, \tau^N, h^{t-1}) = 0$; $\rho(\mu^H, \tau^N, h^{t-1}) = 0$ for $h^{t-1} = \hat{h}^{t-1}$ and $\tau^N \geq \tau^S$; and $\rho(\mu^H, \tau^L, h^{t-1}) = 1$ for any $h^{t-1} \neq \hat{h}^{t-1}$ or $\tau^N < \tau^S$.

(3) if $\mu \in [\mu^{**}, \bar{\mu}^S)$, then $\tau^N(\mu^L, h^{t-1}) = \hat{\tau}^L$ and $\tau^L(\mu^H, h^{t-1}) = \hat{\tau}^H$ for $h^{t-1} = \hat{h}^{t-1}$ where $\hat{\tau}^L$ and $\hat{\tau}^H$ are given by (5.46) and (5.47); $\tau^N(\mu_t, h^{t-1}) = 0$ for $\mu_t \in \{\mu^L, \mu^H\}$ and $h^{t-1} \neq \hat{h}^{t-1}$; $\rho(\mu^L, \cdot, h^{t-1}) = 0$; $\rho(\mu^H, \tau^N, h^{t-1}) = 0$ if $h^{t-1} = \hat{h}^{t-1}$ and $\tau^N \geq \hat{\tau}^H$; and $\rho(\mu^H, \tau^N, h^{t-1}) = 1$ if $h^{t-1} \neq \hat{h}^{t-1}$ or $\tau^N < \hat{\tau}^H$.

The important point that emerges from Proposition 5.5 is that there is now a larger set of parameter values that will allow the elite to avoid revolution. In other words, in societies with μ such that $\mu^{**} \leq \mu < \mu^*$, there will be equilibrium revolutions if we do not allow the elite to make incentive compatible promises of redistribution in future low-revolution threat periods, but these revolutions can be avoided once we allow such promises. Moreover, even when $\mu \geq \mu^*$, the elite can achieve a better outcome for themselves by smoothing taxes because of the possibility of using incentive compatible promises.

Nevertheless, it is important to emphasize that the elite still have limited abilities to make credible promises. Only promises of redistribution at the tax rate τ^L that satisfy $V^r(N, \mu^L, [\tau^L, \tau^H]) \geq V_d^r(N, \mu^L)$ are incentive compatible, and this implies that in societies with $\mu < \mu^{**}$ the same considerations as in Proposition 5.4 will apply and credible redistribution will not be enough to convince the citizens to live under nondemocracy, and they will prefer alternative routes. Here the only option open to them is revolution. In the next chapter, we will see how the elite can try to convince them not to undertake a revolution by offering a change in political institutions to make future redistribution more credible. Democratization will give the citizens political power, and thereby make much higher levels of future redistribution credible.

8. Conclusion

In this chapter we have developed our basic model of nondemocratic politics and introduced the fundamental issue of political commitment which underlies much of our approach. We studied how, in the face of the threat of collective action and revolution, a nondemocratic regime would want to make concessions to avoid being expropriated. Nevertheless, because revolutionary threats are intrinsically transitory, the promise of concessions may not be sufficiently credible. When the revolution threat dissipates, the regime may renege on its promises, as we illustrated with some historical examples.

If citizens anticipate that the nondemocratic regime will renege on its promises, the regime may be swept away by a revolution.

We illustrated these ideas first in a static extensive-form game where we introduced an exogenous probability that a promise by the regime will be kept. Though this model is useful and tractable, the exogenous probability of reneging is too reduced-form. For this reason, we also developed a richer dynamic model where the regime can make promises for today, but cannot make promises for the future. We showed how the qualitative results of the dynamic model are identical to those of the static model.

Nevertheless, the options we have allowed so far are restrictive: for example, might such a regime not have other instruments it could use other than policy concessions such as income redistribution? The answer to this is yes and in Chapter 6 we argue that democratization precisely arises as a credible concession by the elite to stop a revolution. By democratizing, the elite allow the citizens to set the tax rate not only today, but also in the future, and this makes their concessions credible. However, even there our discussion will not be complete. Rather than make any type of concession the elite might try to use repression to avoid a revolution or to avoid having to democratize. We therefore also take up the issue of the interaction between concessions, democratization and repression in Chapter 6. Chapter 6 also discusses in more detail the conceptual foundations of our approach to democratization, in particular stressing why institutional change can help to solve commitment problems.

Part 3

The Creation and Consolidation of Democracy

CHAPTER 6

Democratization

1. Introduction

In this chapter, we motivate and develop our basic model of democratization. Individuals have preferences over different political institutions because they anticipate the different actions that political actors will take under these institutions, and thus the resulting different policies and social choices. In this sense, our analysis will build on our modeling of democracy and nondemocracy in the previous two chapters.

2. The Role of Political Institutions

Why do we need to talk about institutions at all? Why not simply say that the elite and the citizens have preferences over different policies, and political conflict between them will result in a set of policies favoring one group or the other? We will argue that there is more to the conflict between various social groups than the conflict over policies. Conflict over policies is static—it is about what happens today. Rational actors also care about the future. This is where political institutions, which are durable and consequently have the capacity to influence political actions and political equilibria in the future, come in. We therefore need to think seriously about political institutions in a dynamic setting, and via this process, we can develop a theory of the emergence, and later consolidation, of democracy. Crucial to this is a notion of what political institutions do.

We emphasize that *political institutions* regulate the allocation of *de jure political power*. Political power is a measure of how influential a particular group (or individual) is in the political arena when there is conflict over which policy should be implemented. If the elite are the rich and if they are more powerful, we expect lower taxes, lower redistribution, and generally a range of policies favoring the rich rather than the poor. Political power is, therefore, inherent in every discussion of aggregating conflicting preferences. Various models of democracy aggregate these preferences differently, and therefore, as we pointed out in Chapter 4, they naturally allocate different amounts of political power to different groups. Nevertheless, critical to our approach is the assumption that typically the majority of citizens will have more political power in a democratic society than a nondemocratic one.

Forward-looking rational economic actors not only care about economic allocations and therefore policies today, but about the economic allocations and policies in the future. Therefore, political power is valuable and all groups would like to somehow ensure greater political power for themselves in the future. Political institutions can influence the allocation of de jure political

power in the future by virtue of being *durable*. Our approach to institutions is based on the assumption that policies, even though they can sometimes be difficult to reverse, are on the whole easier to reverse than institutions. Therefore, democratization enables the citizens not only to be more powerful today, but also to be more powerful in the future relative to an alternative regime that is nondemocratic. Hence, democratization is a way of transferring political power to the majority of citizens. If the citizens are able to secure democracy today, they will increase their de jure political power in the future, because as long as democracy survives, they will have more say in the determination of economic and social policies.

How do the citizens ensure that society becomes democratic? They can only do so if they have sufficient political power. Clearly, starting from a situation of nondemocracy, the citizens are excluded from voting, or at the very least, their preferences matter only little. So how could they have political power? The answer to this question is that political power is not only vested in the formal rules. It can also take the form of de facto political power. The citizens could have political power in nondemocracy if they pose a credible threat of revolution or of significant social unrest which damages the economic and social interests of the elite controlling de jure political power. Throughout this book, when we talk of political power it includes both the power that comes from political institutions, as well as the ability of the citizens to challenge the system or the ability of the elite to undertake a coup etc.—i.e., de facto ways of obtaining power. In other words, for our purposes, political power is anything that enables a social group to come close to its preferred policies, de jure or de facto.

But our story is not complete yet. So far, what we have argued can be summarized diagrammatically as follows:

$$\begin{array}{ccccccc} \text{political} & & \text{political} & & \text{political} & & \text{de jure political} \\ \text{power}_t & \implies & \text{institutions}_t & \implies & \text{institutions}_{t+1} & \implies & \text{power}_{t+1} \end{array}$$

Groups that have political power today can introduce, or force others to introduce, political institutions that favor them. These political institutions will persist and regulate the allocation of political power in the future. Therefore, democratization enables the citizens to increase their political power in the future. But why do the citizens need political institutions to ensure their political power tomorrow? After all, they have political power today?

In our theory, political institutions are particularly useful when de facto political power is *transitory*, in the sense that, who has more de facto political power today is generally different from who will have de facto political power tomorrow. This transitory nature might result from a variety of economic, social and political shocks to the system. Indeed, we saw in Chapter 5 that the empirical literature on the collective action problem emphasizes that even when the collective action problem can be solved, such solutions tend to be transitory. The fact that a group has solved the collective action problem today does not guarantee that they will manage to solve it tomorrow. There may be a recession today, creating political instability, giving an advantage to whichever group wants to use de facto means to influence political outcomes, but recessions are often transitory, tomorrow there may be a boom.

Now imagine a situation where the citizens have de facto political power today, but they expect not to have similar political power tomorrow. In this situation, they would have a demand for a set of institutions that will *lock in* their political power. This is precisely what democratic institutions may do. The de facto power of the citizens that comes from an unusual event, such as a political crisis, or the end of a war, becomes institutionalized and translated to future political power by the introduction of relatively free and fair elections where the votes of all citizens, not just the elite, count.

There is one final step in our argument. Democratization is a move from nondemocracy to democracy, and in nondemocracy, the elite make the decisions. Therefore, democratization happens when the elite decide to "extend the franchise" and include wider segments of society in the decision-making process. This is not only a theoretical statement. As our discussion in the Introduction and Chapter 2 illustrated, almost all major moves towards democracy in 19th-century Europe and 19th and 20th-century America were extensions of the franchise by the existing political system to previously-excluded segments of society.

Why would they do so? The answer is that the temporary de facto political power of the citizens in nondemocracy comes from actions they can take that are costly to the system, such as revolution or significant social unrest. The elite would like to prevent this, and they are willing to make concessions in order to do so. But the citizens care not only about allocations and policies today, but about those in the future. Therefore, typically, the elite have to make promises about future concessions as well as current concessions. But when the revolution threat subsides—the crucial transitory nature of de facto political power!—these promises may be broken. Consequently, the elite would like to make credible commitments. This is where the commitment value of institutions is relevant. Democratization ensures a credible transfer of political power to the majority of citizens, increasing the likelihood that the promises of the elite will be honored. Therefore, democratization occurs when the elite would like to make a credible commitment to future policies, and they can only do so by relinquishing (part of their) political power, the de jure part, to the citizens.

Diagrammatically our theory can be summarized as:

$$
\begin{array}{ccccccc}
\text{temporary political} & & & & & & \text{more} \\
\text{power for the citizens} & & \text{elite need} & & \text{introduction} & & \text{political power} \\
\text{from threat of} & \Longrightarrow & \text{to commit to} & \Longrightarrow & \text{of} & \Longrightarrow & \text{for the citizens} \\
\text{revolution or} & & \text{future} & & \text{democracy} & & \text{in the future} \\
\text{social unrest} & & \text{policies} & & & &
\end{array}
$$
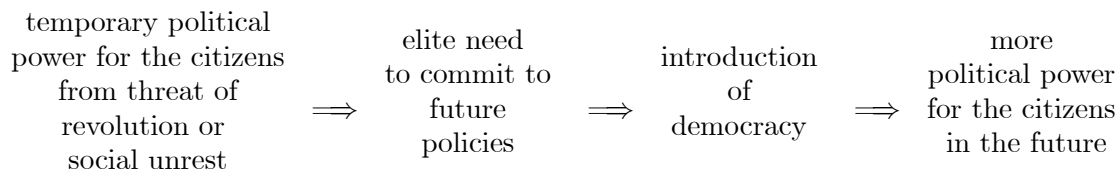
3. Preferences over Political Institutions

In this section, we illustrate the basic conflict over political institutions, in particular democracy vs. nondemocracy. With this purpose, let us return to the basic two-class model discussed in Chapter 4. Total population is normalized to 1, a fraction $1 - \delta > 1/2$ of the agents are poor with income y^p, and the remaining fraction δ is rich with income $y^r > y^p$. The rich are the elite and the poor the citizens. Mean income is denoted by $\bar{y}$, and as before, we use the notation θ to

parameterize inequality. The incomes of poor citizens and rich elite are given by (4.7) and the preferred tax rate of a poor citizen satisfies (4.11).

We will also use the notation for indirect utility introduced in Chapter 4: $V\left(y^i \mid \tau\right)$ denotes the utility of an agent with income level y^i when policy is given by τ. Now define $V^p\left(D\right) \equiv V\left(y^p \mid \tau^p\right)$ as the indirect utility of a poor agent when the tax rate is equal to τ^p. Equivalently, in democracy all citizens have the same political preferences and they will vote for τ^p, so the equilibrium tax rate in democracy is τ^p. Therefore, $V\left(y^p \mid \tau^p\right)$ is also the indirect utility of a citizen in democracy, $V^p\left(D\right)$ (D is for democracy). Similarly, $V^r\left(D\right) \equiv V\left(y^r \mid \tau^p\right)$ is the indirect utility of a member of the elite in democracy. In nondemocracy, the most preferred tax rate of a member of the elite, $\tau^r = 0$, will result, and so $V^p\left(N\right) \equiv V\left(y^p \mid \tau^r\right)$ is the indirect utility of a citizen in nondemocracy (N is for nondemocracy), where the equilibrium tax rate is $\tau^r = 0$. Finally, $V^r\left(N\right) \equiv V\left(y^r \mid \tau^r\right)$ is the indirect utility of an elite agent in nondemocracy.

We have that:

$$(6.1) \qquad\qquad V^p\left(D\right) > V^p\left(N\right) \text{ while } V^r\left(D\right) < V^r\left(N\right).$$

In other words, citizens obtain higher utility and income in democracy, while a member of the elite obtains higher income in nondemocracy.

An immediate implication of this observation is that there is *conflict* over political institutions, i.e., over whether the society should be democratic or nondemocratic. In democracy, the citizens get relatively higher benefits, while the elite benefit in nondemocracy.

4. Political Power and Institutions

4.1. Institutions vs. Policies. What is the difference between institutions and policies? Both in political science and in other social sciences, there is an implicit understanding that institutions and policies are significantly different objects. For example, very few people would think that tax policy is an "institution," while whether there is a constitution or whether the society is democratic, are generally seen as relating to institutions. So what's the difference?

The Nobel prize winning economic historian Douglass North defines institutions as "the rules of the game in a society or, more formally ... the humanly devised constraints that shape human interaction" (North, 1990, p. 3). This definition of institutions is useful when we want to think of the broad set of institutions, encompassing many diverse social and political aspects underlying economic decisions and the organization of economic and social activity. However, for our purposes it might also be too broad. For us, the main difference between policies and institutions is their "durability", and the ability of institutions to influence the allocation of political power in the future resulting from this durability. Policies are much easier to reverse, whereas institutions are more durable. Moreover, institutions determine how the political preferences of various groups are aggregated into social choices. Therefore, introducing a set of institutions today influences how powerful various different social groups will be not only today, but also tomorrow.

Their durability and their ability to influence the allocation of power in the future make institutions valuable as a commitment device. To see this, recall that the commitment problem in politics, already discussed in Chapter 5, arises because the group in power, the elite, make promises for the future, but later, honoring these promises is not in their interests. They would rather renege, and revert to a different course of action or choose different policies. We refer to this as a commitment problem because the group in power cannot *credibly promise* certain policies. The commitment problem is intimately linked to the fact that political power will be in the hands of a particular group in the future, and they can use this political power to revert to different policies instead of those that they promised. This account also suggests why institutions could be very useful as a *commitment device* because they influence the future allocation of political power. Put simply, if a particular group wants to make a commitment to a course of action, what better way to make this credible than give more power to the party that wants to see this course of action implemented? In other words, the commitment problem emerges because there was a "decoupling" between those who had political power and those who benefited from the promised policies. Change the identity of who has political power, and promises become credible.

We are not the first ones to emphasize the commitment value of institutions. Although this theme appears in many writings, and is implicit in others (for example the literature on structure induced equilibrium, see Shepsle, 1979, Romer and Rosenthal, 1978, and Shepsle and Weingast, 1984), it is probably most clearly associated with the seminal paper by North and Weingast (1989). North and Weingast argued that the establishment of the constitutional regime in Britain after the Glorious Revolution of 1688 provided commitment that the Crown would not repudiate on its debt and thus increased its borrowing capacity. This led to fundamental changes in financial institutions and provided part of the preconditions for the industrial revolution.

What does this institutional change correspond to in practice? And how is it achieving this commitment? Thinking about these questions clarifies the role of institutions in this specific context, and more generally, their role in our approach to political institutions and to democratization. The first important feature is that institutions are durable. After the Glorious Revolution, the ruler could not revert back to the days when he had been able to arbitrarily manipulate debt and tax policy without the agreement of Parliament. The Glorious Revolution introduced regular parliaments (previously they had to be 'called' by the King) and gave parliament control over fiscal matters. Second, these institutions constrain the behavior of the ruler. It is this feature of the institutions that makes them a credible commitment to repay the debt.

North and Weingast's explanation is compelling and it also gives a very good description of the various issues involved in one of the major examples of institutional change in European history. Why is it that these new institutions make repayment credible? Why, if Parliament was strong enough to remove the legitimate King, James II, from office, did it need to alter institutions in order to make sure that future Kings would not renege on their debt? A full exploration of the answer to this question will take us to political power and the relationship between political power and institutions. When it deposed James II, Parliament used its de facto

political power, and that of the Dutch who sent an army to help them. However, this situation was transitory. The Dutch were not going to send an army every time Parliament asked for it (for one thing they were busy fighting the French). So Parliament changed the political institutions in Britain to try to lock in their transitory de facto power. The new institutions allocated de jure political power to Parliament, if not completely, then much more so than previously. Moreover, this new allocation of power guaranteed that the King would not be able to default on his debt because much of this debt was held by Parliament who therefore had an interest in making sure that it was paid off (Stasavage, 2003).

Similar issues will be important in our theory of democratization: the elite will be forced to democratize in order to prevent a revolution by the disenfranchised. Once established, democracy will create durable changes in the political arena and these changes will constitute a sufficiently credible commitment to give the citizens power and the policies they want in the future.

4.2. Institutions and Commitment. Our discussion of North and Weingast (1989) raises a fundamental question: why do institutions provide commitment at all? In our model this is because de jure political institutions determine who can take what actions and when. For instance, in a democracy, policies are determined by majority voting and this means that the citizens can get what they want if the elite do not have de facto power to challenge the citizens. When democracy is created, the citizens understand that the institutions will give them de jure political power, and this serves as a commitment to more pro-majority policies, even if they do not have de facto power in the future.

Moreover, there are natural reasons for why it will be costly to replace democracy once it has been created, most obviously because groups invest in particular sets of institutions (Brainard and Verdier, 1997, Coate and Morris, 1999, Acemoglu and Robinson, 2001). To take one example, it was only after the Second Reform Act in 1867 in Britain that the Conservative and Liberal Parties began to organize themselves as mass parties and create the institutions needed to compete as national organizations. They created Conservative and Liberal clubs and countrywide networks of organizers who were needed to mobilize the new mass electorate. These are specific investments whose value would be destroyed if democracy ceases to function. This makes democracy persist because it gives people a greater incentive to fight for it ex post. Moreover, the creation of these organizations specific to democracy makes it easier to solve the collective action problem once they have been created. These are fundamental reasons why democracy, once created, is hard, though not impossible, to reverse and this is why it, as a set of political institutions, has commitment power.

4.3. Political Power. The discussion thus far emphasizes that political power has different facets. Obviously, political institutions endow political power on those who control the presidency or the legislature. For example, the Constitution of the United States allocates power to propose and make laws and this gives groups who are successful in elections the power to determine policies in their favor. Yet there is clearly more to political power than this. Consider

the case of Venezuela. President Hugo Chavez was elected President by an overwhelming majority in 1998 and was able to closely control a process of re-writing the Constitution in 1999, which increased his powers substantially. Chavez therefore has a lot of de jure political power. Yet other groups, who neither control the presidency nor had any impact on the process of re-drafting the Constitution also have a lot of de facto political power. Forces that oppose the policies that Chavez prefers, for example the managers of the state oil company, can organize strikes which bring the economy to its knees as they did for two months after December 2002. Political opponents can also organize street demonstrations to demand that the regime changes its policies, even if they have no de jure political power with which to influence such policies. Such economic decisions and collective actions are costly for the regime.

Nevertheless, such power to challenge regimes is by its nature transitory. While the striking oil workers imposed heavy costs on the economy and hurt the regime, they simultaneously hurt themselves and their families. Strikes must by necessity be transitory. Moreover, strikes are hard to organize and sustain and their power depends on other factors which change over time such as the world price of oil. The power of the oil workers in Venezuela also depends on the geopolitical importance of oil and the fact that the United States imports 15% of its oil from Venezuela. This induces the U.S. administration to intervene in Venezuelan politics to keep the oil flowing. However, the nature of such interventions depends on the character of the U.S. administration which changes over time, again making de facto power transitory.

One could argue that the threat of strikes or demonstrations could be continually present and this would be sufficient to induce Chavez to change his policies. Yet it is clear that Chavez did not make any concessions until these threats actually manifested themselves in strikes and demonstrations. Generally it will be unclear whether threats to organize strikes are really credible since the actions of many people have to be coordinated and the strike may fail because the regime can organize strike-breaking activities. Even once a strike or demonstration has occurred there is no guarantee that another one can easily be orchestrated in the future. These factors indicate why the opponents of Chavez were not content with policy concessions since they anticipate that these can be reversed. The only thing that would have satisfied them was the removal of the president, and thus a change in the allocation of de jure power.

In the context of democratization, one of the nicest examples of the relationship between transitory shocks and switches in political power was pointed out by Therborn (1977) who observed that many democratizations took place following wars. This fits well with our theory since a war will be a time when the citizens, who make up the armed forces, will have a lot of temporary power until they are demobilized. This threat can clearly be seen in the democratizations in countries such as Germany after World War I.

An important point about political power therefore is that it's not necessarily "stationary"— which group has political power changes over time because of economic and political shocks and social changes. This is particularly true for de facto power, and we have already seen an example of transitory political power in our simple model of dictatorship. Interestingly, the transitory nature of de facto power, has been explicitly noted in the transitions literature by O'Donnell

and Schmitter (1986, p. 26) who describe the dynamics of collective action in opposition to an authoritarian regime as follows:

> "this wave crests sooner or later ... A certain normality is subsequently reasserted as some individuals and groups depoliticize themselves again, having run out of resources or become disillusioned, and as others de-radicalize themselves ... Still others simply become tired of constant mobilization and its intrusion into their private lives."

5. A 'Static' Model of Democratization

We now build a model that features all the essential elements of our approach to democratization. As well as political conflict and the commitment role of institutions, this approach features transitory political power for the disenfranchised coming from a revolution threat. Under certain circumstances, the elite are induced to democratize as a credible commitment to future pro-citizen policies in order to prevent a revolution. In this chapter we shall proceed by assuming that once created democracy is consolidated. We defer a study of coups against democracy to the next chapter.

There are two groups, the rich and poor, with fractions, δ and $1 - \delta$. The elite are the rich and the citizens are the poor though in section 9 of this chapter we show that the results of the analysis are robust to alternative structures of political identities. Individual preferences are defined over post-tax incomes, given by

$$\hat{y}^i = (1 - \tau) y^i + (\tau - C(\tau)) \bar{y}$$

and society starts in a nondemocracy where government policy is decided by the elite.

Recall that when the elite have uncontested political power, they will choose zero taxes and no redistribution of income, i.e., $\tau^r = 0$. In contrast, the most preferred tax rate for the citizens is $\tau^p > 0$, given by (4.11). The comparative statics of τ^p will also play an important role. Recall from our discussion above that a greater level of inter-group inequality, i.e., a higher level of θ, increases the desired tax rate of the citizens, hence $d\tau^p/d\theta > 0$.

Let us now summarize the timing of the extensive form game between the elite and the citizens where the sequence of moves is depicted in the game tree in Figure 6.1. Following the discussion of the game depicted in Figure 5.3, we can conceive of the initial choice being made by 'nature' which determines the value of a shock which affects how attractive it is to challenge the regime. However, as we discussed in Chapter 5, in the static model there is no loss in suppressing the state L, dropping this branch from the tree, and simply focusing on the one state where the nondemocratic regime is challenged. This being the case we also suppress the notation H exactly as we did before. Hence Figure 6.1 differs from Figure 5.3 in that the left-side of the tree, that following the branch L, is dropped.

The elite have political power initially and move before the citizens. They first decide whether to create a democracy, the branch labelled D, or not, the branch N. As in the last chapter, we denote the tax rate set by the elite in nondemocracy by τ^N and we shall now use

the notation τ^D to refer to the tax set in democracy by the median voter. If they choose D, democracy is established and the median voter, a poor agent, sets the tax rate. If they do not democratize, then the tax rate is determined by the elite. Following this policy decision, the citizens decide whether or not to initiate a revolution. Following our discussion in Chapter 5, revolutions generate private benefits for individuals who take part in them and there is therefore no collective action problem. If a revolution is attempted and a number $\xi^p \leq 1 - \delta$ of the citizens take part, it always succeeds. After a revolution, poor citizens expropriate the income of the elite. However, during a revolution a fraction $\mu > 0$ of the income of the economy is destroyed. A high value of μ implies that a revolution is relatively costly.

These assumptions, as in the analysis of Chapter 5, imply that after a revolution each citizen receives a payoff of

$$(6.2) \qquad V^p(R, \mu) = \frac{(1 - \mu)\bar{y}}{1 - \delta},$$

the elite are expropriated in a revolution and we assume that they receive nothing, i.e., $V^r(R, \mu) = 0$.

We again say that *the revolution constraint is binding* if the citizens obtain more in revolution than they would do when the elite implement their ideal policy, τ^r. Therefore, the revolution constraint is binding if $V^p(R, \mu) = (1 - \mu)\bar{y}/(1 - \delta) > y^p$, or if

$$(6.3) \qquad \theta > \mu$$

As in Chapter 5 greater inequality, i.e., higher θ, makes the revolution constraint more likely to bind. Also naturally, a low level of μ, i.e., greater income for the citizens after a revolution, makes revolution more attractive, and the revolution constraint, (6.3) more likely to bind. If the citizens undertake a revolution, branch R, then the game ends with payoffs to the citizens and to the elite of $(V^p(R, \mu), V^r(R, \mu))$.

If democracy has been created and there is no revolution, we are along the branch (D, NR). In this case, the game ends with the tax rate preferred by the median voter being implemented. In this case the citizens and the elite obtain payoffs of $(V^p(D), V^r(D))$ where, as before,

$$(6.4) \qquad \begin{aligned} V^p(D) &= V\left(y^p \mid \tau^D = \tau^p\right) = y^p + \tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y} \text{ and} \\ V^r(D) &= V\left(y^r \mid \tau^D = \tau^p\right) = y^r + \tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y}. \end{aligned}$$

The alternative is for the elite not to choose democratization and set the tax rate themselves. In this case, the issue is whether the elite can credibly commit to certain concessions. We again model this in a simple way by introducing a 'continuation game' where with probability $1 - p$ the elite can re-set the tax rate, while with probability p they cannot and the tax rate chosen before the revolution decision is implemented. This allows us to model the idea that in a nondemocratic society the elite may make a promise of high redistribution in the future, but cannot necessarily commit to this—the crucial transitory nature of political power.

As we discussed in Chapter 5, a more satisfactory approach is to have a repeated game, where the elite can deliver the policy they promised today, but can make no promises for the

policies in the future, once the threat of revolution disappears. This is precisely the model we will develop in Section 7, and we will see that the current setup is very similar to, but in many ways much simpler than, that dynamic game. Therefore, we prefer to start with this simpler setup to highlight the basic issues, and then return to the more satisfactory framework later.

In order to prevent revolution the elite may try to set a tax rate $\tau^N = \hat{\tau}$, different from their ideal tax rate. This is the tax rate that will be effective when the elite do not democratize and are not able to reset the tax. Therefore, if the elite promise redistribution at the tax rate $\hat{\tau}$, the citizens choose not to revolt and nature does not allow the elite to reset the tax, the game ends with payoffs, $V\left(y^p \mid \tau^N = \hat{\tau}\right)$ and $V\left(y^r \mid \tau^N = \hat{\tau}\right)$. In contrast, if nature allows the tax rate to be re-set, the elite will set their most preferred tax rate, τ^r. In this case, the payoffs are $V^p(N)$ and $V^r(N)$, where

$$V^p(N) = V\left(y^p \mid \tau^N = \tau^r\right) = y^p \text{ and } V^r(N) = V\left(y^r \mid \tau^N = \tau^r\right) = y^r.$$

Consequently, the expected payoffs from the promise of income redistribution can be written as $(V^p(N, \tau^N), V^r(N, \tau^N))$, such that

$$\begin{aligned} V^p(N, \tau^N) &= y^p + p\left(\tau^N\left(\bar{y} - y^p\right) - C(\tau^N)\bar{y}\right) \text{ and} \\ V^r(N, \tau^N) &= y^r + p\left(\tau^N\left(\bar{y} - y^r\right) - C(\tau^N)\bar{y}\right), \end{aligned}$$

which take account of the fact that redistribution at the tax rate τ^N happens only with probability p. (Notice the difference between the notation $V^i(N)$ which refers to values when the society is nondemocratic and unconstrained, whereas $V^i(N, \tau^N)$ refers to the case where the society is nondemocratic, but the elite are forced to set a tax rate in order to avoid revolution. We will use this type of notation below as well).

We now analyze the subgame perfect equilibria of this extensive form game. To do so, we start at the end of the game tree and apply backward induction as in Chapter 5. We refer to the actions of the elite and citizens as $\sigma^r = \{\phi, \tau^N, \bar{\tau}^N\}$ and $\sigma^p = \{\rho(\cdot), \tau^D\}$. The elite determine a tax rate $\tau^N \in [0, 1]$, decide whether or not to create democracy, $\phi \in \{0, 1\}$, where $\phi = 1$ indicates that democracy has been created. If there is no revolution and nature chooses $\nu = 1$, then the elite get to re-set the tax rate. Since the elite do not make a decision when $\nu = 0$ we represent this as a choice $\bar{\tau}^N \in [0, 1]$. Citizens decide whether to initiate a revolution, $\rho \in \{0, 1\}$ (with $\rho = 1$ representing a revolution) this decision is conditioned on the actions of the elite, hence $\rho : \{0, 1\} \times [0, 1] \to \{0, 1\}$. Here $\rho(\phi, \tau^N)$ is the revolution decision when the elite make the democratization decision ϕ and set the tax rate τ^N. Finally, if $\phi = 1$, then a democracy is created and the poor get to set the tax rate $\tau^D \in [0, 1]$. Then a subgame perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other in all proper subgames.

First consider the situation where the elite do not create democracy, promise a specific tax rate of $\tau^N = \hat{\tau}$, and there is no revolution. This generates expected payoffs of

(6.5)
$$\begin{aligned} V^p(N, \tau^N &= \hat{\tau}) = y^p + p\left(\hat{\tau}\left(\bar{y} - y^p\right) - C(\hat{\tau})\bar{y}\right) \text{ and} \\ V^r(N, \tau^N &= \hat{\tau}) = y^r + p\left(\hat{\tau}\left(\bar{y} - y^r\right) - C(\hat{\tau})\bar{y}\right), \end{aligned}$$

If $V^p(N, \tau^N = \hat{\tau}) \geq V^p(R, \mu)$, then such a concession would stop a revolution. Following the analysis in Chapter 5 we can define a μ^* such that at $\mu = \mu^*$ we have $V^p(R, \mu^*) = V^p(N, \tau^N = \tau^p)$, that is, the citizens get the same payoff from revolution as from the elite promising the best tax rate for them, τ^p (of course, $V^p(N, \tau^N = \tau^p) < V^p(D)$, since in the former case the elite are only promising this tax, and their promise is realized only with probability p). This critical value of the revolution cost, μ^*, is given from the equation $V^p(R, \mu^*) = V^p(N, \tau^N = \tau^p)$ by:

$$(6.6) \qquad \mu^* = \theta - p\left(\tau^p(\theta - \delta) - (1 - \delta)C(\tau^p)\right).$$

When $\mu < \mu^*$, then a revolution is not very costly and we have from the definition of μ^* that $V^p(R, \mu) > V^p(N, \tau^N = \tau^p)$. Thus, even at the best tax rate, the promises of the elite are not sufficient to prevent revolution. The elite must therefore democratize to stop a revolution. The strategy of democratization will be feasible if democracy generates enough redistribution that the citizens will not revolt after democracy. This would be the case when $V^p(D) \geq V^p(R, \mu)$, which is equivalent to:

$$(6.7) \qquad \mu \geq \theta - \left(\tau^p(\theta - \delta) - (1 - \delta)C(\tau^p)\right).$$

When $\mu \geq \mu^*$, then revolution is sufficiently costly that the elite can prevent democratization by redistributing. In this case they can stay in power by setting the tax rate at a level where the poor are just indifferent between revolting or not, i.e., $\hat{\tau}$ satisfies $V^p(R, \mu) = V^p(N, \tau^N = \hat{\tau})$ which implies

$$\mu = \theta - p\left(\hat{\tau}(\theta - \delta) - (1 - \delta)C(\hat{\tau})\right),$$

and they do not democratize.

Now we can see that there is a unique subgame perfect equilibrium, but the character of this equilibrium will depend on parameter configurations. First, when $\theta > \mu$ and $\mu \geq \mu^*$, the elite will be able to stay in power by setting a tax rate $\hat{\tau}$. More interesting, the unique pair of strategies that constitute an equilibrium when $\theta > \mu$ and $\mu < \mu^*$ (and (6.7) holds) involve democratization by the elite to avoid revolution. It is useful to write out the strategy profile for just this one case in full. Here the following strategy profile is the unique equilibrium: for the elite, $\tau^N = 0$, $\phi = 1$, and $\bar{\tau}^N = 0$. For the citizens, $\rho(\phi = 0, \cdot) = 1$, $\rho(\phi = 1, \cdot) = 0$, and $\tau^D = \tau^p$. In this equilibrium, the elite create democracy and the citizens set the tax rate $\tau^D = \tau^p$. If democracy is created, then the citizens do not revolt ($\rho(\phi = 1, \cdot) = 0$), but off the equilibrium path, the citizens play $\rho(\phi = 0, \cdot) = 1$, i.e., if democracy is not created the citizens choose to mount a revolution. It is this credible threat of revolution that induces the elite to democratize.

We now have the following result.

Proposition 6.1: There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 6.1 and it is such that
- If $\theta \leq \mu$, then the revolution constraint does not bind and the elite can stay in power without democratizing or redistributing income.
- If $\theta > \mu$, then the revolution constraint binds. In addition, let μ^* be defined by (6.6). Then:

(1) If $\mu \geq \mu^*$, the elite do not democratize and set the tax rate $\hat{\tau}$ to redistribute enough income to avoid revolution.

(2) If $\mu < \mu^*$ and (6.7) holds, concessions are insufficient to avoid a revolution and the elite democratize.

(3) If $\mu < \mu^*$ and (6.7) does not hold, there is a revolution.

The most important conclusion to be drawn from Proposition 6.1 is that democracy arises to avoid a revolution when the promises of the elite to make policy pro-citizen are not sufficiently credible. Note that the lower is p, the probability that promises will be kept, the less credible are such promises, the higher is μ^* and the less likely it is that concessions will avoid revolution. Thus it is lack of credibility that forces the elite to democratize. Moreover, inequality must be sufficiently high ($\theta > \mu$) that revolution becomes attractive in the first place. Before investigating the comparative statics of this model in detail and discussing more of its implications we introduce repression in the next section.

6. Democratization or Repression?

So far we have studied the trade-off between concessions and democratization when the citizens can challenge the power of a nondemocratic regime. However, as we mentioned in Chapter 2, rather than make any type of concession, nondemocracies often respond with force to block political change. There are many examples of this. For example in Romania in December 1989, the Ceaucescu regime attempted to block democratization by using the military. This tactic backfired when the army decided to side with the demonstrators leaving only the secret police loyal to the regime. Similarly in Tiananmen square in June 1989 in China the Communist party used tanks to crush the pro-democracy movement rather than make any type of concession. Another relevant example is the military junta in Burma (Myanmar) maintaining its power by using force to repress all opposition. We now introduce repression into the model of the previous section and study the circumstances under which democracy emerges when repression in an option. The analysis initially begins by assuming that if the elite decide to repress the citizens, then this always succeeds. In line with this assumption O'Donnell and Schmitter (1986, p. 21) note

> "no transition can ever be forced purely by opponents against a regime which maintains the cohesion, capacity, and disposition to apply repression."

Nevertheless, later in the chapter we consider situations where repression may fail in which case a revolution can happen in equilibrium.

Pre-tax incomes are given by (4.7), except that now there can also be costs due to repression which affect net income. In particular, the post-tax net return of agent i is

$$(6.8) \qquad \hat{y}^i = \omega \Delta y^i + (1 - \omega)\left((1 - \tau)y^i + (\tau - C(\tau))\bar{y}\right),$$

where Δ is the cost due to repression with $\omega = 0$ denoting no repression and $\omega = 1$ denoting repression. We model the cost of repression as we did the costs of revolution. If the elite decides to repress then all agents lose some fraction of their income in the period of repression. We

assume that $\Delta = 1 - \kappa$, which makes the effective cost of repression is equal to κy^i. We adopt the assumption that the citizens lose the same fraction of income as the elite only for symmetry, and this plays no major role in the analysis, since the repression decision is taken by the elite.

The game is identical to that depicted in Figure 6.1 except now the elite first choose between promising redistribution, using repression or creating a democracy—see Figure 6.2. If they use repression, it always succeeds and the game tree ends with payoffs $(V^p(O \mid \kappa), V^r(O \mid \kappa))$, where we use the letter O for reference to "oppression" (since R is already taken for revolution). With repression, the elite maintain power and can set their most preferred tax rate:

$$V^p(O \mid \kappa) = (1 - \kappa)y^p \text{ and } V^r(O \mid \kappa) = (1 - \kappa)y^r.$$

If the elite opt against repression, they can choose democracy, and the rest of the tree is the same as Figure 6.1.

The analysis closely mirrors that of the previous section. Note first that the calculations leading to μ^* are unchanged, so that exactly as before, if $\mu \geq \mu^*$ the elite can maintain power by making concessions, while if $\mu < \mu^*$ they cannot. However, whatever the value of μ, the elite have the choice to repress. To understand what will happen in equilibrium, we have to compare the payoff to the elite from repressing to the payoffs from democracy or concessions. Bearing this in mind, we can define two threshold levels for the cost of repression, $\hat{\kappa}$ and $\tilde{\kappa}$ such that the elite are indifferent between their various options at these threshold levels. More specifically, let $\hat{\kappa}$ be such that

$$V^r(O \mid \hat{\kappa}) = V^r(N, \tau^N = \hat{\tau}),$$

or in other words,

$$(6.9) \qquad\qquad \hat{\kappa} = \frac{p}{\theta}\left(\delta C(\hat{\tau}) - \hat{\tau}\left(\delta - \theta\right)\right).$$

Therefore, at $\hat{\kappa}$, the elite are indifferent between redistribution and repression. As a result, for all $\kappa < \hat{\kappa}$, they prefer repression to promising redistribution. Recall that κ is the fraction of income destroyed by repression and so the lower this is, the more attractive repression will be. This implies that one set of parameter configurations where repression will emerge is when $\mu \geq \mu^*$ and $\kappa < \hat{\kappa}$

Next, define the other threshold such that

$$V^r(O \mid \tilde{\kappa}) = V^r(D),$$

or more explicitly,

$$(6.10) \qquad\qquad \tilde{\kappa} = \frac{1}{\theta}\left(\delta C(\tau^p) - \tau^p\left(\delta - \theta\right)\right).$$

At $\tilde{\kappa}$, the elite are indifferent between democratization and repression. As a result, for all $\kappa < \tilde{\kappa}$, they prefer repression to democratization. Therefore, another set of parameter values where repression will be an equilibrium outcome is when $\mu < \mu^*$ and $\kappa < \tilde{\kappa}$.

Both threshold levels $\hat{\kappa}$ and $\tilde{\kappa}$ are increasing in inequality, i.e., increasing in θ. For example, totally differentiating (6.10), we have

$$\frac{d\tilde{\kappa}}{d\theta} = -\frac{\delta}{\theta^2}\left(C(\tau^p) - \tau^p\right) + \frac{1}{\theta}\left(\delta C'(\tau^p) - \delta + \theta\right)\frac{d\tau^p}{d\theta} > 0.$$

To see why this is so, notice that $(\tau^p - C(\tau^p))\,\bar{y}$ is the per-capita transfer from the government budget constraint, we must have $C(\tau^p) - \tau^p < 0$, which gives $-\delta\left(C(\tau^p) - \tau^p\right)/\theta^2 > 0$. Next $-\delta + \theta > 0$ follows from $y^r > y^p$ and we also know that $d\tau^p/d\theta > 0$. Hence, $d\tilde{\kappa}/d\theta > 0$.

That greater inequality increases $\hat{\kappa}$ and $\tilde{\kappa}$ is intuitive. Greater inequality makes redistribution more costly for the elite, and all else equal, makes repression more attractive relative to democracy and relative to the promise of redistribution. This makes them more willing to undertake repression even if it is more costly.

We can now state a proposition outlining the nature of the equilibria in this game. To do this we again adopt the intuitive approach. The nature of the strategies are very similar to those discussed in Proposition 6.1, the only difference being that the elite initially have to decide whether or not to repress, $\omega \in \{0, 1\}$ and the revolution decision of the citizens is conditioned on ω in addition to ϕ and τ^N. Again a subgame perfect equilibrium is a strategy combination $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$. Democracy results when $\theta > \mu$, $\mu < \mu^*$ and $\kappa \geq \tilde{\kappa}$.

We now have the following result.

> **Proposition 6.2:** There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 6.2 and it is such that
> - If $\theta \leq \mu$, then the revolution constraint does not bind and the elite can stay in power without repressing, redistributing or democratizing.
> - If $\theta > \mu$, then the revolution constraint binds. In addition, let μ^* be defined by (6.6), and $\hat{\kappa}$ and $\tilde{\kappa}$ be defined by (6.9) and (6.10). Then:
> (1) If $\mu \geq \mu^*$ and $\kappa \geq \hat{\kappa}$, repression is relatively costly and the elite redistribute income to avoid revolution.
> (2) If $\mu < \mu^*$ and $\kappa < \tilde{\kappa}$ or $\kappa \geq \tilde{\kappa}$ and (6.7) does not hold, or if $\mu \geq \mu^*$ and $\kappa < \hat{\kappa}$, then the elite use repression.
> (3) $\mu < \mu^*$, (6.7) holds, and $\kappa \geq \tilde{\kappa}$, concessions are insufficient to avoid a revolution and repression is relatively costly so the elite democratize.

As in Proposition 6.1, democracy arises as a credible way to make policy more pro-citizen. Whether democratization will happen or not depends on the values of μ and κ. When $\theta > \mu$ and μ is lower than μ^*, a revolution is relatively attractive and given that the promises made by the elite are only imperfectly credible, it is unlikely that any tax rate that the elite promise before the revolution move will actually ever be implemented. In this case even when the elite offer the most desirable possible tax rate, τ^p, the citizens prefer to have a revolution. Anticipating this, the elite must either repress or democratize to avoid being expropriated in a revolution. Repression is attractive when κ is relatively low, so democracy arises when a revolution is

sufficiently remunerative to the citizens and repression costly enough to the elite. Repression is also used when the creation of democracy is insufficient to stave off a revolution.

When concessions do not work because they are not credible the elite must democratize or repress. In Acemoglu and Robinson (2000b) we showed that there may be another important reason why concessions do not work. We developed a model where there the elite's strength and ability to repress is private information. Strong types can easily repress revolution while weak types cannot. When faced with a revolution, we showed that there are circumstances where an elite that does not repress, but instead makes concessions such as income redistribution, may be inferred to be weak. In this case concessions can actually encourage revolution. We showed therefore that concessions are not used because of the information they may transmit to the citizens and an elite must repress or democratize.

6.1. Comparative Statics. We now investigate the comparative statics of the equilibrium in more detail. It is interesting to analyze the relationship between inequality and democratization.

For very low levels of inequality, in particular for $\theta \leq \mu$, democratization never occurs, since the threat of revolution is not binding. Democratization therefore requires that the society be sufficiently unequal, i.e., $\theta > \mu$, so that revolution is a threat. Intuitively, in very equal societies, the citizens do sufficiently well under the status quo distribution of assets that they never wish to contest power and democratizations never occur (unless perhaps, as we discuss later in the chapter, the elite have a strong intrinsic preference for democracy which outweighs the loss from redistribution). Moreover, inequality has to be high enough that the promise of redistribution is not sufficient to stave off the revolutionary threat, in particular, $\theta > \theta^*$ where

$$\mu = \theta^* - p\left(\tau^p\left(\theta^*\right)\left(\theta^* - \delta\right) - (1-\delta)C(\tau^p\left(\theta^*\right))\right).$$

Here we use the notation $\tau^p\left(\theta^*\right)$ to emphasize that the tax rate preferred by the median voter depends on the extent on inequality. This needs to be taken into account in calculating the comparative statics. Clearly, $\theta^* > \mu$ since $p\left(\tau^p\left(\theta^*\right)\left(\theta^* - \delta\right) - (1-\delta)C(\tau^p\left(\theta^*\right))\right) > 0$. Therefore, an increase in inequality starting from very low levels makes democratization more likely. From (6.7) we can define another critical value of θ, $\hat{\theta}$ such that

$$\mu = \hat{\theta} - (\tau^p(\hat{\theta})(\hat{\theta} - \delta) - (1-\delta)C(\tau^p(\hat{\theta})))$$

where $\hat{\theta} > \theta^*$. This inequality follows from the fact that $p < 1$ and that $\tau^p(\theta)(\theta - \delta) - (1-\delta)C(\tau^p(\theta))$ is increasing in θ. To see this latter result note that the derivative of this expression is

$$\frac{d\tau^p(\theta)}{d\theta}\left(\theta - \delta - (1-\delta)C'(\tau^p(\theta))\right) + \tau^p > 0.$$

This is so since by the envelope theorem (i.e. by the first-order condition that defines τ^p) $(\theta - \delta - (1-\delta)C'(\tau^p(\theta))) = 0$ and also $\tau^p > 0$. Thus there is a range of inequality levels $\theta \in (\theta^*, \hat{\theta}]$ where democracy will be conceded and will avoid a revolution.

However, when inequality is very high, $\hat{\kappa}$ and $\tilde{\kappa}$ are relatively high, and the elite will prefer repression rather than suffer high levels of redistribution. Therefore, democratization only occurs

for intermediate levels of inequality. The important theoretical point here is that the citizens prefer democracy to nondemocracy because it is more redistributive, and this preference becomes stronger as inequality increases. By the same token, the elite prefer nondemocracy, and they do so more intensely when inequality is higher and they expect more redistribution away from them in democracy. The higher is inequality, the more attractive nondemocracy is relative to democracy for the elite. Therefore, in a highly unequal society, the elite will use their resources to garner force and prevent revolution without democratizing.

For a given cost of repression, κ, we can implicitly define a critical threshold of inequality, $\tilde{\theta}(\kappa)$, such that

$$\kappa = \frac{1}{\tilde{\theta}(\kappa)}(\delta C(\tau^p(\tilde{\theta}(\kappa))) - \tau^p(\tilde{\theta}(\kappa))(\delta - \tilde{\theta}(\kappa))).$$

Then democratization requires that inequality is less than this threshold, or $\theta < \tilde{\theta}(\kappa)$. Define $\theta^{\min} = \min\{\hat{\theta}, \tilde{\theta}(\kappa)\}$. We now state:

> **Corollary 6.2:** There is a non-monotonic relationship between inequality and democratization. In particular, when $\theta \leq \theta^*$, the society remains nondemocratic and the elite maintain power; when $\theta > \theta^{\min}$, the society remains nondemocratic with repression. Democratization occurs when $\theta \in (\theta^*, \theta^{\min}]$.

If $\hat{\theta} < \tilde{\theta}(\kappa)$ then before repression become attractive, (6.7) does not hold and, given that $\theta > \theta^*$ so that concessions do not work, the elite are forced to repress to avoid a revolution. If $\hat{\theta} > \tilde{\theta}(\kappa)$ then when the critical level of inequality $\tilde{\theta}(\kappa)$ is reached although it would be feasible to avoid revolution by democratizing, elites find it more attractive to repress.

The results in Propositions 6.2, especially those in Corollary 6.2, may help us understand some comparative patterns of democratization, already discussed in Chapters 1 and 3. While all European countries democratized by the early twentieth century, in parts of Latin America, such as those in Paraguay, Nicaragua and El Salvador, dictatorial regimes survived practically the whole century by using repression to avoid democratizations. This was also the case in African countries such as Zimbabwe (Rhodesia) until 1980 and South Africa until 1994. Such outcomes are explicable in our model because the extent of inequality in these societies made democratization very costly to the elites, leading them to prefer repression.

It may also be the case that repression was relatively cheap in these countries, for example in Central America because the disenfranchised were Amerindians who were ethnically distinct from the elite who were primarily made up of descendents of Spaniards. Similarly, in Rhodesia and South Africa the enfranchised were white while the disenfranchised and repressed were black Africans. In Chapter 2, section 6.1 we discussed how the organization of civil society is important for democratization. If civil society is disorganized and ineffective, then it may be very difficult to solve the collective action problem to form threats to the existing regime, and also any such attempt may be easier to repress. The long history of racial domination in both Central America and Southern Africa may be important in explaining the evolution of civil society. In Guatemala for example, forced labor was still used up until 1945, and government policies restricted labor mobility and the ability to organize collectively (McCreery, 1994). In

South Africa the apartheid regime issued banning orders and pass laws, and placed restrictions on the educational and career opportunities of black Africans. In both cases these factors helped to fragment civil society and allowed the nondemocratic regimes to persist.

As we shall see later when we make the model even richer, the costs of repressing may also be influenced by such things as the form of wealth held by political elites. There we shall show that it may be significant that in all these countries the political elites were primarily landowners. Indeed, the creation of democracy in these countries may have coincided with important changes in the elite's assets.

Proposition 6.2 also suggests a reason for why there seems to be so few pressures towards political change in Singapore. For instance, Case (2002, p. 81) notes

> "despite the emergence of a large middle class and suggestions that society is generally growing more participatory, social forces have failed to cumulate in any strong pressures for democracy."

Our analysis suggests that this absence may be due to the very low levels of inequality in Singapore. Figure 6.3 shows data on inequality in Singapore from the Deininger and Squire dataset. This dataset, compiled by the World Bank,[1] gives measures of inequality only from 1973, since there are no historical data on inequality in Singapore from the colonial period. The data show that inequality has been persistently low in Singapore since independence and has shown no tendency to rise. Figure 6.3 also shows data from Bourguignon and Morrisson (2002) on the historical pattern of inequality in Taiwan and South Korea, two other Asian countries that experienced delayed democratization. The picture is very similar to that of Singapore, except for the large fall between 1950 and 1960 when agrarian reforms were implemented.

Finally, two recent empirical papers by Epstein, Bates, Goldstone, Kristensen and O'Halloran (2004) and Papaioannou and Siourounis (2004) find tentative support for this non-monotonic relationship between democratization and inequality which we first proposed in Acemoglu and Robinson (2001).

The costs of taxation also affect the form of the equilibrium, and whether democratization will arise. When $C(\cdot)$, especially $C'(\cdot)$ is low, τ^p can be higher, and there will be more redistribution in democracy. Although this makes democracy more attractive for the citizens, somewhat paradoxically, it may also make it less likely to arise in equilibrium. This is because as the tax that the elite can promise increases, they can prevent revolution without democratization.

Finally, it is interesting to reflect on the role that (6.7) plays in Proposition 6.2. Repression is attractive to the elite when democracy threatens to enact policies which are very pro-citizen. However, if policies are insufficiently majoritarian it is unlikely that (6.7) will hold and thus the elite will be forced to repress when $\mu < \mu^*$ since democracy will not avoid a revolution.

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[1] http://www.worldbank.org/research/growth/dddeisqu.htm.

7. A Dynamic Model of Democratization

We now develop an infinite horizon model of democratization. The main motivation for this is that it allows us to model the issue of commitment to future policy in a more satisfactory way. The reason that the citizens demand democracy and changes in the structure of political institutions, is precisely because of the fact that such changes influence the allocation of political power in the future. Thus the problems we are considering are inherently dynamic and intertemporal. In the static model we had to model this by introducing a rather arbitrary assumption that the elite might be able to re-optimize after they had initially chosen their policy. We will now show that results similar to those derived with this crude assumption flow naturally from the time structure of a repeated game.

The model is a direct extension of the one developed in Chapter 5 section 6 and the one in the previous section and we adopt the same notation and we again refer to the infinite horizon discounted repeated game as $G^\infty(\beta)$. There is again a continuum 1 of agents with a rich elite and poor citizens as before, with fractions, δ and $1 - \delta$. Initially there is a nondemocracy but the citizens can contest power through collective action, and in a democracy the median voter will be a poor citizen. The structure of de facto power is exactly as in Chapter 5 section 6 so that the cost of a revolution is μ_t where $\mu_t \in \{\mu^L, \mu^H\}$ and $\Pr(\mu_t = \mu^H) = q$ irrespective of whether $\mu_{t-1} = \mu^H$ or μ^L. We again normalize so that $\mu^L = 1$ and use the notation $\mu^H = \mu$.

The timing of the stage game is similar. In each period the elite can decide whether or not to create democracy and whether or not to repress. If democracy is created, the median voter, a poor citizen, sets the tax rate. We assume that if democracy is created, it cannot be rescinded, so the society always remains a democracy. As before, we assume that if repression is chosen a revolution cannot be undertaken and the stage game is over for that period with agents getting the repression payoffs.

As a result, utilities are now given by $U^i = \sum_{t=0}^{\infty} \beta^t \hat{y}_t^i$ where, as in the previous section, incomes are given by (6.8) and as in Chapter 5, U^i applies only when there is no revolution in equilibrium.

The timing of moves in the stage game is now as follows.

(1) The state $\mu_t \in \{\mu^L, \mu^H\}$ is revealed.
(2) The elite decide whether or not to use repression, $\omega \in \{0, 1\}$. If $\omega = 1$, the poor cannot undertake a revolution and the stage game ends.
(3) If $\omega = 0$, the elite decide whether or not to democratize, $\phi \in \{0, 1\}$. If they decide not to democratize, they set the tax rate τ^N.
(4) The citizens decide whether or not to initiate a revolution, $\rho \in \{0, 1\}$. If $\rho = 1$ they share the remaining income forever. If $\rho = 0$ and $\phi = 1$ the tax rate τ^D is set by the median voter (a poor citizen). If $\rho = 0$ and $\phi = 0$, then the tax rate is τ^N.

We initially characterize Markov perfect equilibria of this game where players are restricted to playing Markov strategies which are functions only of the current state of the game. Although the focus on Markovian equilibria is natural in this setting, for completeness, in the next section we

drop the restriction to Markov strategies and discuss non-Markovian subgame perfect equilibria. As in Chapter 5 we show that this does not change the qualitative nature of our general results.

The state of the game consists of the current opportunity for revolution, represented by either μ^L or μ^H, and the political state P which is either N (nondemocracy) or D (democracy). More formally, let $\sigma^r = \{\omega(\cdot), \phi(\cdot), \tau^N(\cdot)\}$ be the notation for the actions taken by the elite, while $\sigma^p = \{\rho(\cdot), \tau^D\}$ are the actions of the poor. σ^r consists of a decision to repress ω : $\{\mu^L, \mu^H\} \rightarrow \{0, 1\}$, or to create democracy $\phi : \{\mu^L, \mu^H\} \rightarrow \{0, 1\}$, when $P = N$, and a tax rate $\tau^N : \{\mu^L, \mu^H\} \rightarrow [0, 1]$, when $\phi = 0$ (i.e., when democracy is not extended). Clearly, if $\phi = 0$, P remains at N, and if $\phi = 1$, P switches to D forever, thus we do not make these strategies explicit functions of the political state. The actions of the citizens consist of a decision to initiate a revolution, $\rho : \{\mu^L, \mu^H\} \times \{0, 1\}^2 \times [0, 1] \rightarrow \{0, 1\}$, and possibly a tax rate $\tau^D \in [0, 1]$ when the political state is $P = D$. Here $\rho(\mu, \omega, \phi, \tau^N)$ is the revolution decision of the citizens which is conditioned on the current actions of the elite, as well as on the state, since the elite move before the citizens in the stage game according to the timing of events above. Then, a Markov perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other for all μ_t and P.

We can characterize the equilibria of this game by writing the appropriate Bellman equations. Define $V^p(R, \mu^S)$ as the return to citizens if there is a revolution starting in state $\mu^S \in \{\mu^L, \mu^H\}$. This value is naturally given by

$$(6.11) \qquad V^p(R, \mu^S) = \frac{(1 - \mu^S)\bar{y}}{(1 - \delta)(1 - \beta)},$$

which is the per-period return from revolution for the infinite future discounted to the present. Also, because the elite lose everything, $V^r(R, \mu^S) = 0$ whatever is the value of μ^S. Moreover, recall that we have assumed $\mu^L = 1$, so $V^p(R, \mu^L) = 0$, and the citizens would never attempt a revolution when $\mu_t = \mu^L$.

In the state (N, μ^L) the elite are in power and there is no threat of revolution, so in any Markov Perfect Equilibrium, $\phi = \omega = 0$ and $\tau^N = \tau^r = 0$. This just says that when the elite are in power and the citizens cannot threaten them, the elite do not repress and set their preferred tax rate which is zero. Therefore, the values of citizens and elite agents, $i = p$ or r, are given by:

$$(6.12) \qquad V^i(N, \mu^L) = y^i + \beta \left[q V^i(N, \mu^H) + (1 - q) V^i(N, \mu^L) \right].$$

Now (6.12) says that the value to an agent of type i in a nondemocracy when there is no threat of a revolution is equal to a payoff of y^i today, plus the expected continuation value discounted back to today (which is why it is multiplied by β). The payoff today is y^i because taxes are set at zero and each person simply consumes their income. The continuation value is made up of two terms; the second, $(1 - q)V^i(N, \mu^L)$ is the probability that μ^L arises tomorrow, times the value of being in that state $V^i(N, \mu^L)$. In this case tomorrow is the same as today and this is why the same value 'recurs'. The first term, $qV^i(N, \mu^H)$, is the probability that μ^H arises tomorrow, multiplied by the value of that state, $V^i(N, \mu^H)$. This value is different because now

there is a potential threat to the regime. To see how this will play out we need to understand what the value $V^i(N, \mu^H)$ looks like.

Consider the state (N, μ^H), where there is a nondemocracy, but it is relatively attractive to mount a revolution. Suppose that the elite play $\phi = \omega = 0$ and $\tau^N = \tau^r$, that is, they neither create democracy nor repress nor redistribute to the citizens. Then, we would have

$$V^p(N, \mu^H) = \frac{y^p}{1 - \beta}.$$

The *revolution constraint* is equivalent to: $V^p(R, \mu^H) > V^p(N, \mu^H)$, so that without any redistribution or democratization, the citizens prefer to initiate a revolution when $\mu_t = \mu^H$. This is equivalent to $\theta > \mu$, which is identical to (6.3) in the previous section, and says that revolution becomes attractive when θ is sufficiently high, i.e. when inequality is sufficiently high.

Since the revolution is the worst outcome for the elite, they will try to prevent it. They can do this in three different ways. First, the elite can choose to maintain political power, $\phi = 0$, but redistribute through taxation. In this case, the poor obtain $V^p(N, \mu^H, \tau^N)$ where τ^N is the specific value of the tax rate chosen by the elite. Second, the elite can create democracy. Finally the elite can use repression. Let $V^i(O, \mu \mid \kappa)$ be the value function of agent $i = p, r$ in state μ when the elite pursue the strategy of repression and the cost of repression is κ. We condition these values explicitly on κ to emphasize the importance of the cost of repression, and to simplify notation when we define threshold values below.

If the elite create democracy or attempt to stay in power by redistributing, the citizens may still prefer a revolution, thus:

$$
\begin{aligned}
V^p(N, \mu^H) &= \omega V^p(O, \mu^H \mid \kappa) + \\
&\quad (1 - \omega) \max_{\rho \in \{0,1\}} \rho V^p(R, \mu^H) + (1 - \rho)(\phi V^p(D) + (1 - \phi) V^p(N, \mu^H, \tau^N)),
\end{aligned}
$$

where $V^p(D)$ is the return to the citizens in democracy. Note here how the value of the citizens depends on the decision variables ω and ϕ of the elite. If $\omega = 1$ the the elite choose to repress, citizens cannot revolt and get the continuation value $V^p(O, \mu^H \mid \kappa)$. If $\omega = 0$ then what the citizens compare $V^p(R, \mu^H)$ to depends on the decision by the elite as to whether or not create democracy. If $\phi = 1$ then they choose between revolution and democracy. If $\phi = 0$ they choose between revolution and accepting the promise of redistribution at the tax rate τ^N.

We first focus on the trade-off for the elite between redistribution and democratization and then integrate repression into the analysis. The return to the citizens when the elite choose the redistribution strategy is:

$$(6.13) \quad V^p(N, \mu^H, \tau^N) = y^p + \tau^N(\bar{y} - y^p) - C(\tau^N)\bar{y} + \beta \left[q V^p(N, \mu^H, \tau^N) + (1 - q) V^p(N, \mu^L) \right].$$

The elite redistribute to the citizens, taxing all income at the rate τ^N. The citizens therefore receive their income y^p from their own earnings and a net transfer of $\tau^N(\bar{y} - y^p) - C(\tau^N)\bar{y}$. If in the next period we are still in state $\mu_{t+1} = \mu^H$, redistribution continues. But, if the state switches to $\mu_{t+1} = \mu^L$, redistribution stops and the citizens receive $V^p(N, \mu^L)$. This captures

our intuitive ideas that the elite cannot commit to future redistribution, unless the future also poses an effective revolution threat.

The second strategy to prevent the revolution is to democratize, $\phi = 1$. Since $1 - \delta > 1/2$, in a democracy the median voter is a citizen and the equilibrium tax rate is τ^p and $T = (\tau^p - C(\tau^p))\bar{y}$. The returns to citizens and elite agents in democracy are therefore:

$$(6.14) \qquad V^p(D) = \frac{y^p + \tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y}}{1 - \beta} \text{ and } V^r(D) = \frac{y^r + \tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y}}{1 - \beta}.$$

These expressions follow because in this chapter we are assuming that once created democracy consolidates and there are never any coups.

Will democratization prevent a revolution? The answer is not obvious. It might be that revolution in the state $\mu_t = \mu^H$ is so attractive that even democratization is not sufficient to prevent revolution. It is straightforward to see that the condition for democratization to prevent revolution is $V^p(D) \geq V^p(R, \mu^H)$ which is exactly the condition we derived in section 5, i.e. (6.7).

To determine whether the elite can prevent the revolution with the redistribution strategy, let $V^p(N, \mu^H, \tau^N = \tau^p)$ be the maximum utility that can be given to the citizens without democratizing. This maximum utility is achieved by setting $\tau^N = \tau^p$ in (6.13). Therefore, combining (6.12) and (6.13), we obtain:

$$(6.15) \qquad V^p(N, \mu^H, \tau^N = \tau^p) = \frac{y^p + (1 - \beta(1 - q))\left(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y}\right)}{1 - \beta}.$$

(6.15) has a nice interpretation. It says that $V^p(N, \mu^H, \tau^N = \tau^p)$ is equal to the present discounted value of y^p, the pre-tax income of citizens, plus the expected present value of net redistribution from the elite to the citizens. Net redistribution is given by the expression $(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y})$ but this only occurs today, and a proportion q of the time in the future when the state is μ^H (the reason why this leads to the expression $(1 - \beta(1 - q))/(1 - \beta)$ is exactly the same as the one discussed after equation (5.28) in Chapter 5).

If $V^p(N, \mu^H, \tau^N = \tau^p) < V^p(R, \mu^H)$, then the maximum transfer that can be made when $\mu_t = \mu^H$ is not sufficient to prevent a revolution. Notice that as long as (6.7) holds, we have that $V^p(D) \geq V^p(R, \mu^H)$. It is clear that we have $V^p(N, \mu^H = 1, \tau^N = \tau^p) > V^p(R, \mu^H = 1)$ since a revolution generates a zero payoff to the citizens forever. This implies that when $\mu^H = 1$ it must be the case that the value to the citizens of accepting redistribution at the rate τ^p in state μ^H is greater than the value from having a revolution. Also note that,

$$(6.16) \qquad \begin{aligned} V^p(N, \mu^H &= 0, \tau^N = \tau^p) = y^p + (1 - \beta(1 - q))\left(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y}\right) \\ &< V^p(R, \mu^H = 0) = \frac{\bar{y}}{1 - \delta} \end{aligned}$$

so that the payoff from a revolution must be greater when $\mu^H = 0$. Since $V^p(R, \mu^H)$ is monotonically increasing and continuous in μ, by the intermediate value theorem there exists a unique $\mu^* \in (0, 1)$ such that when $\mu^H = \mu^*$

$$(6.17) \qquad\qquad V^p(N, \mu^H, \tau^N = \tau^p) = V^p(R, \mu^H).$$

When $\mu < \mu^*$, concessions do not work so that the elite are forced to either democratize or repress. When $\mu \geq \mu^*$, they can prevent revolution by temporary redistribution, which is always preferable to them when the alternative is democratization (since with democratization, redistribution is not temporary but permanent). In this case the tax which the elite set, which as in the last section we denote by $\hat{\tau}$, will be set exactly to leave the citizens indifferent between revolution and accepting concessions under a nondemocratic regime, i.e. $\hat{\tau}$ satisfies the equation $V^p(N, \mu^H, \tau^N = \hat{\tau}) = V^p(R, \mu^H)$.

To determine equilibrium actions, we need to compare the payoffs to the elite from staying in power using redistribution and from democracy to the costs of repression. Without loss of generality we limit attention to situations where the elite play a strategy of always repressing, rather than more complicated strategies of repressing sometimes and using redistribution some other time (this is without also generality because of the 'one-shot deviation' principle, which is discussed in greater detail in the next chapter, see also Fudenberg and Tirole, 1991, pp. 108-110). By standard arguments, these values satisfy the Bellman equations:

$$
\begin{aligned}
(6.18) \qquad V^i(O, \mu^H \mid \kappa) &= \Delta y^i + \beta \left[q V^i(O, \mu^H \mid \kappa) + (1-q) V^i(N, \mu^L) \right], \\
V^i(N, \mu^L) &= y^i + \beta \left[q V^i(O, \mu^H \mid \kappa) + (1-q) V^i(N, \mu^L) \right],
\end{aligned}
$$

which take into account that the cost of repression will only be incurred in the state where the revolution threat is active, i.e., when $\mu_t = \mu^H$.

Together with the definition for Δ, these Bellman equations can be solved simultaneously to derive the vales to the elite and citizens from repression,

$$
\begin{aligned}
(6.19) \qquad V^r(O, \mu^H \mid \kappa) &= \frac{y^r - (1 - \beta(1-q))\kappa y^r}{1 - \beta} \quad \text{and} \\
V^p(O, \mu^H \mid \kappa) &= \frac{y^p - (1 - \beta(1-q))\kappa y^p}{1 - \beta}.
\end{aligned}
$$

The value function $V^r(O, \mu^H \mid \kappa)$ has a clear interpretation. It says that the payoff to the elite from a strategy of repression is the discounted sum of their income, $y^r / (1 - \beta)$ minus the expected cost of repressing. The net present value of the cost of repressing is $(1 - \beta(1-q)) \kappa y^r / (1 - \beta)$ for the elite, because they pay this cost today and a fraction q of the time in the future.

To understand when repression occurs we need to compare $V^r(O, \mu^H \mid \kappa)$ to $V^r(D)$ when $\mu < \mu^*$; and to $V^r(N, \mu^H, \tau^N = \hat{\tau})$ when $\mu \geq \mu^*$. As in the extensive form game of the previous section, we will now determine two threshold values for the cost of repression, this time called κ^* and $\bar{\kappa}$, such that the elite are indifferent between their various options at these threshold levels. More specifically, let κ^* be such that the elite are indifferent between promising redistribution at the tax rate $\tau^N = \hat{\tau}$ and repression, $V^r(O, \mu^H \mid \kappa^*) = V^r(N, \mu^H, \tau^N = \hat{\tau})$. This equality implies

$$
(6.20) \qquad \kappa^* = \frac{1}{\theta} \left(\delta C(\hat{\tau}) - \hat{\tau} (\delta - \theta) \right).
$$

Similarly, let $\bar{\kappa}$ be such that at this cost of repression, the elite are indifferent between democratization and repression, i.e., $V^r(O, \mu^H \mid \bar{\kappa}) = V^r(D)$, which implies that

$$(6.21) \qquad \bar{\kappa} = \frac{1}{\theta(1 - \beta(1 - q))} \left(\delta C(\tau^p) - \tau^p (\delta - \theta) \right).$$

It is immediate that $\bar{\kappa} > \kappa^*$, i.e., if the elite prefer repression to redistribution, then they also prefer repression to democratization. Therefore, we have that the elite will prefer repression when $\mu \geq \mu^*$ and $\kappa < \kappa^*$, and also when $\mu < \mu^*$ and $\kappa < \bar{\kappa}$.

Given our previous analysis, the strategies which constitute equilibria in different parts of the parameter space can easily be constructed. Therefore, we have (again as with Propositions 6.1 and 6.2, stated without specifying the full set of strategies):

> **Proposition 6.3:** There is a unique Markov perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game $G^\infty(\beta)$, and it is such that
> - If $\theta \leq \mu$, then the revolution constraint does not bind and the elite can stay in power without repressing, redistributing or democratizing.
> - If $\theta > \mu$, then the revolution constraint binds. In addition, let be μ^* defined by (6.17), and κ^* and $\bar{\kappa}$ be defined by (6.20) and (6.21). Then:
> (1) If $\mu \geq \mu^*$ and $\kappa \geq \kappa^*$, repression is relatively costly and the elite redistribute income in state μ^H to avoid revolution.
> (2) If $\mu < \mu^*$ and $\kappa < \bar{\kappa}$, or $\kappa \geq \bar{\kappa}$ and (6.7) does not hold, or if $\mu \geq \mu^*$ and $\kappa < \kappa^*$, the elite use repression in state μ^H.
> (3) If $\mu < \mu^*$, (6.7) holds, and $\kappa \geq \bar{\kappa}$, concessions are insufficient to avoid a revolution and repression is relatively costly. In this case, in state μ^H the elite democratize.

Democracy arises only if $\mu < \mu^*$, repression is relatively costly, i.e., $\kappa \geq \bar{\kappa}$ and if (6.7) holds. Notice that this critical threshold for the cost of repression, $\bar{\kappa}$, is increasing in inequality (increasing in θ), more specifically we can again show by an argument identical to the one we used in the last section that

$$\frac{d\bar{\kappa}}{d\theta} > 0.$$

Intuitively, when inequality is higher, democracy is more redistributive, i.e., τ^p is higher, and hence more costly to the rich elite. They are therefore more willing to use repression.

As also shown by the static model in the last section, democracy emerges as an equilibrium outcome only in societies with intermediate levels of inequality. In very equal or very unequal societies, democracy does not arise as an equilibrium phenomenon. In very equal societies, there is little incentive for the disenfranchised to contest power and the elite do not have to make concessions, neither do they have to democratize. In very unequal societies the elite cannot use redistribution to hang onto power, but since in such a society democracy is very bad for the elite, they use repression rather than having to relinquish power. It therefore tends to be in societies with intermediate levels of inequality that democracy emerges. Here inequality is sufficiently high for challenges to the political status quo to emerge, but not high enough that the elite find repression attractive. Thus the intuition behind Corollary 6.2 applies in this model directly.

We show in the next section that even without the restriction to Markov Perfect equilibria, similar results obtain: revolution can be stopped with temporary redistribution when $\mu \geq \tilde{\mu}^{**}$ where $\tilde{\mu}^{**} < \mu^*$, hence for a larger range of parameters, but if $\mu < \tilde{\mu}^{**}$, the elite cannot use concessions to avoid a revolution.

Perhaps paradoxically, a high q makes franchise extension less likely. A high q corresponds to an economy in which the citizens are well organized, so they frequently pose a revolutionary threat. Alternatively, if μ^L is sufficiently less than one, then even in this state, the elite have to redistribute to the citizens. In this case, a low value of μ^L would also lead to the same result. A naive intuition may have been that in this case franchise extension would be more likely. This is not the case, however, because with a frequent revolutionary threat, future redistribution becomes *credible*. When the citizens have the power to oversee the promises made to them, then there is less need for the elite to undertake a change in institutions in order to increase the future political power of the citizens.

This result may explain why in the nineteenth century, Germany instituted the welfare state while allowing only a highly circumscribed democracy, while Britain and France democratized much more unconditionally. Social unrest against the existing system was as strong in Germany as it was in Britain and France. However, there were significant differences between the three countries in terms of the strength of the working class under the existing regime. While there were no strong socialist parties in Britain and France and trade unions were of little importance, the Social Democratic Party in Germany was by far the largest left-wing party in Europe at that time and labor movement was strong (though not allowed to participate effectively in elections because of voting restrictions). For example, Nolan (1986, p. 354) explains the strength of German workers movement as follows: "Although Britain experienced the first industrial revolution and France developed the first significant socialist associations, Germany produced the largest and best-organized workers' movement in the late nineteenth century." An alternative theory of democratization based purely on the strength of the working class would predict franchise extension in Germany before those in Britain and France. Propositions 6.3, which constructs a theory of democratization as a transfer of political power, in contrast, predicts that German elites should have had more flexibility in dealing with social unrest by promising future redistribution. This is also in part consistent with the actual evidence. While Britain and France democratized, and then increased redistribution towards the poor, Germany undertook redistribution without changing its nondemocratic regime. There is also little doubt that these redistributive measures were taken as a response to the potential revolutionary threat from the working-class. Williamson (1998, p. 64), for example, writes that "the main aim of [the German] welfare programme was to avoid revolution through timely social reform and to reconcile the working classes to the authority of the state."

In addition, the distinction between the high and low state emphasizes that regime changes happen during unusual periods, perhaps periods of economic crises or recessions. This is also in line with the evidence as we discussed in Chapter 3 (see also Acemoglu, Johnson, Robinson and Yared, 2004). For example, in the context of the Latin American experience, Haggard

and Kaufman (1995) document that many transitions to democracy happened during economic crises. They summarize their findings by writing "in Argentina, Bolivia, Brazil, Peru, Uruguay and the Philippines, democratic transitions occurred in the context of severe economic difficulties that contributed to opposition movements" (1995, p. 45). Though in this book we capture these ideas using the reduced form parameter μ, so that the costs of revolution fluctuate directly, in Acemoglu and Robinson (2001) we showed how the same results follow from a model where the cost of revolution is constant but total factor productivity fluctuates, as in standard models of the business cycle. In that model changes in productivity change the opportunity costs of revolutions (and also coups) and this has the same effects.

8. Subgame Perfect Equilibria

In the previous section we characterized a subset of the subgame perfect equilibria of $G^\infty(\beta)$. In this section we analyze our basic dynamic model of democratization without the restriction to Markovian strategies. More specifically, we look for subgame perfect equilibria. In general there are many subgame perfect equilibria of this game which are supported by various history dependent strategies and our analysis here mirrors that of Chapter 5. We are interested in understanding the extent to which punishment strategies can make redistribution in state μ^L credible. Thus we look for the best possible equilibrium for the elite, which will be the one that prevents democratization for the largest set of parameter values. Therefore, implicitly we are interested in the maximum possible amount of credible redistribution to the citizens in the nondemocratic regime. To keep things simple in this section, we abstract from the use of repression though this can be easily added. As in Chapter 5 section 7, the analysis in this section focuses on showing that there exists a cutoff level of μ, $\tilde{\mu}^{**} < \mu^*$ such that when $\mu \geq \tilde{\mu}^{**}$, there will be redistribution without democratization, preventing a revolution. In contrast when $\mu < \tilde{\mu}^{**}$, the equilibrium will feature democratization when $\mu_t = \mu^H$.

Exactly as in the analysis of Chapter 5, we study the circumstances under which the elite can redistribute at some tax rate $\tau^L > 0$ in state μ^L, and thus avoid the transition away from the non-democratic regime even when $\mu < \mu^*$. There we saw that the limitation on such redistribution was that it had to be incentive compatible for the elite, i.e., it had to be such that the payoff to the elite from redistributing according to the vector $\left[\tau^L, \tau^H\right]$, given by the value $V^r(N, \mu^L, \left[\tau^L, \tau^H\right])$, had to be greater than the payoff from deviating, $V_d^r(N, \mu^L)$.

There is only one substantive difference between the game we studied in Chapter 5 and the one here. This difference is that, as long as (6.7) holds, when the non-democratic regime collapses, there will be a transition to democracy. Therefore, the value $V_d^r(N, \mu^L)$ here will take into account that when the elite deviate in state μ^L, their "punishment" in state μ^H will be democratization instead of revolution as before. This is because it is not a subgame perfect strategy for the citizens to threaten a revolution after the elite democratize, since they obtain greater payoff from democracy than revolution. Consequently, if the elite democratizes, it in effect forestalls revolution. This implies that the value $V_d^r(N, \mu^L)$ for the elite is given by the

following recursion:

$$V_d^r(N, \mu^L) = y^r + \beta \left[qV^r(D) + (1-q)V_d^r(N, \mu^L) \right]$$

where $V^r(D)$ is as in (6.14).

As before, only redistribution at the tax vector $\left[\tau^L, \tau^H \right]$ such that

$$V^r(N, \mu^L, \left[\tau^L, \tau^H \right] \geq V_d^r(N, \mu^L)$$

is credible. In addition, it is straightforward to see that the derivations leading up to $V^p(N, \mu^H, \left[\tau^L, \tau^H \right])$ in (5.38) in Chapter 5 still apply. So the incentive compatibility constraint for the elite will only differ from before because of the change in $V_d^r(N, \mu^L)$.

Just as in Chapter 5, in general the best equilibrium for the elite will need to take into account the incentives to smooth taxes over time. However, in order to simplify the discussion here, and because the concept of tax smoothing is not central to our analysis, we simply focus on characterizing the minimum value of μ^H, such that the elite can avoid democratizing. We denote this $\tilde{\mu}^{**}$, such that when $\mu \geq \tilde{\mu}^{**}$ nondemocracy can be maintained with promises of redistribution. It is still the case that the maximum tax rate in the state μ^H is τ^p. So we only need to find the maximum incentive compatible redistribution in state μ^L, which we now denote by $\tilde{\tau}'$. By an identical argument to before, it is given by

$$V^r(N, \mu^L, \left[\tilde{\tau}', \tau^p \right]) = V_d^r(N, \mu^L).$$

Since $V^r(D) > 0$, the citizens can punish deviation less when the elite can democratize and this implies that deviation is more attractive for the elite. In consequence it is immediate that $\tilde{\tau}' < \bar{\tau}'$ which satisfies (5.39).

In addition, since the value of a revolution to the citizens is also the same, the formula for the critical value of the cost of revolution, $\tilde{\mu}^{**}$ must be identical to the one we derived for μ^{**} in Chapter 5, with the value of $\bar{\tau}'$ we derived there replaced by the new value of $\tilde{\tau}'$. Thus, the critical value $\tilde{\mu}^{**}$ can be easily found so that $V^p(N, \mu^H, \left[\tilde{\tau}', \tau^p \right]) = V^p(R, \mu^H)$ at $\mu^H = \tilde{\mu}^{**}$. This is:

$$(6.22) \qquad \begin{aligned} \tilde{\mu}^{**} &= \theta - \beta(1-q)\left(\tilde{\tau}'(\theta - \delta) - (1-\delta)C\left(\tilde{\tau}' \right) \right) \\ &\quad - (1 - \beta(1-q))\left(\tau^p(\theta - \delta) - (1-\delta)C(\tau^p) \right). \end{aligned}$$

The value of $\tilde{\mu}^{**}$ implied by (6.22) is greater than the value of μ^{**} in Chapter 5 because, here, the potential punishments on the elite are less severe.

More important, it is clear that $\tilde{\mu}^{**} < \mu^*$ (where μ^* is given by (6.17)), and we have as before that if $\mu \geq \tilde{\mu}^{**}$ the elite can stay in power by redistributing. Equally important, when $\mu < \tilde{\mu}^{**}$, contrary to Chapter 5, there is no revolution, because the elite have an extra instrument—they can democratize.

In summary, allowing the elite and citizens to play non-Markovian strategies has very similar implications in this model as it did in Chapter 5. The threat of punishments by the citizens, in particular, the threat that they will undertake a revolution, implies that some amount of redistribution can be sustained in state μ^L. Interestingly, this amount is actually lower here

since the possibility for the elite to democratize limits the punishment that the citizens can inflict on them. Most important however is that the main thrust of the analysis of Chapter 5 applies. Though the ability to use punishment strategies increases the circumstances under which the elite can stay in power by making concessions, this does not eliminate the problem of credibility. When $\mu < \tilde{\mu}^{**}$, concessions do not work because of the absence of sufficient future credibility and the elite will be forced to democratize.

9. Alternative Political Identities

We now return to the model of Chapter 4, section 4.4 where we considered political conflict along the lines not of socioeconomic class, but in terms of group X versus group Z. Recall that when group X is the majority, and taxes and the form of transfers are determined sequentially by majoritarian voting, there are two types of subgame perfect equilibria. In both types redistribution is from group Z to the more numerous group X, and if $\delta_X^p > 1/2$, the equilibrium tax rate will be the ideal point of poor members of X, while if $\delta_X^p < 1/2$ the equilibrium tax rate will be the ideal point of rich members of group X. We now discuss how that model can be embedded in our static model of democratization presented in section 6 of this chapter.

We think of nondemocracy as rule by group Z who we shall think of as the elite. Clearly, rule by the elite is no longer rule by the rich since some of the members of group Z are relatively poor. The first issue is the determination of the tax and transfer rates in nondemocracy and how key decisions, such as repression and democratization are made. We assume that they are determined by majority voting in group Z and this implies that there are two cases to consider, one where $\delta_Z^r > \delta_Z/2$ and one where the opposite holds. In this section we do not attempt a comprehensive analysis of all the possible cases and we proceed by assuming $\delta_Z^r > \delta_Z/2$ which will imply that it is the preferences of the rich members of Z which determine the social choices in nondemocracy. We shall also assume $\delta_X^p > 1/2$ and thus deal with only one of the democratic equilibria outlined in Chapter 4. With respect to the tax rate we shall maintain the notation, τ^N, for nondemocracy.

All members of group Z prefer to set $T_X = 0$ and if there is no threat of revolution then the unconstrained tax rate will be the one set by the median member of Z, a rich agent. Hence the tax rate in nondemocracy will be the ideal point of a rich member of Z, τ_Z^r and this will satisfy the first-order condition

$$(6.23) \qquad C'(\tau_Z^r) = 1 - \frac{\delta_Z \alpha_Z^r \alpha}{\delta_Z^r},$$

which we assume to have an interior solution and where we have used the fact that $y_Z^r = \alpha_Z^r \alpha \bar{y}/\delta_Z^r$.

Therefore, in this case redistribution goes from group X to group Z, with the equilibrium tax rate on income τ_Z^r. Moreover, no redistribution is given to group X, $T_X = 0$ and $T_Z = (\tau_Z^r - C(\tau_Z^r)) \bar{y}/\delta_Z$. Clearly, members of group Z prefer nondemocracy to democracy, while the opposite is true for members of group X.

If the elite chooses to repress, then we assume, following our analysis earlier in the chapter, that members of both Z and X incur costs of repression. The payoffs to members of group Z after repression will be

$$(6.24) \qquad V_Z^p(O \mid \kappa) = (1 - \tau_Z^r)(1 - \kappa)y_Z^p + T_Z \text{ and } V_Z^r(O \mid \kappa) = (1 - \tau_Z^r)(1 - \kappa)y_Z^r + T_Z.$$

These equations follow because, if the elite use repression, they will stay in power and they will also be able to transfer income from group X to themselves. Note that the optimal tax rate τ_Z^r is independent of κ. The payoffs to members of group X after repression will be

$$V_X^p(O \mid \kappa) = (1 - \tau_Z^r)(1 - \kappa)y_X^p \text{ and } V_X^r(O \mid \kappa) = (1 - \tau_Z^r)(1 - \kappa)y_X^r.$$

Imagine now that members of group X can engage in collective action and mount a revolution against nondemocracy. Assume that this leads to the expropriation of all members of group Z but that, as in our main analysis, revolution is costly. Assume that, after a revolution all income (not just the income of Z) is divided equally between members of group X. Since there is now heterogeneity within group X we have to decide how to solve the social choice problem the group faces. To see where this problem comes from, first note that the payoff to all members of group X from revolution is

$$V_X^i(R, \mu) = \frac{(1 - \mu)\bar{y}}{\delta_X},$$

for $i = p, r$, while without revolution the payoffs to the poor and rich members of X are $(1 - \tau_Z^r)y_X^p$ and $(1 - \tau_Z^r)y_X^r$. Thus there are now two revolution constraints,

$$\frac{(1 - \mu)\bar{y}}{\delta_X} > (1 - \tau_Z^r)y_X^p \text{ for the poor,}$$

$$\frac{(1 - \mu)\bar{y}}{\delta_X} > (1 - \tau_Z^r)y_X^r \text{ for the rich.}$$

Recall that incomes are defined as $\delta_X^r y_X^r = \alpha_X^r(1 - \alpha)\bar{y}$ and $\delta_X^p y_X^p = (1 - \alpha_X^r)(1 - \alpha)\bar{y}$, so that α_X^r is the fraction of the income of group X accruing to the rich in this group. Substituting these into the revolution constraints we find

$$(6.25) \qquad \frac{1 - \mu}{\delta_X} > \frac{(1 - \tau_Z^r)(1 - \alpha_X^r)(1 - \alpha)}{\delta_X^p} \text{ for the poor,}$$

$$\frac{1 - \mu}{\delta_X} > \frac{(1 - \tau_Z^r)\alpha_X^r(1 - \alpha)}{\delta_X^r} \text{ for the rich.}$$

It is now immediate from the assumption that $y_X^r > y_X^p$ which implies $\alpha_X^r \delta_X^p > (1 - \alpha_X^r)\delta_X^r$, that the revolution constraint binds first for the poor. Thus there can be situations where the poor in group X favor revolution while the rich do not. We shall solve this social choice problem by assuming that group X makes decisions according to majority voting. This implies that the preferences of the poor, since they are more numerous, will determine whether or not a revolution takes place. An equivalent alternative would be to simply assume that the poor in group X can undertake a revolution on their own.

Faced with the threat of revolt by group X, the median voter of group Z will wish to make concessions by reducing the amount of redistribution towards himself and in the limit even giving

redistribution to group X, i.e., set $T_X > 0$. As before one can calculate the maximum amount of utility that group Z can credibly promise to group X. This will involve setting $T_Z = 0$, setting the tax rate preferred by a poor member of X, τ_X^p, and setting $T_X = \left(\tau_X^p - C(\tau_X^p)\right)\bar{y}/\delta_X$. Taking into account that any promise of redistribution is only upheld with probability p, this gives members of X the expected payoffs

$$V_X^p(N, \tau^N = \tau_X^p) = y_X^p + \frac{p}{\delta_X}\left(\tau_X^p\left(\bar{y} - \delta_X y_X^p\right) - C(\tau_X^p)\bar{y}\right) - (1-p)\tau_Z^r y_X^p \text{ and}$$

$$V_X^r(N, \tau^N = \tau_X^p) = y_X^r + \frac{p}{\delta_X}\left(\tau_X^p\left(\bar{y} - \delta_X y_X^r\right) - C(\tau_X^p)\bar{y}\right) - (1-p)\tau_Z^r y_X^r.$$

Notice that these expressions incorporate the fact that with probability $1 - p$, the elite will be able to re-set the tax rate and therefore, since the revolution threat has passed, they will be able to set their preferred tax rate, τ_Z^r and members of group X will get no redistribution.

We can use this to define a new μ^* such that if $\mu < \mu^*$ then concessions do not stop a revolution. μ^* is defined by the equation $V_X^p(N, \tau^N = \tau_X^p) = V_X^p(R, \mu^*)$ which implies,

$$(6.26)\mu^* = 1 - \frac{1}{\delta_X^p}\left[\delta_X(1 - \alpha_X^r)(1 - \alpha) + p\left(\tau_X^p\left(\delta_X^p - \delta_X(1 - \alpha_X^r)(1 - \alpha)\right) - \delta_X^p C(\tau_X^p)\right)\right.$$
$$\left. -(1 - p)\delta_X\tau_Z^r(1 - \alpha_X^r)(1 - \alpha)\right]$$

The first main point to emphasize is that similar to our analysis in the case of conflict between rich and poor, if $\mu < \mu^*$ defined by (6.26), then the elite will not be able to stay in power by offering redistribution or concessions. They will either have to repress or democratize. Thus the basic mechanism around which our book is built, namely that promises may not be credible without fundamental changes in the structure of political power, functions whatever the nature of political identities.

All the other trade-offs will be qualitatively similar to before as well. For example, when $\mu < \mu^*$ whether or not the elite democratizes depends on how costly democracy is compared to repression, while if $\mu \geq \mu^*$ the elite has to decide whether or not to make concessions or repress.

The main point of divergence is the comparative statics of this model, especially those with respect to inequality. As discussed in Chapter 4, an increase in *inter-group inequality* can be captured by an increase in α. Consider the effects of α. If $\mu < \mu^*$, the trade-off for the elite is between democratization or repression. A higher α leads the median voter in group X to favor higher tax rates, which makes democracy worse for members of group Z, favoring repression. If $\mu \geq \mu^*$, higher α increases the amount of redistribution that the elite have to offer group X to make it indifferent between revolution and nondemocracy, again favoring repression. These results, with respect to inter-group inequality are basically the same as those we derived in section 5 with respect to inequality. Changes in inter-group inequality in this section however do not necessarily map into changes in observed measures of inequality however.

Moreover, now consider the effects of an increase in α_Z^r, the share of group Z income which accrues to rich members of the group, holding α and α_X^r constant. An increase in α_Z^r unambiguously increases measured inequality. First, observe that when α_Z^r goes up the equilibrium tax rate levied in nondemocracy falls. Second, since the left side of (6.25) does not change,

the benefit from having a revolution does not change. Therefore, since the tax rate levied in nondemocracy falls, revolution becomes less attractive even though measured inequality has certainly increased.

This brief analysis of conflict between two non-economic groups serves to illustrate that the basic mechanisms of democratization apply whatever political identities are relevant, but also highlights that the comparative statics with respect to inequality may be quite different. This emphasizes that the robust predictions of our approach are those concerning the role of political institutions in affecting the future distribution of power when promises are not credible.

10. Targeted Transfers

We now briefly discuss how the introduction of targeted transfers, as in Chapter 4 section 4.3 changes our results in the static model of section 5. What we showed there and in Chapter 5, was that allowing for targeted transfers increased the burden of democracy on the elite, making it worse for the elite, but better for the citizens. At the same time, this effect is reinforced by the fact that the elite could redistribute from the citizens to themselves in nondemocracy. Thus the burden of nondemocracy on the citizens increases. Citizens dislike nondemocracy more, while elites like it better and fear democracy more. More generally, when transfers can be targeted, there will be greater distributional conflict in society (not only between rich and poor, but between any groups), because those in power can use the fiscal system more effectively to redistribute resources to themselves.

The impact of increased conflict in our framework is straightforward to see. First, targeted transfers will make revolution more attractive for the citizens because in nondemocracy the citizens now pay taxes that are redistributed to the elite. The same argument also implies that nondemocracy is more attractive for the elite, and they will be more willing to use repression.

This implies that whether transfers can be targeted, more generally, the form of fiscal redistribution in society, will have important effects on equilibrium political institutions. Nevertheless, our framework does not make unambiguous predictions on whether targeted transfers will make democracy more or less likely. Because they make the revolution threat stronger, they may force democratization, when temporary redistribution would have been sufficient without targeted transfers. But also because they make nondemocracy more attractive to the elite, they may also lead to repression preventing peaceful transitions to democracy.

11. Power of the Elite in Democracy

Let us now return to the class of models where we can talk about various different types of democracies, giving different amounts of power to the citizens. Recall that in a fairly generic model of democratic politics, political competition in democracy between parties maximizes a weighted sum of different groups' utilities. In the context of our two-group model, this gives us an equilibrium tax rate in democracy as a function of the parameter χ which captures the weight on the utility of the elite. We used the notation $\tau(\chi)$ for this in Chapter 4 with $\tau(\chi = 0) = \tau^p$ and $d\tau(\chi)/d\chi < 0$. That is, as the power of the citizens in democracy declines, so does the

equilibrium tax rate and the degree to which democracy redistributes income to the citizens. From this it follows that

$$\frac{dV^p(D)}{d\chi} < 0 \text{ and } \frac{dV^r(D)}{d\chi} > 0.$$

The values of revolution and repression to the elite and the citizens are not affected by this modification in the modeling of democratic politics.

To study some of the implications of this model let us return to the simple static model of section 6 of the chapter. Note first that the trade-off for the elite between repression and the promise of redistribution when $\mu \geq \mu^*$ is not altered by this new model of democracy. Therefore we can concentrate on investigating the implications of χ for $\tilde{\kappa}$, the critical level of the cost of repression at which the elite are just indifferent between repression and democracy. Recalling that the critical threshold for the cost of repression, $\tilde{\kappa}(\chi)$, which we now index by χ, is defined such that

$$V^r(O \mid \tilde{\kappa}) = V^r(D),$$

we have that

(6.27) $$\tilde{\kappa}(\chi) = \frac{1}{\theta}\left(\delta C(\tau(\chi)) - \tau(\chi)(\delta - \theta)\right),$$

which is similar to (6.10) above, except that the equilibrium tax rate resulting from political competition with variable political power, $\tau(\chi)$, replaces the most preferred tax rate of the citizens, $\tau(\chi)$. Notice that

$$\frac{d\tilde{\kappa}(\chi)}{d\chi} = \frac{1}{\theta}\left(\delta C'(\tau(\chi)) - (\delta - \theta)\right)\frac{d\tau(\chi)}{d\chi} < 0,$$

by the fact that the elite have higher incomes than the citizens, and that $d\tau(\chi)/d\chi < 0$. Thus increases in χ, by making democracy less majoritarian, make repression less attractive for the elite. This implies that the ability to increase the power of the elite in democracy will often enable a peaceful transition to democracy by making repression less attractive for the elite. Nevertheless, it has to be noted that increasing χ is a double-edged sword, since as the power of the elite in democracy goes up, democracy becomes less pro-citizen and it is only the fact that the welfare of citizens is increased by democracy that makes democratization a feasible institutional change to avoid a revolution. When χ becomes too high, democracy is no longer a credible commitment to pro-citizen policies, and to avoid a revolution the elite will have no choice but to use repression.

To summarize this discussion:

Proposition 6.4: In the model with variable power, an increase in χ starting from low values makes democracy less redistributive and makes repression less attractive for the elite. This makes democracy more likely. However, as χ increases further, (6.7) becomes less likely to hold, and therefore makes it less likely that democratization will stop a revolution, which induces the elite to choose repression again.

There are many interesting examples which suggest the importance of Proposition 6.4. For example, the inability of the elite to compete successfully in democratic politics often leads to

coups. As we saw in Chapter 1, many scholars argue that the inability of Conservative parties to compete with the Radicals in Argentina after the implementation of the Sáenz Peña Law appears to be one of the factors behind the coup in 1930. Traditional elites were willing to grant full democracy, partially because they thought they would command a great deal of power under the new institutions. The failure of Conservative parties then shows that χ was smaller than had been thought at the time of democratization. In contrast, traditional political elites in Colombia have been very successful in manipulating political institutions to sustain their power, even after the complete enfranchisement of males in 1936. In particular, by structuring the electoral rules in a way which discouraged entry by third parties, particularly socialists, they were able to keep dissident factions within the parties and limit demands for radical redistributive policies (see Mazzuca and Robinson, 2003). As we noted earlier, other factors facilitated this strategy in Colombia, particularly the fact that the distribution of land was more egalitarian than in other Latin American countries and there was thus a substantial middle class with much less interest in redistribution (see Bergquist, 2002 on this issue).

This Colombian example suggests that, at least to some extent, manipulation of institutions can make χ endogenous. In support of this Sáenz Peña also tried to manipulate the electoral system by introducing a system called the "incomplete list". Under this system, congressional candidates were elected in three member constituencies, but only two members were elected from the party with the most votes, with the third allocated to the party with the second largest amount of votes. Smith (1978, p. 11) notes that this "discriminated sharply against small parties, discouraged the formation of new movements, favored the established interests." This system was constructed as a way of guaranteeing one third of the seats to the Radicals as a concession to avoid further conflict with the anticipation that conservatives would secure the 2/3 majority.

A fascinating example of an apparently successful manipulation of democracy is Pinochet's 1989 Constitution. Pinochet lost a plebiscite which he hoped would further extend the military government. He was faced with the decision about whether to actually democratize or instead ignore the results of the vote and stay in power by using force. In the end he decided that democracy was the better option but his preferences were clearly influenced by his success at 'designing democracy.' In particular, he managed to write into the electoral rules a systemic gerrymander that over-represented Conservative groups (see Londregan, 2000), in our model this increases χ and makes repression less attractive.

Another potentially important example is due to Rokkan (1970) who argued that proportional representation was introduced in many Western European countries at the time of mass democratization by conservative parties trying to protect their power. In our framework, if Rokkan is right, then this switch in electoral rules may have played an important role in preserving democracy in such countries as Sweden, Belgium and Norway (though Rokkan did not explain why the rule changes were permanent once the Socialist parties took power, as they did in Sweden and Norway, on which see Mazzuca and Robinson, 2003).

The results in this section also throw some interesting light on the claims made in the comparative politics literature about how political elites try to 'manage' transitions (e.g. Linz and Stepan, 1996). For example, it is often argued that because the dictatorship in Argentina collapsed after the Falkland's War in 1983, it had little ability to influence the design of democratic institutions. On the other hand, because the Brazilian dictatorship managed to organize a relatively orderly transition to democracy in 1985, it was able to significantly influence the form of political institutions and the outcomes in the nascent democracy. Our model shows that the ability to manipulate democracy may lead peaceful transitions to democracy that would have otherwise encountered repression. Thus the fact that the Brazilian military was able to control the process of democratization in the 1980's may have actually facilitated it.

In stating Proposition 6.3 we treated χ as an exogenous parameter and discussed its implications for the equilibrium. However, in some circumstances χ may in fact be endogenously changed. What explains why in some places the elite were able to install a limited democracy while in others they were not? What explains why in some circumstances the majority are willing to design institutions to limit their own power?

First, in many circumstances the relevant institutions may essentially be historically determined and very difficult to change. By their very nature institutions tend to persist over time (Acemoglu, Johnson and Robinson, 2001, 2002) and for the purposes of understanding regime dynamics must be taken as given. An interesting example of this would be the fact that all Latin American countries have presidents. The consensus on the origins of presidentialism in Latin America is that when these countries became independent, they took the form of political institutions in the United States as a blueprint for how to organize a republic. Hence they adopted presidential forms of democracy which have persisted over time.

Second, designing institutions involves both costs and benefits, both of which are uncertain. Take the decision of the ANC to build guarantees for the whites into the South African constitution. This limited their power and other things equal, was undesirable from their point of view. One part of these concessions was the introduction of proportional representation. Reynolds (1999, p. 183) notes

> "One of the least contentious issues throughout the entire negotiation process was the agreement of almost all the key players on the use of a proportional representation system (PR) to elect the Constitutional Assembly in 1994. The whites-only parliament had inherited the British single member district (SMD) plurality system ... and it was long thought that the ANC would seek to maintain the system ... because they perceived electoral advantage in doing so."

However, it was also clear to the ANC that an electoral system that underrepresented whites could be dangerously destabilizing. Reynolds (1999, p. 184) records that "the 1980 census showed whites to be in a majority in only five ... districts ... the ANC appreciated the way in which PR could facilitate an inclusive polity which would convert potentially anti-system minority parties into pro-system parties with incentives to play their democratic roles" and

"the NP quickly realized that the existing SMD plurality system had the potential to devastate their seat winning abilities" (Reynolds, 1999, p. 185). Not only did the ANC worry that the whites would be under-represented. They also worried they would be over-represented. For example, one problem with the SMD system was that "it would have given the ANC enough of a 'seat bonus to push them over the two-thirds threshold, giving them enough seats to write the permanent constitution alone" (Reynolds, 1999, p. 185). As we noted in Chapter 5, the ANC recognized that it was not advantageous to be able to independently re-write the constitution. As a result the ANC quickly agreed to switch to PR.

Whether or not the ANC would want to make such concessions would depend on their perception of the possible actions that the white minority could take. For example, if they expected the whites to sponsor a coup against democracy or flee the country with their wealth, building guarantees into the constitution would be more attractive. In reality it is also uncertain as to whether any particular institutional guarantees will work. For example Robert Mugabe's regime in Zimbabwe has been able to over-ride most of the checks and balances placed on it by the 1980 constitution, including the clauses designed to bolster the political power of the whites.

12. Ideological Preferences over Regimes

In our analysis so far, the only reason why agents care about political institutions is because of their different economic consequences. An alternative, and complementary, perspective is to recognize that individuals may also have ideological preferences over regimes. For example, after the Enlightenment in Europe, it may have been the case that the elite preferred democracy to nondemocracy for purely ideological reasons.

How does incorporating such ideological concerns change our analysis? At some level a lot, at some other level not that much. Of course, if ideological preferences are the main thing, much of our analysis is not very relevant. However, if ideological preferences are present, but not large enough to totally swamp the relevant economic concerns of individuals as well, much of our analysis and many of the insights developed so far continue to apply.

To see this, let us introduce ideological concerns in our baseline model of democratization in Section 5. In particular, imagine that people's utility functions are additive in consumption and a term which captures an intrinsic preference for democracy. In democracy, the utilities of a poor citizen and rich elite agent who consume incomes y^p and y^r are $y^p + B_p \bar{y}$ and $y^r + B_r \bar{y}$, where as usual we normalize by average income. Here $B_p > 0$ and $B_r > 0$ capture the positive utility from living under democratic institutions. In contrast, if society is a nondemocracy, then agents do not receive these extra utility 'benefits.' All agents aim to maximize their expected utility.

In this model the threat of revolution is not the only way democratization may arise. If B_r is relative large, then the elite prefer to democratize even though they could avoid doing so by redistributing income themselves. This was a result which we could never have before since democratization was always worse for the elite than making concessions. This would correspond

to a "purely ideological" democratization, driven by the social values of the elite, arising when $V^r(D) \geq V^r(N, \tau^N = \hat{\tau})$.

To see how this new feature influences the model note that since neither the revolution constraint nor the equation determining μ^* depend on the value from democracy, they are unchanged by the introduction of ideological preferences. The only differences are that before democracy arose only if $\theta > \mu$ and $\mu < \mu^*$. Now it is possible that even if $\mu \geq \mu^*$, so that democratization could be avoided by concessions, the elite democratize. Moreover, even if $\theta \leq \mu$, so that the revolution constraint does not bind, B_r can be sufficiently large to ensure $V^r(D) \geq V^r(N)$, thus creating an ideology-driven democratization.

The crucial issue, naturally, is whether the elite have a strong enough preference for democracy. To study this we need to define two cutoff levels: $\bar{B}$ is the cutoff level such that when $B_r \geq \bar{B}$, even when $\theta \leq \mu$, so that the threat of revolution does not bind, the elite democratize. This is clearly given by

$$\bar{B} = \frac{1}{\delta} \left(\delta C \left(\tau^p \right) - \tau^p \left(\delta - \theta \right) \right)$$

where the right hand side is the net transfers away from the elite when the tax rate is the one that will be chosen in a democracy, τ^p. This is what the elite will pay in democracy as net transfers away from them, but in return they will obtain the ideological benefit of having established democracy, B_r.

However, when $\theta > \mu$, the comparison is not between no taxation and democracy, but between limited taxation and democracy. Therefore, the relevant threshold is

$$\tilde{B} = \frac{1}{\delta} \left(\delta C \left(\tau^p \right) - \tau^p \left(\delta - \theta \right) + p \left(\hat{\tau} \left(\delta - \theta \right) - \delta C(\hat{\tau}) \right) \right),$$

which takes into account that even without democracy there will be net redistribution away from the elite equal to $\hat{\tau} \left(\delta - \theta \right) - \delta C(\hat{\tau}) < 0$ with probability p. Clearly, we have that

$$\tilde{B} < \bar{B}.$$

Analysis of these equations shows that both $\tilde{B}$ and $\bar{B}$ are increasing in θ: in other words, the higher is inequality, the higher are $\tilde{B}$ and $\bar{B}$. For example

$$\frac{d\bar{B}}{d\theta} = \frac{1}{\delta} \left(\delta C' \left(\tau^p \right) - \left(\delta - \theta \right) \right) \frac{d\tau^p}{d\theta} - \frac{1}{\delta} \left(\delta - \theta \right) > 0,$$

which follows immediately from noting that $-\left(\delta - \theta \right) > 0$ and recalling that $d\tau^p/d\theta > 0$. This is because with greater inequality, democracy is more costly for the elite (as it redistributes more away from them), and as a result, their ideological preferences have to be stronger for them to prefer democracy to nondemocracy.

Finally note that now, compared to (6.7), the condition that democracy prevents revolution is easier to satisfy since there is an extra utility benefit from democracy which does not accrue if there is a revolution. We can re-state (6.7) taking this into account as

(6.28) $$\mu \geq \theta - \left(\tau^p(\theta - \delta) - (1 - \delta)C(\tau^p) \right) - B_p.$$

We now have the following result.

Proposition 6.5: There is a unique subgame perfect equilibrium such that

- If $\theta \leq \mu$ and $B_r \leq \bar{B}$ then the revolution constraint does not bind and the elite stay in power without democratizing or redistributing income. If $B_r > \bar{B}$, and (6.28) holds, then the elite democratize.

- If $\theta > \mu$, then the revolution constraint binds. In addition, let μ^* be defined by (6.6). Then:

  (1) $\mu \geq \mu^*$, and $B_r \leq \tilde{B}$, the elite do not democratize and set the tax rate $\hat{\tau}$ to redistribute enough income to avoid revolution.

  (2) If $\mu < \mu^*$, or $\mu \geq \mu^*$ and $B_r > \tilde{B}$, and (6.28) holds, then the elite democratize.

  (3) If (6.28) does not hold there is a revolution.

There are a couple of interesting points to note here: first, if ideological considerations are not very important, our previous analysis applies identically because this will imply that B_r is sufficiently small, so $B_r \leq \bar{B}$ and $B_r \leq \tilde{B}$ will be the relevant part of the parameter space, where the implications of Proposition 6.5 become identical to Proposition 6.1. Second, when ideological considerations are sufficiently important, they may induce transitions to democracy that would not have taken place for purely economic reasons. Nevertheless, it is important to note that even in this case, economic incentives are potentially important. For example, notice that both $B_r > \bar{B}$ and $B_r > \tilde{B}$ are more likely when inequality is low. As inequality increases, the redistribution away from the elite in democracy becomes larger, and for a given ideological benefit of democracy, these two conditions are less likely to hold.

13. Democratization in Pictures

We have now developed our framework sufficiently that we can rigorously construct Figure 2.1 from Chapter 2. Let's do this in the context of the static model of Figure 6.2 and we shall assume that democracy is always sufficiently redistributive that it stops a revolution. Consider Figure 6.4. On the horizontal axis is inequality and on the vertical axis we have now plotted the cost of repression, κ. First note that when inequality is low, in particular when $\mu > \theta$ there is no threat of a revolution and on this picture this is the region to the left of the vertical line at μ. Next, note that whether or not a nondemocratic regime can stay in power by making policy concessions and redistributing income is also independent of κ and is thus another vertical line. This is derived from (6.6). We used the notation θ^* in section 6.1 of this chapter to refer to the critical level of inequality at which this equation is satisfied, and this is drawn on Figure 6.4. We therefore have two vertical lines which split the box into three regions. On the left, as we noted, is the political status quo with no repression. Next is a region where there are concessions but no need to create democracy. Finally there is a region where inequality is so high that there will be a revolution unless democracy is created or repression is used.

It now only remains to determine when the elite wish to repress. Consider the region where the elite can stay in power by redistributing. They will choose repression when $\kappa < \hat{\kappa}$ where

$\hat{\kappa}$ is defined by (6.9). $\hat{\kappa}$ is an increasing function of θ, when inequality is higher, the elite have to redistribute more when they make concessions, and repression is more attractive. Similarly when democracy or repression is the relevant option, repression is optimal if $\kappa < \tilde{\kappa}$ where, $\tilde{\kappa}$ is defined by (6.10). Finally, to complete the figure, note that for any value of θ, $\tilde{\kappa} > \hat{\kappa}$. This is so because democracy is always more redistributive than the promise of concessions. In the figure, for clarity, we have only plotted part of these functions.

We can do some interesting thought experiments in terms of these pictures. Let's introduce the possibility that a dictatorship can manipulate democracy to make it less pro-citizen. The only effect this has on the picture is to shift down $\tilde{\kappa}$, it implies that the cost of repression has to be less in order for it to be optimal, given that once democracy can be manipulated it is less threatening to the elite. The effect of this is to expand the area in which we get democracy. We show this possibility in Figure 6.5.

Finally, let us note that Figure 6.4 is the basis for Figure 2.2 in Chapter 2. The only difference is that we simplified Figure 2.2 by ignoring the possibility that nondemocratic regimes could stay in power by redistributing income. If we ignore this possibility in Figure 6.4 this means that we erase the vertical line at θ^* and we need to extend the upward sloping line which shows $\tilde{\kappa}$ as a function of θ. This gives Figure 6.6, which is the same as Figure 2.2.

14. Equilibrium Revolutions

We have so far assumed that repression works for sure and prevents the threat of revolution. History is full of heavy-handed repression strengthening the threat of revolution, and ultimately leading to revolution or significant disruption. In this section, we briefly discuss the possibility that repression does not always work, and in particular, assume that following repression, the citizens may actually revolt with probability r. Thus we allow repression to fail. To do this we again develop the static extensive form game model of section 6 rather than the full dynamic model. The game tree in Figure 6.7 draws this extended game. This modification, naturally, does not affect the payoffs from democracy and nondemocracy without repression. Moreover, it does not affect the circumstances under which the elite can stay in power by promising to make policy more pro-citizen. In consequence the formula for μ^* is unchanged. However, allowing repression to fail does change the payoffs from repression. In particular, the value functions from repression are now given by

$$V^p(O \mid \kappa) = (1-r)(1-\kappa)y^p + r\frac{(1-\mu)\bar{y}}{1-\delta} \text{ and } V^r(O \mid \kappa) = (1-r)(1-\kappa)y^r.$$

that is, with probability r, repression in the state fails and there will be revolution. In this case both parties receive their payoffs from revolution.

This changes the cutoff values for the cost of repression in an obvious way. More specifically, let $\hat{\kappa}(r)$ the threshold that makes the elite indifferent between repression and redistribution. Thus:

$$V^r(O \mid \hat{\kappa}(r)) = V^r(N, \tau^N = \hat{\tau}),$$

or in other words,

$$(6.29) \qquad \hat{\kappa}(r) = -\frac{r}{1-r} + \frac{p}{(1-r)\theta} \left[\delta C(\hat{\tau}) - \hat{\tau}(\delta - \theta) \right].$$

Next, define the threshold for the elite to be indifferent between repression and democratization as:

$$V^r(O \mid \tilde{\kappa}(r)) = V^r(D),$$

or more explicitly,

$$(6.30) \qquad \tilde{\kappa}(r) = -\frac{r}{1-r} + \frac{1}{(1-r)\theta} \left[\delta C(\tau^p) - \tau^p(\delta - \theta) \right].$$

where we index the threshold values by r. Clearly, $\hat{\kappa}(r) < \hat{\kappa}$ and $\tilde{\kappa}(r) < \tilde{\kappa}$ where $\hat{\kappa}$ and $\tilde{\kappa}$ are defined by (6.9) and (6.10). When there is the possibility that repression will fail, it has to be even cheaper for it to be optimal for the elite.

The fact that these cut-off values depend on the probability that repression will fail does not radically change the analysis however. In particular, we can characterize the equilibria in this game with the following Proposition which is very similar to Proposition 6.2. The main difference is that in the cases where the elite choose to repress, there is a revolution with probability r.

We now have the following result.

Proposition 6.6: There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 6.7 and it is such that

- If $\theta \leq \mu$ then the revolution constraint does not bind and the elite can stay in power without repressing, redistributing or democratizing.
- If $\theta > \mu$ then the revolution constraint binds. In addition, let μ^* be defined by (6.6), and $\hat{\kappa}(r)$ and $\tilde{\kappa}(r)$ defined by (6.29) and (6.30). Then:

(1) If $\mu \geq \mu^*$ and $\kappa \geq \hat{\kappa}(r)$, then repression is relatively costly and the elite redistribute income to avoid revolution.

(2) If $\mu < \mu^*$ and $\kappa < \tilde{\kappa}(r)$ or $\kappa \geq \tilde{\kappa}(r)$ and (6.7) does not hold, or if $\mu \geq \mu^*$ and $\kappa < \hat{\kappa}(r)$, then the elite use repression. With probability r repression fails and a revolution takes place.

(3) If $\mu < \mu^*$, (6.7) holds, and $\kappa \geq \tilde{\kappa}(r)$, then concessions are insufficient to avoid a revolution and repression is relatively costly so the elite democratize.

This extension shows how equilibrium revolutions can emerge as a calculated risk by the elite to avoid democratization. It also predicts that revolutions are more likely when the society is highly unequal, so that despite the risk of revolution, the elites risk repression rather than democratization.

15. Conclusion

In this chapter we have built our basic model of democratization. To do this, we discussed in general terms why it is that political institutions, and not simply political power, are important. We showed that to understand the role that political institutions play, we have to recognize the

explicitly dynamic aspects of people's calculations. Institutions matter because they influence the future allocation of de jure political power, political actors wish to control and change institutions because they want to lock in their present political power. Because institutions influence the allocation of future political power they also provide commitment, an aspect of institutions which is key to our theory.

We derived some basic predictions about the factors that lead to democracy under the working assumption that once created democracy consolidates. So when do democratizations occur? One important factor could be increasing inter-group inequality. We showed that democracy arises when inequality is sufficiently high that the disenfranchised want to contest power, but not so high that the elite find it attractive to use repression. Consider a cross-section of societies. With low inequality we would tend not to observe democracy. At higher levels of inequality we would still not observe democracy because nondemocracies can maintain their power by engaging in temporary policy concessions to defuse potential challenges. As inequality gets even higher we will observe democracy. Even though the elite in a nondemocracy would like to use policy concessions to stay in power, current concessions in the absence of promised future concessions are not sufficient to stave off revolution. However, if the elite maintain their monopoly of power they cannot credibly promise such future concessions and thus they have to give away their power—democratize—to avoid revolution. However, as inequality gets even higher democracy starts to become very threatening for the elite since they will face highly adverse policies, such as punitive rates of redistribution, if they democratize. In consequence repression begins to be attractive. Democratization is therefore not monotonically increasing in inter-group inequality, and we expect an inverse U-shaped relationship between inequality and democracy with democracy happening at intermediate levels of inequality.

Nevertheless, inter-group inequality is only part of the story and we began to see how other factors influence the creation of democracy. For instance, we saw that the power of the elite in nondemocracy, and perhaps their ability to manipulate the form of democracy, can influence democratization. As we develop our analysis many other factors will begin to come into this picture. There will be important roles for the form that the elite holds their wealth, there will be roles for the extent of globalization and the evolution of the international economy, and there will be a key role for the middle class.

This analysis of this chapter suggests that there will be interesting dynamic relationships between inequality and democracy, aspects of which we investigated in Acemoglu and Robinson (2000a, 2002). There we showed how rising inequality could, by tightening the revolution constraint, initially force elites to democratize. After democracy is created its redistributive nature could interact with the process of capital accumulation to lead to a subsequent fall in inequality. Thus these papers showed how an endogenous process of capital accumulation, inequality and democratization could account for the Kuznets curve like patterns of inequality we discussed in Chapter 3.

Though it is not the main focus of our research, it is also useful to consider for a moment whether or not democratization promotes efficiency. Recall from Chapter 4 that the most useful

way to talk about this is in terms of total surplus. If we simply used the Pareto criterion then we would not be able to compare democracy with nondemocracy. In democracy the citizens are better off, in nondemocracy the elite are better off. The Pareto criterion cannot rank the two sets of institutions. However, we can make more progress with total surplus. Taking the simplest model where the only type of policy is redistributive taxation it is immediate that when repression is not used, total surplus is higher with nondemocracy. This is because redistribution, because it is costly, simply reduces total income and thus surplus. Since the elite do not support redistribution and they get their way in nondemocracy, democratization leads to a less efficient outcome. This conclusion is partly the result of the simplified model we used to communicate the basic ideas. For example, if redistribution takes the form of investment in public goods rather than fiscal redistribution, the elite will wish to under supply public goods (while the citizens wish to oversupply them). When there is inequality the ideal point of neither coincides with the surplus maximizing level of provision. In this case democratization may increase efficiency by increasing the supply of public goods. Second, once nondemocracies stay in power by using repression, democracy will begin to look more attractive from the efficiency point of view, because repression wastes resources simply to affect the distribution of resources between the elite and the citizens. In this case democracy may be efficient even when redistributive taxation causes substantial distortions.

CHAPTER 7

Coups and Consolidation

1. Introduction

So far we studied situations where democracy once created persists indefinitely—there are no reversals in the march towards democracy. The reality is quite different, however. There are many instances in which countries become less democratic, and democratic regimes are overthrown by military coups, reverting to dictatorship.

The recent history of many Latin American countries is particularly marred by oscillations in and out of democracy. In Argentina, for example, we saw in Chapter 1 that universal male suffrage became effective in 1912. But it was soon overthrown by a coup in 1930. Democracy was re-instated in 1946, but fell to a coup in 1955, re-created again in 1973, subverted again in 1976, and finally re-installed in 1983. Inbetween several semi-democratic regimes fell to coups, in 1943, 1962 and 1966. Why are there coups against democracy? Why has mass democracy been durable in many Northern European countries, and why has it been so hard to consolidate this set of political institutions in less developed countries such as those in Latin America?

This chapter provides a framework for analyzing coups against democracy, and then combines these ideas with the models developed in Chapter 6 to build a framework to analyze the creation and consolidation of democracy as well as potential switches between democracy and nondemocracy.

In building our theory of coups, we will emphasize the same economic and political incentives that featured prominently in understanding the creation of democracy. So far we have emphasized that in democratic societies the majority of citizens are able to alter policies in their favor and against the interests of elites. This makes the citizens pro-democratic while simultaneously giving the elite an incentive to oppose democracy. These contrasting incentives determine when and how democracy emerges. The same basic forces will also determine the incentives for coups. Since the elite prefer nondemocracy to democracy, they may, under certain circumstances, support a coup against democracy, which would lead to policies more favorable to themselves in the future.

Why undertake a coup rather than demand more pro-elite policies? The answer to this question is the same as the one we provided when discussing transitions to democracy: the elite not only care about policy today but also about policy in the future, and in democracy, future policies are decided by the median voter, who is not a member of the elite. Therefore, democracy can promise policies today to appease the elite, but cannot commit to pro-elite policies in the future, especially if the political power that the elite have is transitory. Hence,

a change in political institutions again emerges as a way of shaping future policies by changing the allocation of (de jure) political power.

One result of our analysis will be that coups are more likely in societies where there is greater inequality between the elite and the citizens. The amount of redistribution away from the elite is increasing in the degree of inequality. Therefore, in an unequal society, the elite have more to gain by changing the regime than in a more equal society. As usual, whether or not this claim maps into a statement about inequality as conventionally measured depends on the identity of the elite and the citizens.

When we combine our theory of coups with our model of democratization, we obtain a dynamic framework that allows equilibrium democratizations and coups. In this framework, highly unequal societies may experience frequent switches between democracy and dictatorship. In nondemocracy, the citizens have a lot to gain by challenging the system, leading to frequent democratizations, and in democracy, the elite are unhappy because of the high degree of redistribution, and in consequence may undertake coups against the democratic regime. This insight suggests a reason why democracy has been relatively hard to consolidate in Latin America, where many societies have significant economic inequality.

Our analysis also reveals a useful distinction between fully consolidated and semi-consolidated democracies. We say that a democracy is fully consolidated when there is never any effective coup threat. OECD countries would be examples of fully consolidated democracies. An unconsolidated democracy is one that will fall prey to coups. A semi-consolidated democracy can prevent coups, but it does so by changing the equilibrium policies from those that would have obtained in the absence of the coup threat. Therefore, semi-consolidated democracies live under the shadow of a coup, which is very different from the situation in fully consolidated democracies, where voters and parties can effectively ignore the threat of a coup in making their policy choices.

Another interesting result will be a non-monotonic relationship between inequality and income redistribution. Higher inequality typically leads to a greater amount of redistribution (with the caveats already noted in Chapter 4). But in a model where there may be coups, highly unequal societies will be oscillating between democracy and dictatorship, and thus will not redistribute as much as less unequal societies.

Also of interest is that in consolidated democracies, because the threat of coups is not important, there will be little or no variability in the amount of redistribution. In contrast, highly unequal societies will be either semi-consolidated or unconsolidated. In unconsolidated regimes, fiscal policy is more volatile, because as a society fluctuates between different political regimes, the amount of fiscal redistribution changes. In semi-consolidated democracies, there will not be equilibrium coups, but the amount of redistribution will fluctuate in order to prevent coups from taking place. This pattern is consistent with the evidence presented by Gavin and Perotti (1997) that fiscal policy in Latin America is much more variable than in Europe.

There is a large academic debate on the issue of how to define democratic consolidation and it leads us back to the question of whether or not the Schumpeterian definition of democracy is really the correct one. Linz and Stepan (1996, p. 5) state that

> "we mean by a consolidated democracy a political situation in which ... democracy has become "the only game in town". Behaviorally, democracy has become the only game in town when no significant political groups seriously attempt to overthrow the democratic regime."

Nevertheless, despite providing this initial definition, Linz and Stepan, in line with most of the recent political science literature go on to add a number of other conditions that must be satisfied for a democracy to be consolidated. To be a consolidated democracy a country must have (p. 7) "a state ... if a functioning state exists, five other interconnected and mutually reinforcing conditions must also exist or be crafted for a democracy to be consolidated. First, the conditions must exist for the development of a free and lively civil society. Second, there must be a relatively autonomous and valued political society. Third, there must be a rule of law ... Fourth, there must be a state bureaucracy that is usable ... Fifth, there must be an institutionalized economic society." The debate on consolidation revolves around what should be added or subtracted from lists like this (which adjectives should be added to the word 'democracy' see Collier and Levitsky, 1997). Clearly, on this basis, many of the regimes that we would consider democratic are not consolidated (see Philip, 2003, on Latin America, where there are probably no consolidated democracies on these terms). Though Linz and Stepan's initial definition is consistent with our approach, the subsequent additional conditions they impose are not.

Our use of the word consolidation instead builds on our Schumpetarian definition of democracy. As we argued before, this seems the natural place to start in building a theory of democracy and this view echoes that of Schedler (1998, p. 103) that:

> "The term "democratic consolidation" should refer to expectations of regime continuity—and nothing else. Accordingly, the concept of a "consolidated democracy" should describe a democratic regime that relevant observers expect to last well into the future—and nothing else."

2. Incentives for Coups

We now consider a society where democracy has been created and the preferences of the median voter determines the tax rate. We shall continue to use our two-group model and associate the elite with the rich and the citizens with the poor. The median voter in democracy will therefore be a poor agent. In contrast to our previous analysis, however, we now consider the possibility that democracy may not last forever, and in fact, there may be a coup against democracy. Because of the pro-citizen policies, for example income redistribution, implied by democratic politics, in democracy, the citizens are relatively well-off, and the elite are worse off. This reasoning suggests that the greatest threat against democracy will come from the elite.

Therefore, we will model coups by focusing on the incentives of the elite to reduce redistribution by moving away from democracy to nondemocracy.

Many coups, especially in Latin America, had reducing redistribution as one of their major objectives, and in most cases, proceeded to reduce redistribution and change the income distribution significantly (see the evidence discussed in Chapter 3). Given that coups are generally undertaken by the military, our approach presumes that for a variety of reasons the military represents the interests of the elite more than those of the citizens. We believe this is a reasonable first pass, and some evidence in favor of this was discussed in Chapter 3. Nevertheless, in practice the objectives of the military are not always perfectly aligned with those of a single group, and may have an important impact on the survival of democracy. Incorporating the role of the military in democratic consolidation into formal models of politics is a major area for future research, and we return to this topic briefly in the conclusion of the book.

In this chapter, we simply take as given the possibility that, at some cost, the elite can control the military and mount a coup against democracy, and investigate the circumstances under which they would like to do so. From a modeling point of view, the interesting observation is that there will be a parallel between the reasons of the citizens to want democracy and the reasons of the elite to want nondemocracy. Recall that the citizens demand a credible commitment to future pro-majority policies, and therefore a transition to democracy (and the elite were forced to give it to them) because they care about polices and social choices in the future as well as today, and they only have temporary de facto political power. A similar reasoning applies in the case of transitions from democracy to nondemocracy. The elite want less pro-citizen policies, and they temporarily have political power to secure them. But they care about future policies as well, and they know that once their temporary de facto power goes away, democracy will reintroduce the policies that it favors, such as higher taxes and income redistribution. Therefore, the way for the elite to secure the policies they prefer in the future as well as today is to change political institutions towards ones that give them more de jure power; that is a move from democracy towards nondemocracy.

There is much evidence that democrats would like to make concessions to the elite and the military to avoid coups, but the effectiveness of these is undermined by their lack of credibility. Nordlinger (177, p. 71) notes

> "the military have intervened despite budgetary increases designed to stave off a coup, as in the 1973 coup against President Allende of Chile. Allende was overthrown despite military salary increases which were greater than those for equivalent civilian grades, better fringe benefits, and the purchase of additional equipment."[1]

Notice one difference between the way we are modeling the transition from nondemocracy to democracy and the transition to nondemocracy: in the first case, the citizens had the option to undertake a revolution, and the elite created a democracy to prevent this. Here, the elite

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[1]For other such examples see Schmitter (1971, p. 484) and Cox (1976, pp. 207-208).

actually use their political power to mount a coup and change the system. This may appear like an asymmetry, but it is not essential to our results. We adopt this particular way of modeling transitions to and from democracy because we feel it provides a good approximation to reality: in most instances, democracy resulted from the elite democratizing, whereas the move from democracy to dictatorship is almost never consensual.

3. A Static Model of Coups

To model coups against democracy, consider the basic two-class model of Chapter 4, augmented to take into account the possibility that the elite can mount a costly coup. We make identical assumptions about the agents and their incomes, but now allow for costs due to coups. In particular, we have

$$(7.1) \qquad \hat{y}^i = \zeta \iota (S) y^i + (1 - \zeta) \left((1 - \tau) y^i + (\tau - C(\tau)) \bar{y} \right),$$

where we use the convention that $\zeta = 0$ denotes no coup and $\zeta = 1$ denotes a coup. $\iota(S)$ is the cost due to coup in state S. We model the costs of coups in exactly the same way as we modeled the costs of revolutions and repression—a fraction of income gets destroyed. As in the static model of the last chapter, we simply focus on the state where the coup is a threat, and hence we will suppress the notation for S. There are no costs if there is no coup, thus if $\zeta = 0$ then $\iota = 1$. The relevant cost will therefore be the value of ι when $\zeta = 1$, which we denote by $1 - \varphi$ where $0 < \varphi < 1$.

Figure 7.1 shows the game we will use to analyze coups. Initially, since we are in a democracy, the median voter sets a tax rate, τ^D. If there is no threat of a coup from the elite, the citizens will set their most preferred tax rate, τ^p, as given by (4.11). This results in payoffs $V^p(D)$ and $V^r(D)$ given by (6.4). Whether the elite mount a coup or not will depend on the continuation value in democracy and nondemocracy. We allow the tax rate initially chosen by the citizens to be different from τ^p because of the threat of a coup. After this, the elite decide whether to undertake the coup. If they do so, the society switches to nondemocracy, and the elite set the tax rate. Naturally, they will choose their most preferred tax rate, $\tau^N = \tau^r$. As a result, the game ends with respective payoffs for the citizens and the elite:[2]

$$(7.2) \qquad V^p(C, \varphi) = (1 - \varphi)y^p \text{ and } V^r(C, \varphi) = (1 - \varphi)y^r.$$

Alternatively, if the elite decide not to undertake a coup, the political system remains democratic. In this case, nature moves one more time, and determines whether the median voter, the politically decisive agent in democracy, gets to reset the tax rate from that promised by the citizens in the previous stage. As in our simple model of democratization, this captures the notion we will model in greater detail in the next section, that a regime (even a democratic

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[2]We could write these values as $V^p(C, \varphi, \tau^N = \tau^r)$ and $V^r(C, \varphi, \tau^N = \tau^r)$ to emphasize that after a coup the elite get to set the tax rate and will choose their ideal point. However, since it is immediate that $\tau^N = \tau^r$ in any subgame perfect equilibrium we suppress this notation. Similar considerations apply to the values $V^p(D, \tau^D = \tilde{\tau}, \bar{\tau}^D = \tau^p)$ and $V^r(D, \tau^D = \tilde{\tau}, \bar{\tau}^D = \tau^p)$ where with probability $1 - p$ the citizens choose the tax rate again and set $\bar{\tau}^D$. We also suppress the argument $\bar{\tau}^D = \tau^p$ from these value functions.

regime) cannot credibly commit to future taxes. More specifically, nature determines with probability p that the tax promised, denoted $\tilde{\tau}$, remains, and the citizens and the elite receive values $V\left(y^p \mid \tau^D = \tilde{\tau}\right)$ and $V\left(y^r \mid \tau^D = \tilde{\tau}\right)$ where, as usual,

$$V\left(y^r \mid \tau^D = \tilde{\tau}\right) = y^p + \tilde{\tau}\left(\bar{y} - y^p\right) - C(\tilde{\tau})\bar{y} \text{ and}$$
$$V\left(y^r \mid \tau^D = \tilde{\tau}\right) = y^r + \tilde{\tau}\left(\bar{y} - y^r\right) - C(\tilde{\tau})\bar{y}.$$

If, on the other hand, nature allows democracy to reset the tax, the median voter will choose a new tax rate, denoted by $\bar{\tau}^D$, leading to the values, $V^p(D)$ and $V^r(D)$. Therefore, the values resulting from a promise of less redistribution, only at the rate $\tilde{\tau}$, by the citizens in democracy are $V^p(D, \tau^D = \tilde{\tau})$ and $V^r(D, \tau^D = \tilde{\tau})$ such that

$$(7.3) \quad V^p(D, \tau^D = \tilde{\tau}) = y^p + p\left(\tilde{\tau}(\bar{y} - y^p) - C(\tilde{\tau})\bar{y}\right) + (1-p)\left(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y}\right),$$
$$V^r(D, \tau^D = \tilde{\tau}) = y^r + p\left(\tilde{\tau}(\bar{y} - y^r) - C(\tilde{\tau})\bar{y}\right) + (1-p)\left(\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y}\right).$$

These expressions take into account that with probability $1 - p$, the citizens get to reset the tax in which case they are unconstrained and will choose their most preferred tax rate, $\bar{\tau}^D = \tau^p$.

We can now characterize the subgame perfect equilibrium of this game by backward induction. Essentially, the game has the same structure as our static democratization game of Chapter 6. The crucial issues are whether undertaking a coup is in the interest of the elite and whether the citizens can prevent a coup by promising concessions (in this case to redistribute less towards themselves). The strategies are $\sigma^r = \{\zeta(\cdot), \tau^N\}$ and $\sigma^p = \{\tau^D, \bar{\tau}^D\}$. The actions of the citizens, who play first, consist initially of a tax rate $\tau^D \in [0, 1]$, and also, if there is no coup and nature allows the tax rate to be re-set, where we again use the notation $\nu = 1$, another tax rate $\bar{\tau}^D \in [0, 1]$. Here the superscript D again indicates democracy. The actions of the elite are a coup decision, $\zeta : [0, 1] \to \{0, 1\}$ where $\zeta(\tau^D)$ is the coup choice when the median voter sets the tax rate $\tau^D \in [0, 1]$, and if $\zeta = 1$ a decision about what tax rate to set, which we denote $\tau^N \in [0, 1]$. Then a subgame perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other in all proper subgames.

Whether a coup is attractive for the elite given the status quo depends on whether the coup constraint, $V^r(C, \varphi) > V^r(D)$, binds. This states that a coup is more attractive than living under an unconstrained democracy. This coup constraint can be expressed as

$$(1 - \varphi)y^r > y^r + (\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y})$$

or,

$$(7.4) \qquad\qquad \varphi < \frac{1}{\theta}\left(\delta C(\tau^p) - \tau^p(\delta - \theta)\right).$$

When this constraint does not bind, democracy is not redistributive enough, or coups are sufficiently costly that the elite never find a coup profitable. In this case, we refer to democracy as *fully consolidated*: there is never any effective threat against the stability of democracy. From (7.4) we can derive a critical level of the cost of a coup, denoted $\hat{\varphi}$ such that if $\varphi \geq \hat{\varphi}$ democracy

is fully consolidated. This satisfies

$$(7.5) \qquad \hat{\varphi} = \frac{1}{\theta} \left(\delta C(\tau^p) - \tau^p (\delta - \theta) \right).$$

In contrast, when this constraint binds, democracy is not fully consolidated: if the citizens do not take an action, there will be a coup along the equilibrium path. The action that the citizens can take is to reduce the tax rate. The problem, however, is that they cannot commit to doing so because of the possibility of resetting the tax once the coup threat has subsided. Taking this possibility into account, the value to the elite of the citizens setting a tax rate of $\tilde{\tau}$ is $V^r(D, \tau^D = \tilde{\tau})$. This strategy of promising less distribution will prevent the coup only if this value is greater than the return to the elite following a coup, i.e., $V^r(D, \tau^D = \tilde{\tau}) \geq V^r(C, \varphi)$. In other words, only if

$$y^r + p \left(\tilde{\tau}(\bar{y} - y^r) - C(\tilde{\tau})\bar{y} \right) + (1 - p) \left(\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y} \right) \geq (1 - \varphi)y^r$$

We can now define a threshold value for the cost of a coup, φ^*, such that when $\varphi < \varphi^*$, the promise of limited distribution by the citizens is not sufficient to dissuade the elite from a coup. Of course, the most attractive promise that the citizens can make to the elite is to stop redistribution away from them entirely, i.e., $\tilde{\tau} = 0$, therefore, we must have that at φ^*, $V^r(D, \tau^D = 0) = V^r(C, \varphi^*)$. Solving this equality, gives the threshold value φ^* as:

$$(7.6) \qquad \varphi^* = \frac{1 - p}{\theta} \left(\delta C(\tau^p) - \tau^p (\delta - \theta) \right).$$

Given this discussion, we can summarize the subgame perfect equilibrium of this game as:

> **Proposition 7.1:** There is a unique subgame perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in Figure 7.1. Let $\hat{\varphi}$ and φ^* be defined by (7.5) and (7.6). Then in this unique equilibrium, we have:
> - If $\varphi \geq \hat{\varphi}$, then democracy is *fully consolidated* and the citizens set their preferred tax rate $\tau^p > 0$ as given by (4.11).
> - If $\varphi \in [\varphi^*, \hat{\varphi})$ then democracy is *semi-consolidated*. The citizens set a tax rate $\tau^D = \tilde{\tau}$ where $\tilde{\tau} \leq \tau^p$ such that $V^r(D, \tau^D = \tilde{\tau}) = V^r(C, \varphi)$.
> - If $\varphi < \varphi^*$, then democracy is *unconsolidated*. There is a coup, the elite come to power and set their most preferred tax rate, $\tau^N = \tau^r$.

The analysis shows how equilibrium coups can happen as a way for the elite to limit redistribution in the future. Notably, coups happen (when $\varphi < \varphi^*$) precisely because democracy has a limited potential to commit to low redistribution in the future. Then, the elite use their current (and temporary) political power to change political institutions so as to reduce future redistribution. The parallel to the discussion of democratization is obvious: again, equilibrium changes in political institutions happen as a way of regulating the future allocation of political power. There is also a parallel between repression and coups—both use force to avoid democracy but they do so starting in different political states. This is the reason why the comparative statics of coups will be similar to those for repression.

The distinction between fully consolidated and semi-consolidated democracies is useful. Democracy is fully consolidated when the coup threat is never present, democracy is not really challenged, and the citizens can set their most preferred (unconstrained) tax rate, τ^p. A semi-consolidated democracy, on the other hand, would fall prey to a coup if it set the tax rate τ^p. It can only survive by making concessions to the elite to dissuade them from mounting a coup. Empirically, this notion of semi-consolidated democracy may help us explain some otherwise puzzling behavior: Wantchekon (1998), for example, argues that in El Salvador that parties representing the majority of citizens tried in the 1990s to reduce the amount of redistribution they offered in elections for fear of inducing a coup.

It is interesting here to contrast our analysis with the claim of Przeworski (1991) that consolidated democracy necessitates that all groups, even the previous elite, have a sufficiently large chance of being in power. As Przeworski (1991, pp. 30-31) puts it:

> "compliance depends on the probability of winning within the democratic institutions. A particular actor ... will comply if the probability it attaches to being victorious in democratic competition ... is greater than some minimum ... Democracy will evoke generalized compliance when all the relevant political forces have some specific minimum probability of doing well under the particular system of institutions."

According to this argument, for democracy to be stable, all groups must have a sufficient chance of wielding power. If any group is completely excluded then they will be tempted to fight for power. This idea is widely accepted by political scientists (e.g. Weingast, 1997). Colomer (2000, p. 10) reiterates this view when he writes that "the establishment of democracy appears as a conventional agreement on new rules of the political game. Agreement is possible because democracy gives different actors reasonable expectations to gain or share power in some undetermined future."

In contrast, in our model of democracy, the elite can never win power because policies always cater to the preference of the median voter. However, this does not mean that the elite cannot get what they want in a democracy because even when they have no de jure power they may have de facto power. For example, in a situation where democracy is semi-consolidated, the policies of the citizens cater to the elite despite the fact that the elite itself do not form the government. Indeed there is an irony here because according to Przeworski, if the elite cannot form a government then they will try to mount a coup and hence democracy is not consolidated. Yet if they can overthrow the system by force then they must have effective de facto power and this is exactly the situation where they will be able to get what they want from the government without having to overthrow it. When the elite do not have de facto power, they do not get what they want from democracy, but neither are they able to mount a coup. Przeworski's claim is therefore false in our model.

We now consider the comparative statics of coups with respect to inequality. First note that we can implicitly define a critical threshold for inequality, $\tilde{\theta}$

$$\varphi = \frac{1}{\tilde{\theta}} \left(\delta C(\tau^p \left(\tilde{\theta} \right)) - \tau^p \left(\tilde{\theta} \right) \left(\delta - \tilde{\theta} \right) \right),$$

such that when $\theta \leq \tilde{\theta}$, the coup constraint, (7.4), will not bind. In other words, this is the threshold level of inequality, such that when the inequality is less than this level, democracy is fully consolidated.

Next, using the definition of φ^* we can determine $\bar{\theta}$ such that

$$\varphi = \frac{1-p}{\bar{\theta}} \left(\delta C(\tau^p \left(\bar{\theta} \right)) - \tau^p \left(\bar{\theta} \right) \left(\delta - \bar{\theta} \right) \right).$$

Democracy is semi-consolidated when $\theta \leq \bar{\theta}$. Moreover, it is straightforward to check that $\bar{\theta} > \tilde{\theta}$. This discussion leads to the following corollary:

> **Corollary 7.1:** Consider a society with a fixed φ and p, and inequality given by θ. Then, there exist $\bar{\theta}$ and $\tilde{\theta} < \bar{\theta}$ such that
> - When $\theta \leq \tilde{\theta}$, democracy is fully consolidated, and the equilibrium tax rate is always τ^p.
> - When $\theta \in (\tilde{\theta}, \bar{\theta}]$, democracy is semi-consolidated. It sets the tax rate $\tilde{\tau}$ so as to prevent a coup in this case.
> - When $\theta > \bar{\theta}$, democracy is unconsolidated. There is a coup and the elite come to power and set the tax rate $\tau^N = \tau^r$.

This analysis shows that coups will tend to happen in more unequal societies. In less unequal, but still fairly unequal societies, democracy is semi-consolidated, and survives only by making concessions to the elite in the form of lower taxes. The intuition for why inequality matters for coups is straightforward. Coups happen in this model as a way for the elite to reduce future redistribution. Democracy is more redistributive when there is more inequality, and hence more costly for the elite. Coups therefore become more attractive for them in an unequal society.

These comparative statics are consistent with the evidence we discussed in Chapter 3. There we saw that there is a cross-country relationship between measures of inequality and democracy with more democratic societies tending to have lower inequality. In the last chapter we suggested that this might be because in more equal societies repression was less attractive and thus elites more likely to create democracy. Now we can see that once democracy is created in a more egalitarian society, it is more likely to consolidate.

4. A Dynamic Model of the Creation and Consolidation of Democracy

Our analysis so far treated democratization and the consolidation of democracy separately. In particular, our simplifying assumption in analyzing democratization was that, once created, democracy is fully consolidated, and is never challenged. In contrast, we saw how the elite may have an interest in reversing democracy in order to reduce redistribution away from themselves. How does the analysis change when agents realize that democracy can be reversed?

As was the case in our analyses in Chapter 6, we would also like to move away from the static structure of the game analyzed in the previous section where the inability to commit to future actions was modeled by assuming that there is a probability that the promised tax rate can be reset.

Most important, the static model of the previous section does not enable an analysis of how equilibrium oscillations between different regimes can emerge. To deal with these issues, we will revisit the infinite-horizon model first introduced in Chapter 5, and allow revolution, democratization and coups.

As before, we consider an infinite horizon model, denoted $G^\infty(\beta)$, with a continuum 1 of agents divided into $1 - \delta > 1/2$ poor citizens, while the remaining δ form a rich elite. Initially, political power is concentrated in the hands of the elite, but the median voter is a poor agent. Agents' expected utility at time $t = 0$ is again given by $U^i = E_0 \sum_{t=0}^\infty \beta \hat{y}_t^i$. Here, if we are in a nondemocracy post-tax income $\hat{y}_t^i$ is given by (6.8) while if we are in a democracy, post-tax incomes are given by (7.1).

The collective action technology via which the citizens can mount a revolution and the payoffs to revolution are identical to those we have specified previously. In a democracy, the elite can attempt a coup. After the coup every agent loses a fraction φ^S of their income, where the threat state is $S = H, L$ and $\varphi^H < \varphi^L$, and the political situation reverts back to the initial status quo with the elite controlling political power. Similar to our analysis of the revolution threat, we assume that in the low threat state, the coup threat is not active, so we set $\varphi^L = 1$. The relevant cost will therefore be the cost of the elite in the state $S = H$, $\varphi^H = \varphi$, and only in this state will the elite want to mount a coup. We assume that $\Pr(\varphi_t = \varphi) = s$. We assume that both q and s are less than $1/2$ so that crises which facilitate the exercise of de facto power are relatively rare events.

If a coup is mounted, then $\mu_t = \mu^L$ at first so that there is no revolution immediately. Similarly, if democratization occurs, then democracy starts with the coup cost at 1, implying that a democracy has at least some window of opportunity before a coup can occur. Finally, in each nondemocratic period the elite have to decide whether or not to democratize, and if they do, the society becomes a democracy, and the median voter, a citizen, sets the tax rate.

The timing of events within a period can be summarized as follows.

(1) the state μ_t or φ_t is revealed.

(2) the citizens set the tax rate, τ_t^P, if we are in a democracy, and the elite set τ_t^N, otherwise.

(3) in a nondemocratic regime, the elite decide whether or not to repress, ω, or democratize, ϕ. In a democracy, they decide whether to mount a coup, ζ. If they democratize or undertake a coup, the party that comes to power decides whether to keep the tax τ_t set at stage 2 or set a new tax rate.

(4) if $P = N$ and $\omega = 0$ the citizens decide whether or not to initiate a revolution, ρ. If there is a revolution, they share the remaining income of the economy. If there is no revolution, the tax rate decided at 2 or 3 gets implemented.

(5) incomes are realized and consumption takes place.

We will again characterize the Markov perfect equilibria of this game in which strategies only depend on the current state of the world.[3] The state is one of (D, φ^H), (D, φ^L), (N, μ^L), or (N, μ^H), where N denotes elite in power (nondemocratic regime) and D denotes democracy. Let $\sigma^r = \{\omega(\cdot), \phi(\cdot), \tau^N(\cdot), \zeta(\cdot), \tau^N\}$ be the notation for the actions taken by the elite, while $\sigma^p = \{\rho(\cdot), \tau^D(\cdot)\}$ are the actions of the citizens. σ^r consists of a decision to repress ω : $\{\mu^L, \mu^H\} \to \{0, 1\}$, or to create democracy $\phi : \{\mu^L, \mu^H\} \to \{0, 1\}$, when $P = N$, and a tax rate $\tau^N : \{\mu^L, \mu^H\} \to [0, 1]$ when $\phi = 0$ (i.e., when democracy is not created). Clearly, if $\phi = 0$, P remains at N, and if $\phi = 1$, P switches to D. When $P = D$ the elite make a coup decision which is a function $\zeta : \{\varphi^L, \varphi^H\} \times [0, 1] \to \{0, 1\}$ where $\zeta(\varphi, \tau^D)$ is the coup decision when the state is φ and the median voter sets the tax rate τ^D. If $\zeta = 1$ then the political state switches to $P = N$ and the elite also get to re-set the tax rate, $\tau^N \in [0, 1]$. The actions of the citizens consist of a decision to initiate a revolution, $\rho : \{\mu^L, \mu^H\} \times \{0, 1\}^2 \times [0, 1] \to \{0, 1\}$. Here $\rho(\mu, \omega, \phi, \tau^N)$ is the revolution decision of the citizens which is conditioned on the current actions of the elite, as well as on the state. When $P = D$ the citizens set the tax rate, $\tau^D : \{\varphi^L, \varphi^H\} \to [0, 1]$.

Then, a Markov perfect equilibrium is a strategy combination, $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ such that $\tilde{\sigma}^p$ and $\tilde{\sigma}^r$ are best-responses to each other for all μ_t, φ_t and P. As usual, we will characterize the Markov perfect equilibria by writing the appropriate Bellman equations.

Let $V^i(D, \varphi^L)$ be the value of an agent of type $i = p, r$ when there is democracy and when the cost of mounting a coup is φ^L. Similarly, let $V^i(\varphi^H)$ be the value of agent i when the cost is φ^H (in which case there may be a switch to a nondemocratic regime, as a result of a coup).

When the state is (D, φ^L), there are no constraints on the median voter, so he will choose the tax rate $\tau^D = \tau^p$. The returns to citizens and elite agents are:

$$(7.7) \qquad V^i(D, \varphi^L) = y^i + \tau^p \left(\bar{y} - y^i\right) - C(\tau^p)\bar{y} + \beta \left[s V^i(\varphi^H) + (1 - s) V^i(D, \varphi^L)\right],$$

for $i = p, r$, and as before $\tau^p \left(\bar{y} - y^i\right) - C(\tau^p)\bar{y}$ represents the net amount of redistribution at tax rate τ^p faced by agent i.

Next consider the state (D, φ^H), where the poor may set a tax rate different from the one they prefer in an attempt to prevent a coup. Denote the values in the state (D, φ^H), when the tax rate is τ^D by $V^i(D, \varphi^H, \tau^D)$, which are given as:

$$(7.8) \quad V^i(D, \varphi^H, \tau^D) = y^i + \tau^D \left(\bar{y} - y^i\right) - C(\tau^D)\bar{y} + \beta \left[s V^i(D, \varphi^H, \tau^D) + (1 - s) V^i(D, \varphi^L)\right].$$

Clearly, $\tau^D \left(\bar{y} - y^p\right) - C(\tau^D)\bar{y} \leq \tau^p \left(\bar{y} - y^p\right) - C(\tau^p)\bar{y}$ and $\tau^D \left(\bar{y} - y^r\right) - C(\tau^D)\bar{y} \geq \tau^p \left(\bar{y} - y^r\right) - C(\tau^p)\bar{y}$, for $\tau^D \leq \tau^p$.

After observing the tax rate τ^D, the elite may still decide to mount a coup, so the values in the state (D, φ^H) are not necessarily equal to $V^i(D, \varphi^H, \tau^D)$. Instead, we denote them by

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[3]In this chapter we do not examine non-Markovian equilibria. See Powell (2004) for a study of subgame perfect equilibria in a simplified version of the model we present here.

$V^i(\varphi^H)$ such that:

(7.9)
$$V^r(\varphi^H) = \max_{\zeta \in \{0,1\}} \zeta \left(V^r(N, \mu^L) - \varphi y^r \right) + (1 - \zeta) V^r(D, \varphi^H, \tau^D)$$
$$V^p(\varphi^H) = \zeta \left(V^p(N, \mu^L) - \varphi y^p \right) + (1 - \zeta) V^p(D, \varphi^H, \tau^D),$$

where recall that $\zeta = 1$ implies a coup. The first line of (7.9) says that the value $V^r(\varphi^H)$ for the elite in the high threat state depends on their own choice about whether or not to mount a coup. In making this decision they compare the value from not mounting a coup and accepting a concession of a tax rate of τ^D from the citizens, which is $V^r(D, \varphi^H, \tau^D)$, to the value from mounting a coup. This value is $V^r(N, \mu^L) - \varphi y^r$ which is the value of being in nondemocracy when there is no threat of a revolution, $V^r(N, \mu^L)$, minus the cost of a coup φy^r. The second line states that the value for the citizens in this state, $V^p(\varphi^H)$, also depends on what the elite do. If $\zeta = 1$, then the citizens find themselves in a nondemocracy and their continuation value if $V^p(N, \mu^L)$, minus the cost of the coup φy^p, while if $\zeta = 0$, there is no coup, democracy persists, and the citizens' value is $V^p(D, \varphi^H, \tau^D)$.

We shall now derive the *coup constraint*, a generalization of the static coup constraint of the game in the previous section to this dynamic setup. This constraint immediately follows from (7.9) by checking when a coup will be attractive, provided that the median voter sets his preferred tax rate $\tau^D = \tau^p$. It is therefore:

(7.10)
$$V^r(N, \mu^L) - \varphi y^r > V^r(D, \varphi^H, \tau^D = \tau^p).$$

This coup states that a coup occurs if the gain to the elite of capturing political power and reducing taxation, $V^r(N, \mu^L) - V^r(D, \varphi^H, \tau^D = \tau^p)$, is greater than the cost of the coup, φy^r.

We can now determine a critical value of φ, denoted $\hat\varphi$, such that as long as $\varphi \geq \hat\varphi$, a coup is never beneficial for the elite, even if the citizens tax at $\tau^D = \tau^p$ in state (D, φ^H). This critical value will clearly satisfy inequality (7.10) as an equality with $\tau^D = \tau^p$. Therefore,

(7.11)
$$\hat\varphi = \frac{V^r(N, \mu^L) - V^r(D, \varphi^H, \tau^D = \tau^p)}{y^r}.$$

In words, this equation specifies that the critical threshold is such that the loss of current income for the elite is equivalent to the discounted loss of living forever under democracy with the tax rate most preferred by the citizens, $V^r(D, \varphi^H, \tau^D = \tau^p)$, versus undertaking a coup and switching to a nondemocratic regime, which will give the value $V^r(N, \mu^L)$.

However, equation (7.11) is not informative unless we obtain expressions for $V^r(N, \mu^L)$ and $V^r(D, \varphi^H, \tau^D = \tau^p)$. The return to the elite of always remaining in democracy with a tax rate $\tau^D = \tau^p$ is simply:

(7.12)
$$V^r(D, \varphi^H, \tau^D = \tau^p) = \frac{y^r + \tau^p (\bar y - y^r) - C(\tau^p)\bar y}{1 - \beta}.$$

We next compute the value of nondemocracy to the elite $V^r(N, \mu^L)$. First, with the standard arguments, we have:

(7.13)
$$V^i(N, \mu^L) = y^i + \beta \left[q V^i(N, \mu^H) + (1 - q) V^i(N, \mu^L) \right]$$

for $i = p$ or r, where $V^i(N, \mu^H)$ refers to values in nondemocracy when $\mu_t = \mu^H$. In this expression, we already used the fact that when $\mu_t = \mu^L (= 1)$, the elite will choose no redistribution in a nondemocratic regime.

Next we note that since society starts in a nondemocracy, if a coup ever happens, then democratization must have previously arisen. Thus it is natural to assume that we are in the part of the parameter space where, if coups happen and the state moves to $\mu_t = \mu^H$, then following a coup, a re-democratization must take place, and therefore it must take place again when $\mu_t = \mu^H$. Therefore, we can impose $V^r(N, \mu^H) = V^r(D, \varphi^L)$.

The issue, however, is that once democracy has been reached again, the state (D, φ^H) will also be reached, and we have to make some conjectures about whether there will be another coup or not. However, the logic of dynamic programming dictates that what conjectures we make about future coups is not important. In other words, we can compute $V^r(N, \mu^L)$ and $V^r(D, \varphi^L)$ in two different ways, with identical implications for the threshold $\hat{\varphi}$. In the first, and possibly more natural way, we assume that once (D, φ^H) has been reached, there will be another coup. The second way looks only at a 'one-shot deviation' (see Fudenberg and Tirole, 1991, section 4.2., pp. 108-110), and assumes that, even though the elite undertake a coup today, in the future they will never again do so, and democracy would survive even in the state (D, φ^H).

To illustrate the working of the model and this principle, we now derive the critical value $\hat{\varphi}$ using both approaches. Let us start with the first. In that case, the relevant values can be written as:

(7.14) $$V^r(N, \mu^L) = y^r + \beta \left[q V^r(D, \varphi^L) + (1-q) V^r(N, \mu^L) \right],$$

and

(7.15) $$V^r(D, \varphi^L) = y^r + \tau^p (\bar{y} - y^r) - C(\tau^p)\bar{y} + \beta \left[s \left(V^r(N, \mu^L) - \varphi y^r \right) + (1-s) V^r(D, \varphi^L) \right].$$

Notice that equation (7.14) imposes that there will be a switch to democracy in the state (N, μ^H) for the reasons discussed already (we are in the part of the parameter space where there is an equilibrium switch to democracy). Equation (7.15), on the other hand, imposes that whenever state (D, φ^H) comes, there will be a coup, hence there is a switch to nondemocracy, giving the value $V^r(N, \mu^L) - \varphi y^r$ to the elite, which takes into account the fact that they incur the cost of coup, φy^r. To solve for $V^r(N, \mu^L)$, we treat (7.14) and (7.15) as two equations in two unknowns, $V^r(N, \mu^L)$ and $V^r(D, \varphi^L)$ which we can solve for $V^r(N, \mu^L)$.

Substituting this into (7.10), using (7.12) and solving for φ gives the critical value as

(7.16) $$\hat{\varphi} = \frac{1}{\theta} \left(\frac{\delta C(\tau^p) - \tau^p (\delta - \theta)}{1 - \beta(1 - q)} \right).$$

The second method of looking at one shot deviations is often simpler. In this case, since a coup takes place only once and never again, when democracy is reached, there will never again be a coup despite the fact that the citizens always tax at the rate τ^p. This implies that in the

equation (7.14), we have

$$V^r(D, \varphi^L) = \frac{y^r + \tau^p \left(\bar{y} - y^r \right) - C(\tau^p)\bar{y}}{1 - \beta}.$$

Substituting this into (7.14) we can solve for $V^r(N, \mu^L)$, which gives

$$V^r(N, \mu^L) = \frac{(1 - \beta(1-q))y^r + \beta q \left(\tau^p \left(\bar{y} - y^r \right) - C(\tau^p)\bar{y} \right)}{(1 - \beta)(1 - \beta(1-q))}.$$

Substituting this into (7.10), using (7.12) and solving for φ gives the same critical value as in (7.16).

When $\varphi \geq \hat{\varphi}$, the coup threat does not play a role, and democracy is fully consolidated. The tax rate, $\tau^D = \tau^p$, is always determined by the usual trade-off for the median voter, balancing transfers against the deadweight losses of taxation. Observe that $d\hat{\varphi}/d\theta > 0$, which implies that a more unequal society is less likely to achieve a fully consolidated democracy. This is intuitive since a greater level of inequality makes democracy less attractive for the elite and generalizes the results from the static model.

We can next determine the value of the cost of coup, φ^*, such that if $\varphi \geq \varphi^*$, the citizens can stop a coup by setting a low enough tax rate in the state (D, φ^H) (or conversely, when $\varphi < \varphi^*$, even a policy of setting $\tau^D = 0$ in state φ^H does not stop a coup). Since the lowest tax rate that the citizens can set is $\tau^D = 0$, φ^* is given by $V^r(N, \mu^L) - V^r(D, \varphi^H, \tau^D = 0) = \varphi^* y^r$.

Combining (7.7) and (7.8), and setting $V^r(\varphi^H) = V^r(D, \varphi^H, \tau^D = 0)$, we can calculate the value of always remaining in democracy for the elite. From this, we define

$$V^r(D, \varphi^H, \tau^D = 0) = \frac{y^r + \beta(1-s)\left(\tau^p \left(\bar{y} - y^r \right) - C(\tau^p)\bar{y} \right)}{1 - \beta}$$

as the maximum value the median voter can credibly commit to give to a member of the elite under democracy.

To solve for $V^r(N, \mu^L)$, we use the one-shot deviation approach again. To do this we again work with (7.14) and substitute $V^r(N, \mu^H) = V^r(D, \varphi^L)$. As before we assume that a coup is only undertaken once and if there is redemocratization, there is never a coup again. However, the formula for $V^r(N, \mu^L)$ is different because when democracy is re-created after a coup this will a democracy in which the median voter sets $\tau^D = 0$ when $\varphi_t = \varphi^H$. Hence

$$V^r(D, \varphi^L) = \frac{y^r + (1 - \beta s)\left(\tau^p \left(\bar{y} - y^r \right) - C(\tau^p)\bar{y} \right)}{1 - \beta}.$$

Using this in (7.14) we find

$$V^r(N, \mu^L) = \frac{(1 - \beta(1-q))y^r + \beta q(1 - \beta s)\left(\tau^p \left(\bar{y} - y^r \right) - C(\tau^p)\bar{y} \right)}{(1 - \beta)(1 - \beta(1-q))}$$

Therefore $V^r(\varphi^H) = V^r(N, \mu^L) - \varphi y^r$ implies

(7.17) $$\varphi^* = \frac{1}{\theta} \left(\frac{\beta(q + s - 1)\left(\tau^p \left(\delta - \theta \right) - \delta C(\tau^p) \right)}{1 - \beta(1-q)} \right),$$

where $\tau^p \left(\delta - \theta \right) - \delta C(\tau^p) < 0$ and $q + s - 1 < 0$, so φ^* is decreasing in q and s. If q is high, then a nondemocratic regime following a coup will be short lived because a revolutionary threat

will reoccur quickly. This reduces the expected benefits from a coup. Similarly, if s is high, the coup constraint binds regularly, and because in this state the elite pay relatively low taxes, democracy is less costly to them. Also clearly, $\varphi^* < \hat{\varphi}$.

More important for the focus of this chapter is that $d\varphi^*/d\theta > 0$: higher inequality decreases the threshold φ^* and makes a coup more likely because in an unequal society the elite lose more under democracy.

If $\varphi \geq \varphi^*$, then democracy is semi-consolidated: the citizens can avoid a coup by reducing the tax rate below τ^p in state (D, φ^H) and setting $\tau^D = \tilde{\tau} \leq \tau^p$ such that

$$(7.18) \qquad V^r(N, \mu^L) - \varphi y^r = V^r(D, \varphi^H, \tau^D = \tilde{\tau}).$$

Although society always remains democratic, the threat of a coup is still important and influences taxes: the tax rate $\tilde{\tau}$ is less than τ^p, which the citizens would have set in the absence of this threat. Now $V^r(D, \varphi^H, \tau^D = \tilde{\tau})$ is solved for from the equations,

$$(7.19)\, V^r(D, \qquad \varphi^H, \tau^D = \tilde{\tau}) =$$
$$y^r + \tilde{\tau}(\bar{y} - y^r) - C(\tilde{\tau})\bar{y} + \beta\left[sV^i(D, \varphi^H, \tau^D = \tilde{\tau}) + (1-s)V^i(D, \varphi^L)\right],$$
$$V^i(D, \qquad \varphi^L) =$$
$$y^r + \tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y} + \beta\left[sV^i(D, \varphi^H, \tau^D = \tilde{\tau}) + (1-s)V^i(D, \varphi^L)\right].$$

which gives

$$
\begin{aligned}
V^r(D, \varphi^H, \tau^D &= \tilde{\tau}) \\
&= \frac{y^r + (1 - \beta(1-s))(\tilde{\tau}(\bar{y} - y^r) - C(\tilde{\tau})\bar{y}) + \beta(1-s)(\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y})}{1 - \beta}
\end{aligned}
$$

To calculate $V^r(N, \mu^L)$ we again use (7.14). The one-shot deviation approach implies that we should replace $V^r(D, \varphi^L)$ in (7.14) with the value of democracy to the elite when the citizens set the tax rate $\tau^D = \tilde{\tau}$ when $\varphi_t = \varphi^H$ and set $\tau^D = \tau^p$ when $\varphi_t = \varphi^L$. This value is just $V^r(D, \varphi^L)$ calculated from (7.19):

$$V^r(D, \varphi^L) = \frac{y^r + \beta s(\tilde{\tau}(\bar{y} - y^r) - C(\tilde{\tau})\bar{y}) + (1 - \beta s)(\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y})}{1 - \beta}$$

Using this to solve for $V^r(N, \mu^L)$ from (7.14) we find

$$V^r(N, \mu^L) = \frac{(1 - \beta(1-q))y^r + \beta^2 qs(\tilde{\tau}(\bar{y} - y^r) - C(\tilde{\tau})\bar{y}) + \beta q(1 - \beta s)(\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y})}{(1 - \beta)(1 - \beta(1-q))},$$

and substituting the results of these calculations into (7.18), we find that the tax rate $\tilde{\tau}$ is given implicitly by the equation

$$
\begin{aligned}
\varphi &= \frac{1}{\theta}\left(\frac{(\beta(1 - q - s) - 1)(\tilde{\tau}(\delta - \theta) - \delta C(\tilde{\tau}))}{1 - \beta(1-q)}\right. \\
&\quad \left. + \frac{\beta(q + s - 1)(\tau^p(\delta - \theta) - \delta C(\tau^p))}{1 - \beta(1-q)}\right).
\end{aligned}
$$

Implicit differentiation shows that $\tilde{\tau}$ is decreasing in θ: $d\tilde{\tau}/d\theta < 0$, so higher inequality reduces the tax rate that is required to prevent a coup.

If $\varphi < \varphi^*$, democracy is unconsolidated; even a strategy of setting $\tau^D = 0$ by the citizens will not prevent a coup. In this case, the society will revert back to a nondemocratic regime when $\varphi_t = \varphi$. The citizens would like to prevent such an outcome, and if they could, they would promise lower tax rates in the future. However, such promises are not credible because future tax rates are determined in future political equilibria, and once the threat of coup disappears, the tax rate will rise back to τ^p. Forward-looking elites, realizing this, prefer a coup, even though this is a costly outcome for the society as a whole.

This discussion has generalized the discussion in section 3 of the circumstances under which coups take place. The concepts of fully and semi-consolidated democracies naturally arise in the dynamic context as well. Nevertheless, now that we have a fully dynamic model we can integrate the analysis of coups with that of democratizations, which we could not do in the static model.

Consider the state (N, μ^H). If the citizens did not attempt a revolution in this state, the elite would stay in power forever and set $\tau^N = 0$, so the citizens would receive utility equal to $y^p / (1 - \beta)$. In contrast, with a revolution in state $\mu_t = \mu^H$, they would obtain $V^p(R, \mu^H) = (1 - \mu)\bar{y}/(1 - \delta)(1 - \beta)$, the per-period return from revolution for the infinite future discounted to the present. Recall that revolution is an absorbing state in the sense that once a revolution occurs society stays like that forever and that only the value of μ at the time of the revolution matters, hence the per-period return is constant over time (and this also implies that in the state $\mu_t = \mu^L(= 1)$, a revolution will never occur). For the sake of reducing the number of cases we have to consider, we now impose $\theta > \mu$, which implies that when $\mu_t = \mu^H(= \mu)$, the revolution threat is binding.

In case of a revolution, the elite lose everything, i.e. $V^r(R, \mu^H) = 0$. They will therefore attempt to prevent it at all costs. They can do this in three different ways. First, they can democratize, $\phi = 1$, giving the citizens their return under democracy, $V^p(D, \varphi^L)$. Second, they can use repression giving a citizen the value $V^p(O, \mu^H \mid \kappa)$ which identical to the one we derived in the last chapter. Thirdly, they can choose to maintain political power, $\phi = 0$, but redistribute through taxation. In this case, the elite impose a tax rate τ^N and give the citizens a return $V^p(N, \mu^H, \tau^N)$ where

$$(7.20) \quad V^i(N, \mu^H, \tau^N) = y^i + \tau^N \left(\bar{y} - y^i\right) - C(\tau^N)\bar{y} + \beta \left[qV^i(N, \mu^H, \tau^N) + (1 - q)V^i(N, \mu^L)\right]$$

So agent i receives income y^i from his own earnings and also a net income transfer $\tau^N \left(\bar{y} - y^i\right) - C(\tau^N)\bar{y}$. If next period, we are still in state $\mu_{t+1} = \mu^H$, then redistribution continues. But, if in the next period the economy switches to $\mu_{t+1} = \mu^L$, redistribution stops. This captures the notion that the elite cannot commit to future redistribution, unless the future also poses an effective revolution threat. Also note that $\tau^N \leq \tau^p$, that is, the elite will not tax themselves at a rate higher than τ^p, since this is the rate that maximizes redistribution to a citizen. If this tax rate is not sufficient to stop a revolution, then no tax rate $\tau^N \in [0, 1]$ will do so.

With either democratization or redistribution by the elite, the citizens may still prefer a revolution. Thus, given the actions ϕ and τ^N of the elite, the value to the citizens in the state

(N, μ^H) is

$$
\begin{aligned}
V^p(N, \mu^H) &= \omega V^p(O, \mu^H \mid \kappa) + \\
&\quad (1 - \omega) \max_{\rho \in \{0,1\}} \; \rho V^p(R, \mu^H) + (1 - \rho)(\phi V^p(D, \varphi^L) + (1 - \phi)V^p(N, \mu^H, \tau^N)).
\end{aligned}
$$

Combining (7.13) and (7.20), we calculate the maximum utility that can be given to the citizens without democratizing. This involves the elite setting the tax rate $\tau^N = \tau^p$ when there is a threat of revolution so that the continuation value for the citizens will be $V^p(N, \mu^H, \tau^N = \tau^p)$. This value satisfies:

$$
(7.21) \qquad V^p(N, \mu^H, \tau^N = \tau^p) = \frac{y^p + (1 - \beta(1 - q)) \left(\tau^p \left(\bar{y} - y^p\right) - C(\tau^p)\bar{y}\right)}{1 - \beta},
$$

which is of course the same as (6.15) derived in the last chapter. The citizens compare (7.21) to $V^p(R, \mu^H)$. This defines a critical value of μ^H,

$$
(7.22) \qquad \mu^* = \theta - (1 - \beta(1 - q)) \left(\tau^p \left(\theta - \delta\right) - (1 - \delta)C(\tau^p)\right)
$$

such that $V^p(N, \mu^H, \tau^N = \tau^p) = V^p(R, \mu^H)$ when $\mu^H = \mu^*$. For $0 < \mu < \mu^*$, a revolution is so attractive for the citizens in state $\mu_t = \mu^H$ that even the maximum amount of redistribution by the elite cannot stop it. Democratization is therefore the only option left to the elite. Notice also that

$$
\frac{d\mu^*}{d\theta} = 1 - (1 - \beta(1 - q))\frac{d \left(\tau^p \left(\theta - \delta\right) - (1 - \delta)C(\tau^p)\right)}{d\theta} > 0,
$$

so high inequality increases the revolution threshold because the citizens are worse off in a nondemocratic regime. Citizens are now willing to undertake revolutions when the cost of doing so is higher.

For $\mu \geq \mu^*$, democratization can be avoided by redistributing to the citizens in state (μ^H, N). In this case, the tax rate that the elite have to set in order to avoid revolution is $\tau^N = \hat{\tau}$, such that $V^p(N, \mu^H, \tau^N = \hat{\tau}) = V^p(R, \mu^H)$, which is decreasing in μ, and increasing in θ (i.e., increasing in the level of inequality).

Having determined the conditions under which a nondemocratic regime will be able to stay in power by making concessions and when a democracy is or is not consolidated, it remains to consider the implications of repression. Our assumptions about repression are identical to before so that the payoffs from repression as given by (6.18). There are again two situations to consider. If $\mu \geq \mu^*$ then a nondemocratic regime never needs to democratize in which case repression is used in equilibrium if it is cheaper than making policy concessions. The conditions under which this is so, and indeed the threshold level κ^* at which the elite are indifferent between promising redistribution at the tax rate $\hat{\tau}$ and repression, are identical to those we derived previously. In particular, κ^* is again given by (6.20). If $\mu < \mu^*$, then the elite cannot use concessions to stay in power and they compare the cost of repression to the cost of democracy. In the previous analysis the cost of democracy was uniquely defined because we assumed that democracy was fully consolidated. However, this is not the case now and the cost of democracy to the elite, and therefore the attractiveness of repression, depends on the nature of democracy.

If $\varphi \geq \hat{\varphi}$ so that democracy is fully consolidated, then the threshold at which the elite are just indifferent between repression and democratization is $\bar{\kappa}$ given by (6.21). If $\varphi \in [\varphi^*, \hat{\varphi})$ then democracy is partially consolidated and when there is the threat of a coup the tax rate is cut. In this case we can define a threshold level $\kappa(\varphi)$ such that the elite are just indifferent between repressing and creating a semi-consolidated democracy. To see the formula for this first note that the value of repression is $V^r(O, \mu^H \mid \kappa)$ given by (6.19) in Chapter 6. The value of being in an unconsolidated democracy is $V^r(D, \varphi^L)$ which satisfies (7.14) and (7.15). Thus $\kappa(\varphi)$ is such that $V^r(O, \mu^H \mid \kappa(\varphi)) = V^r(D, \varphi^L)$. Note that the higher is φ, the more costly a coup, the higher the tax in this state and the greater the cost of creating democracy to the elite. Hence $\kappa(\varphi)$ is a strictly increasing function of φ since as φ increases, the burden of democracy increases for the elite and they are more inclined to use repression. Finally if $\varphi < \varphi^*$ democracy is unconsolidated and we can define a threshold $\check{\kappa}$ such that elite are just indifferent between repressing and creating an unconsolidated democracy.

We restrict attention to the area of the parameter space where democratization prevents a revolution, that is $V^p(D, \varphi^L) \geq V^p(R, \mu^H)$. Since democracy is not necessarily an absorbing state, the value function $V^p(D, \varphi^L)$ takes into account the future possibility of coups. The value to the citizens of a semi-consolidated democracy is higher than that of a democracy subject to coups, so it suffices to ensure that the value to the citizens of an unconsolidated democracy is greater than $V^r(R, \mu^H)$. To derive a formula for the value of a citizen of an unconsolidated democracy, we use (7.7) and (7.13) with $V^p(N, \mu^H) = V^p(D, \varphi^L)$ and $V^p(\varphi^H) = V^p(N, \mu^L)$, giving

$$
\begin{aligned}
V^p(N, \mu^L) &= y^p + \beta \left[q V^p(D, \varphi^L) + (1-q) V^p(N, \mu^L) \right], \\
V^p(D, \varphi^L) &= y^p + \tau^p (\bar{y} - y^p) - C(\tau^p)\bar{y} + \beta \left[s \left(V^p(N, \mu^L) - \varphi y^p \right) + (1-s) V^p(D, \varphi^L) \right],
\end{aligned}
$$

which are the same as (7.14) and (7.15) from the point of view of the citizens. Solving for $V^p(D, \varphi^L)$ we find

$$
V^p(D, \varphi^L) = \frac{y^p \left((1 - \varphi\beta s)(1 - \beta(1-q)) + \beta s \right) + (1 - \beta(1-q)) \left(\tau^p (\bar{y} - y^p) - C(\tau^p)\bar{y} \right)}{(1 - \beta(1-s))(1 - \beta(1-q)) - \beta^2 s q}
$$

and the condition $V^p(D, \varphi^L) \geq V^p(R, \mu^H)$ is therefore equivalent to:

$$
\frac{(1 - \beta + \beta(q+s))(1 - \theta)(1 - \varphi\beta s) + (1 - \beta(1-q)) \left(\tau^p (\theta - \delta) - (1-\delta)C(\tau^p) \right)}{1 - \beta + \beta(q+s)} \geq 1 - \mu
$$

which is a condition on the parameters that we shall simply assume holds. As with the corresponding condition in Chapter 6, this will hold when democracy is sufficiently redistributive. Note that this leads to an interesting trade-off: a highly redistributive democracy leads to political instability, but if the potential for redistribution is too limited, democratization does not prevent revolution.

Now we can establish the following result:

Proposition 7.2: There is a unique Markov perfect equilibrium $\{\tilde{\sigma}^r, \tilde{\sigma}^p\}$ in the game described in $G^\infty(\beta)$. Let $\hat{\varphi}$, φ^*, κ^*, $\bar{\kappa}$ and $\check{\kappa}$ be as defined above. Then in this equilibrium:

- If $\mu \geq \mu^*$, the society remains nondemocratic. When $\mu_t = \mu^L$, $\tau^N = \tau^r$, and there is no redistribution. If $\kappa < \kappa^*$, then when $\mu_t = \mu^H$, the rich use repression. If $\kappa \geq \kappa^*$, then when $\mu_t = \mu^H$, $\tau^N = \hat{\tau}$ where $V^p(N, \mu^H, \tau^N = \hat{\tau}) = V^p(R, \mu^H)$.
- If $\mu < \mu^*$, then we have:

(1) If $\varphi \geq \hat{\varphi}$ and $\kappa \geq \bar{\kappa}$, we are in a *fully consolidated democracy*. The society switches to democracy the first time $\mu_t = \mu^H$, and remains democratic thereafter, and taxes are always given by $\tau^D = \tau^p$.

(2) If $\varphi^* \leq \varphi < \hat{\varphi}$ and $\kappa \geq \kappa(\varphi)$, we are in a *semi-consolidated democracy*. The society switches to democracy the first time $\mu_t = \mu^H$, and remains democratic thereafter. When $\varphi_t = \varphi^L$, $\tau^D = \tau^p$. When $\varphi_t = \varphi^H$, democracy sets the tax rate $\tau^D = \tilde{\tau} < \tau^p$ such that $V^r(N, \mu^L) - \varphi\bar{y} = V^r(\varphi^H, D, \tau^D = \tilde{\tau})$.

(3) If $\varphi < \varphi^*$ and $\kappa \geq \check{\kappa}$, we are in an *unconsolidated democracy*. The society continuously switches regimes. In a nondemocratic regime, when $\mu_t = \mu^L$, the elite set $\tau^N = \tau^r$, and when $\mu_t = \mu^H$, they democratize. In a democracy, when $\varphi_t = \varphi^L$, $\tau^D = \tau^p$, and when $\varphi_t = \varphi^H$, there is a coup.

(4) If $\varphi \geq \hat{\varphi}$ and $\kappa < \bar{\kappa}$, or $\varphi^* \leq \varphi < \hat{\varphi}$ and $\kappa < \kappa(\varphi)$, or if $\varphi < \varphi^*$ and $\kappa < \check{\kappa}$, when $\mu_t = \mu^L$, $\tau^N = \tau^r$, and there is no redistribution and when $\mu_t = \mu^H$, the elite use repression to stay in power.

The main message from Proposition 7.2 is that democracy again arises because the elite cannot commit to future policies while they maintain a monopoly of political power. However, once created democracy is not necessarily consolidated. Nevertheless, despite the fact that rational individuals anticipate that in the future coups may occur against democracy, the creation of democracy may nevertheless stop a revolution in the same way in did it Chapter 6. This is because to mount a coup the elite must have de facto power and whether or not they will have this power in the future is uncertain. This being the case the citizens value the creation of democracy which moves de jure power in their direction, even when they understand that democracy will not be permanent.

We can now discuss the conditions in the proposition in more detail. In the first type of equilibrium where $\mu \geq \mu^*$, a revolution is sufficiently costly that given the amount of inequality and the value of q, the elite can avoid it by redistributing. Therefore, in state $\mu_t = \mu^L$, the elite set their preferred tax rate of zero, i.e., $\tau^N = \tau^r = 0$, while in state μ^H, if repression is sufficiently costly, they redistribute by setting the tax rate $\tau^N = \hat{\tau}$, which is just enough to stop a revolution. If repression is relatively cheap, however, the elite respond to the threat of revolution by repressing the citizens. In this equilibrium, there is never democratization and the amount of redistribution is relatively limited and zero if the elite choose repression. If redistribution takes place inequality nonetheless increases the level of redistribution in this regime because the elite are forced to choose higher taxes to prevent a revolution in the state (N, μ^H).

Now consider what happens when $\mu < \mu^*$. When the society transits into state μ^H, the elite can no longer maintain their political power via redistribution, and must either repress

or democratize. There are four types of equilibria depending on the values of φ and κ. The first possibility is that $\varphi \geq \hat{\varphi}$ and $\kappa \geq \bar{\kappa}$. Democracy, once created, is fully consolidated and repression is sufficiently costly that democracy will be created even though the elite know that the citizens will always set $\tau^D = \tau^p$ from then on. In this type of society, the amount of redistribution is at its highest level, there is very little or no fiscal volatility, and the threat of a coup plays no role once the society becomes democratic. We interpret this case as similar to the situation in most OECD countries. It is more likely to arise when θ is low, that is when the society is fairly equal as long as $\theta > \mu$ so that the revolution constraint binds.

The second possibility is that $\varphi^* \leq \varphi < \hat{\varphi}$, and $\kappa \geq \kappa(\varphi)$. Then democracy is semi-consolidated and only survives by making concessions in some states. In particular, if in democracy the citizens were to set a tax rate τ^p in the state (D, φ^H), a coup would occur. The citizens avoid this by setting a lower tax $\tau^D = \tilde{\tau}$ in state (D, φ^H), which is just sufficient to dissuade the elite from mounting a coup. Although the society always remains democratic, it is in some sense "under the shadow of a coup", as the threat of a coup keeps overall redistribution below the level of a fully consolidated democracy.

The third type of equilibrium involves $\varphi < \varphi^*$ and $\kappa \geq \check{\kappa}$ so that democracy is unconsolidated: when the state moves to φ^H, a coup is relatively attractive for the elite, and cannot be halted by reducing taxes. As a result, the economy will fluctuate randomly between democracy and nondemocracy. More specifically, when repression is not attractive, the economy starts with the elite in power and they set $\tau^N = \tau^r$. Whenever the state moves to μ^H, they democratize after which the citizens set $\tau^D = \tau^p$. But as soon as the state goes from (D, φ^L) to (D, φ^H), they mount a coup, regain political power, and set $\tau^N = 0$. The variability of policy is therefore highest in this equilibrium, and the amount of redistribution is less than in cases 2 and 3, but more than in case 1. Higher inequality increases redistribution in this regime because it increases the tax rate when there is democracy, while there is never any redistribution in nondemocracy. Notice that in this case, when the citizens are in power, they set the maximum tax rate, fully anticipating that redistribution will eventually come to an end as a result of a coup. This result may help to explain the existence of highly redistributive, but relatively short-lived, populist regimes of Latin America (see, for example, Kaufman and Stallings, 1991, on populism).

The final type of equilibrium involves repression by the elite to maintain the nondemocratic regime. This arises in a variety of circumstances if the cost of repression is sufficiently low. Note that since $\bar{\kappa} > \kappa(\varphi) > \check{\kappa}$, repression is most attractive for the elite when they anticipate that they will have to create a fully consolidated democracy. Interestingly, therefore, our analysis suggests that it is more likely that an unconsolidated democracy will be created than a semi or a fully consolidated one.

As with democratizations, coups happen only in the high state, which can be interpreted as a relatively unlikely or unusual state. In this context, one appealing interpretation is that the high state corresponding to periods of recession or economic crises. During such crises, undertaking a coup may be less costly because society is in disarray and a proportional loss of income or output due to turbulence and political instability may be less severe because output is already

low. This interpretation, which suggests that regime changes, and in particular coups, are more likely during recessionary periods, is in line with the broad patterns in the data. Many coups happen during recessions or during periods of economic difficulties, such as those in Brazil in 1964, Chile in 1973 and Argentina in 1976. The evidence we discussed in Chapter 3 is consistent with this. The relationship between volatility and coups suggests that a possible reason for the greater success of richer societies in consolidating democracy is their economic stability (see Acemoglu and Zilibotti, 1997).

There are four other conclusions to be drawn from this analysis. The first links inequality to regime changes. An increase in θ increases μ^*, φ^*, $\hat{\varphi}$, κ^*, $\kappa(\varphi)$ and $\check{\kappa}$. Thus higher inequality makes revolutions, coups and repression all more attractive. As in the model of Chapter 6, which assumed that democracy was always consolidated, there is an inverted-U shaped relationship between inequality and democratization. Highly equal or highly unequal societies are unlikely to democratize. Rather, it is societies at intermediate levels of inequality in which we will observe democratization. The model of this chapter predicts that having democratized, democracy is also more likely to consolidate in more equal societies. Thus we might expect to see very equal societies, such as Singapore remain nondemocratic. Societies with higher levels of inequality will democratize and become (semi- or fully) consolidated democracies, while societies with greater inequality may democratize but be unconsolidated. These two cases may fit the historical evolution of Britain and Argentina. Finally a very inegalitarian society may never democratize in the first place, which fits the South African experience. Of course these statements apply holding other things equal.

The second conclusion pertains to the link between inequality and redistribution. To see this, fix the cost of a coup φ, and define $\theta^H > \theta^L$ such that $\varphi = \hat{\varphi}(\theta^L)$ and $\varphi = \varphi^*(\theta^H)$. Moreover, suppose that $\mu < \mu^*(\theta^H)$. When $\theta < \theta^L$, $\varphi \geq \hat{\varphi}(\theta)$, so inequality is sufficiently low that democracy is fully consolidated. Now consider an increase in inequality (an increase in θ). This will increase redistribution at first as in the standard models of voting over redistribution (e.g., Meltzer and Richards, 1981), since $d\tau^p/d\theta > 0$. However, as θ rises above θ^L, democracy is no longer fully consolidated, but semi-consolidated, i.e., $\varphi \in [\varphi^*(\theta), \hat{\varphi}(\theta))$. In this case, the citizens are forced to reduce taxes from τ^p to $\tilde{\tau}$ in the state (D, φ^H), so overall redistribution falls. In fact, in a semi-consolidated democracy, the relationship between inequality and taxation is ambiguous. The average tax rate is $\tau^a = (1-s)\tau^p + s\tilde{\tau}$. τ^p is increasing in inequality while $\tilde{\tau}$ is decreasing. If the cost of taxation $C(\tau)$ is highly convex, then the second effect dominates and the average tax rate falls as inequality rises. Intuitively, higher inequality makes a coup more attractive for the elite, so to prevent the coup, the citizens have to reduce the tax rate substantially in the state φ, leading to lower redistributive taxation on average. As inequality increases further, we have $\theta > \theta^H$ so $\varphi < \varphi^*$, and democracy is now unconsolidated with lower overall redistribution than both in fully and semi-consolidated democracies. Therefore, there is a nonmonotonic relationship between inequality and redistribution, with societies at intermediate levels of inequality redistributing more than both very equal and very unequal societies.

The third implication of our analysis is related to fiscal volatility. The relationship between fiscal volatility and inequality is likely to be increasing. Within each regime, higher inequality leads to more variability. Moreover, higher inequality makes unconsolidated democracy, which has the highest amount of fiscal variability, more likely. This may explain why fiscal policy has been much more volatile in Latin America than in the OECD (Gavin and Perotti, 1997).

The final implication of our analysis is that the costs of redistribution will also have an impact on the equilibrium political system. Suppose that the cost of taxation becomes less convex, so that $C(\tau^p)$ is unchanged, but $C'(\tau^p)$ decreases. Since deadweight losses from taxation are now lower, the median voter will choose a higher level of taxation. However, as τ^p increases, so will $-(\tau^p(\bar{y} - y^r) - C(\tau^p)\bar{y})$, so democracy becomes more costly to the elite, and hence less likely to be consolidated. This implies that in societies where taxation creates less economic distortions, for example in societies where a large fraction of the GDP is generated from natural resources, democracies may be harder to consolidate. This result has an obvious parallel to the result discussed below, that targeted transfers also make coups more likely. These two results together imply that a more efficient or flexible fiscal system may not always be preferable once its implications for the political equilibrium are taken into account.

Though we do not consider them in this book, the implications of social mobility for regime transitions have been investigated in the model of this chapter by Leventoğlu (2003a,b), building on work by Wright (1996) and Benabou and Ok (2001). She shows that when there is social mobility, in the sense that an individual who is poor at t may be rich at date $t+1$ and vice versa, and when taxation decisions are 'sticky', in the sense that the tax rate set today influences future tax rates, then the rate of social mobility has important implications for regime transitions. Consider the preferred tax rate in democracy of the poor median voter. The main result here is that a poor person who expects to be rich in the future will prefer a lower rate of taxation than a poor person who expects to remain poor. Hence the greater is the extent of social mobility, the less support there is politically for high taxes and the less redistributive democracy is. As a result democracy is more willingly conceded by the elite and is more likely to be consolidated since coups are less attractive in a society with high rates of social mobility. This may help to explain why a country like the United States in the nineteenth century, which had very high rates of social mobility, was able to consolidate its (white male) democracy.

5. Alternative Political Identities

We now return briefly to the model of Chapter 4, where we considered political conflict along the lines not of socioeconomic class, but in terms of group X versus group Z. In the last chapter we saw that the basic results concerning the mechanisms leading to democracy and the circumstances under which democracy would be created were unchanged in this situation. The main difference was that some of the comparative statics, particularly with respect to inequality, were different.

This model can be extended in a straightforward way to coups and the study of democratic consolidation. When group X is the majority, democratic redistribution goes from group Z to

group X with the equilibrium amount of redistribution being determined either by the preferences of the poor or rich members of group X depending on whether or not δ_A^p is greater or less than $1/2$. Nondemocracy is rule by group Z and for simplicity we assumed that in nondemocracy the tax rate is determined by majority voting in group Z with the equilibrium tax rate being that preferred by the median voter of group Z and in Chapter 6 we considered the case where this median voter was rich. Clearly, members of group Z prefer nondemocracy to democracy, while the opposite is true for members of group X.

Imagine now that we are in democracy (rule by group X) but that members of group Z can mount a coup to re-install nondemocracy—the rule of group Z. The mechanics of the models of this chapter can be applied to this situation. Imagine that the coup decision is made by majority voting within group Z so that the median voter of Z, a rich agent, will make the decision. Facing the threat of a coup, both poor and rich members of group X wish to make a concession by reducing the amount of redistribution from Z to X. Yet such concessions will not necessarily be credible for the same reasons to our analysis and hence group Z may wish to mount a coup in order to recover power and induce a credible commitment to pro-Z policies. The basic mechanisms which lead to coups are therefore independent of the nature of political identities. Nevertheless, it is easy to construct examples where the comparative statics with respect to measured inequality are different from those we have so far emphasized in this chapter.

6. Targeted Transfers

We now briefly discuss the implications of targeted transfers for coups and democratic consolidation. In Chapter 6 we showed that allowing for targeted transfers leads to greater political instability because it increases the stakes of the political game. Democracy is better for the citizens and worse for the elite. Simultaneously, nondemocracy is better for the elite and worse for the citizens.

This implies, in the context of coups, that the presence of targeted transfers will increase the desire of the elite to mount a coup and will tend to make democracy less consolidated. For instance, in the context of the static model of this chapter, the introduction of targeted transfers will increase the critical thresholds $\hat{\varphi}$ and φ^*, implying that the elite will be willing to undertake coups even when they are more costly. This follows because without a coup the citizens tax the elite more, and once the elite take power via a coup they can tax the citizens, something which they could not do before, which increases the benefit from undertaking a coup.

It is interesting to note that, differently from our discussion of democracy in the previous chapter, now targeted transfers unambiguously increase the likelihood of coups against democracy. This is because the intergroup inequality makes democracy less attractive for the elite. In contrast, the implications of intergroup inequality on democratization were ambiguous because it affected both the revolution constraint and the willingness of the elite to use repression.

Finally, as noted above, the effect of targeted transfers on coups suggests that a more flexible fiscal system may be 'counterproductive' because of its impact on the political equilibrium.

7. Power in Democracy and Coups

Our basic analysis implies that the origins of coups against democracy lie in the redistributive policies of democracy. An interesting question is therefore how alternative arrangements in democracy will affect the likelihood of coups. To answer this question, we now return to the static model of section 3 and introduce our richer model of democracy which can endow some power to the elite. In the context of our two-class model this gives a solution for the tax rate $\tau(\chi)$, where χ is the weight of the elite, and note that when $\chi = 0$, we have our basic model of democracy, where the poor agent is the median voter and chooses his most preferred tax rate, so $\tau(\chi = 0) = \tau^p$. In Chapter 4, $\tau(\chi)$ was implicitly defined by the first-order condition (4.16) and this implied that, $d\tau(\chi)/d\chi < 0$. That is, as the power of the citizens in democracy declines, so does the equilibrium tax rate and the degree to which a democracy redistributes income away from the elite.

The important implication of this model and the analysis of Chapter 6 was that as χ increases, the power of the elite in democratic politics increases, and the value they obtain in democracy is greater. So we have $dV^p(D,\chi)/d\chi < 0$ and $dV^r(D,\chi)/d\chi > 0$. Consequently, it is easy to see that the addition of variable power has important effects on the coup constraint in our basic extensive form game of coups. Recall that the coup constraint is, $V^r(C,\varphi) > V^r(D,\chi)$, or (7.4) above. The higher is χ, the better is democracy for the elite, and the less likely is it that (7.4) will bind. Hence, an increase in χ above 0 can lead an unconsolidated democracy to become semi-consolidated. Moreover, a further increase in χ can lead the society to become a fully consolidated democracy. We can also see how (7.6) depends on χ and we can derive a new critical threshold $\varphi^*(\chi)$.

$$\varphi^*(\chi) = \frac{1-p}{\theta}\left(\delta C(\tau^p(\chi)) - \tau(\chi)(\delta - \theta)\right).$$

Note, $\varphi^*(\chi < 1) < \varphi^*(\chi = 1)$ so that as the power of the elite increases it becomes less attractive to mount coups and it becomes more likely that democracy is consolidated.

> **Proposition 7.3:** In the model with variable political power, an increase in χ makes it less likely that the coup constraint will bind and more likely that the society will have a consolidated democracy.

This result implies that the citizens in an unconsolidated democracy may wish to limit their own power and bolster that of the elite. Though this reduces their income, other things equal, it can also remove the threat of a coup. An obvious way for the citizens to do this is to change institutions in such a way as to overrepresent the elite in democracy—give them more power than their numbers alone merit. Nevertheless, even if it is feasible for the citizens can do this, this does not mean that they will actually choose to do so. In reality, whether or not a coup will take place or succeed if it is attempted, is uncertain. Faced with such uncertainty the citizens may not want to increase the power of the elite in democracy because this will reduce the payoff of the citizens forever, while the coup may fail and the threat vanish in the future. Hence there is a trade-off in designing institutions which avoid coups. This implies that even when institutions

can be designed freely to increase the power of the elite in democracy, it will not always be optimal for democrats to undertake such actions and as a result coups will sometimes occur in equilibrium.

As we emphasized in Chapter 6, however, many of the relevant institutions are the outcome of long historical processes and highly persistent. By their nature institutions are difficult to change and it is unrealistic therefore to imagine that democrats, or even nondemocrats, can freely optimize over the structure of political institutions at any date. Indeed it is interesting that examples of institutional engineering to bolster the power of the elite, such as the Zimbabwean constitution of 1980, or the negotiated settlement which ended apartheid in South Africa, happen only in the context of rather large ruptures in society. Other attempts to redesign institutions, such as the putative shift from a presidential to a parliamentary regime in Brazil after the end of the military dictatorship, typically fail.

The relationship between the institutional structure and the consolidation of democracy has also been emphasized in the political science literature. For example, Rueschemeyer, Stephens and Stephens (1992, p. 9) note

> "once democracy was installed, the party system became crucial for protecting the interests of the dominant classes and thus keeping them from pursuing authoritarian alternatives. Democracy could be consolidated only where there were two or more strong competing political parties at least one of which effectively protected dominant class interests, or where the party system allowed for direct access of the dominant classes to the state apparatus."

They later note (p. 10) "democracy ... could be consolidated only if the interests of the capitalist classes were not directly threatened by it." We have already seen two important historical examples of the importance of the party system and the consolidation of democracy, in Argentina before the coup in 1930, and in helping to explain the long democratic history of Colombia. This is obviously an important area for future research.

The idea which has attracted the most attention in this context is the one that presidential democracies are more prone to coups (Linz, 1978, 1994). Przeworski et al. (2000) find that the evidence supports this claim, they conclude (p. 136)

> "it is clear that presidential democracies are less durable than parliamentary ones. This difference is not due to the wealth of the countries in which these institutions are observed, nor to their economic performance. Neither is it due to any of the political conditions under which they functioned. Presidential democracies are simply more brittle under all economic and political conditions."

This empirical evidence therefore fits well with the idea that presidential democracies are unstable because a president tends to represent the preferences of the median voter. With a parliamentary regime there are often coalition governments and the preferences of the citizens do not necessarily find full expression in the equilibrium policy. This means that parliamentary regimes may not be so threatening to the elite. In contrast, in a presidential system, more

radical policies may come onto the political agenda because these will appeal to a presidential candidate trying to gain the support of a majority of the population.

8. Consolidation in a Picture

We are now in a position to rigorously derive Figure 2.3 which we used in the introduction. This picture shows the relationship between inequality and the cost of a coup. In Chapter 2, for simplicity, we did not make a distinction between fully-consolidated and semi-consolidated democracy, so as with our discussion in Chapter 6, we first build the full picture and then show how it can be simplified to derive the figures in Chapter 2. Consider then Figure 7.2. On the horizontal axis is θ, on the vertical φ. The first thing to plot is the coup constraint. We can write this now as

$$(7.23) \qquad \varphi = \frac{1}{\theta} \left(\delta C(\tau^p) - \tau^p (\theta - \delta) \right).$$

If inequality is sufficiently low, then coups are never a threat. If $\theta = \delta$, so there is complete equality, then (7.23) implies that $\varphi = 0$. With no inequality, even when the cost of a coup is zero, the elite are indifferent between a coup and democracy. Intuitively, when there is no inequality, there is no income redistribution and thus no incentive for a coup, even if it is costless. Thus (7.23) starts at the origin and is increasing—as inequality rises, coups become attractive and for the elite to be indifferent the cost of a coup must be rising. One can see that as inequality rises to $\theta = 1$, we have $\varphi = \delta C(\tau^p(\theta = 1)) - \tau^p(\theta = 1)(1 - \delta) = \delta(C(1) + 1) - 1 < 1$ since $\tau^p(\theta = 1) = 1$. To the right of this line, inequality is relatively high compared to the cost of coups and as a consequence, coups will be attractive. To the left is the region of fully consolidated democracy. To distinguish between the situations of semi-consolidated democracy and unconsolidated democracy we have to consider the function

$$\varphi = \frac{1 - p}{\theta} \left(\delta C(\tau^p) - \tau^p (\theta - \delta) \right),$$

which shows pairs of θ and φ at which the elite are just indifferent between mounting a coup and accepting the promise of the best possible concession under democracy. It is immediate that this function again goes through the origin, is increasing, and when $\theta = 1$ we have $\varphi = (1 - p)(\delta(C(1) + 1) - 1) < 1$. In Figure 7.2, we show the implications for this in terms of these two new regions. From Figure 7.2 it is easy to get to Figure 2.3; we just drop the function which determines the boundary line between semi-consolidated and unconsolidated democracies.

9. Defensive Coups

So far we have focused on coups in democracy that are aimed at limiting redistribution away from the elite. Another plausible idea is that the elite support coups when they are afraid that democracy will fall to a revolution. We can think of such coups as "defensive" in the sense that those supporting coups view them as a defense against a much worse outcome for themselves, a revolution. Such a scenario may arise when a revolution against democracy is easier than a revolution against nondemocracy. We now discuss a model showing these features.

To model defensive coups, consider a variant of our model basic static model. Again, the citizens who have control of politics in democracy, move first and decide on the tax rate. After this tax rate, the elite decide whether to undertake a coup. We shall now assume, however, that after the elite's decision, the citizens may decide to undertake a revolution. This is different from before. The return from revolution differs between the two states, but also depends on whether there has been a coup or not. So we denote this by $\mu(\zeta)$ when the coup decision is ζ.

The crucial assumption, which we view as plausible, is that

$$\mu(\zeta = 0) < \mu(\zeta = 1),$$

which means that it is easier and more effective to take revolutionary action against democracy than against a nondemocracy (recall that the cost of a revolution is μ). Although there could be exceptions to this, for example when a nondemocratic regime is very unfair and brutal, thus helping the citizens to solve their collective action problems as a reaction to its injustices, it must typically be the case that overthrowing a democracy is easier than a well-organized military regime.

How does this affect our results? Let us first simplify the analysis by assuming that $\mu(\zeta = 1) \to 1$, so that following a coup, there is no effective revolution threat. We can now write the relevant value functions. When democracies are unconstrained, we have the values $V^p(D)$ and $V^r(D)$ given by (6.4). After a coup, we have (7.2) as in section 7.3 which for the current purposes incorporate the fact that the revolution threat disappears after a coup. The values of the promise of less redistribution under democracy are identical to what they were before, (7.3). In addition, we have the values from the revolution, similar to those in Chapters 6:

$$V^p(R, \mu(\zeta)) = \frac{(1 - \mu(\zeta))\bar{y}}{1 - \delta},$$

which condition the return from a revolution on whether there is a coup or not.

Here we informally outline the results from this model. First note that if $\mu(\zeta = 0) \to 1$, then our basic proposition, Proposition 7.1 applies. There is no effective revolution threat again democracy, and the coup decision is taken simply by trading off the costs of redistribution against the cost of a coup.

However, if $\mu(\zeta = 0) < 1$, then there are new results from this model. Naturally, there will be a coup whenever there was a coup before, but there might also be a coup in some additional cases. To see this we first have to compare

$$V^p(R, \mu(\zeta = 0)) = \frac{(1 - \mu(\zeta = 0))\bar{y}}{1 - \delta}$$

to

$$V^p(D, \tau^D = \tilde{\tau}) = y^p + p\left(\tilde{\tau}(\bar{y} - y^p) - C(\tilde{\tau})\bar{y}\right) + (1 - p)\left(\tau^p(\bar{y} - y^p) - C(\tau^p)\bar{y}\right)$$

with $\tilde{\tau}$ being the tax rate that prevents a coup. This reduction in the tax rate is necessary, since otherwise, the elite will necessarily undertake a coup. But given this reduction in the tax rate,

democracy is less attractive for the citizens, and it can be the case that

$$V^p(R, \mu\,(\zeta = 0)) > V^p(D, \tau^D = \tilde{\tau}).$$

If this is the case, the elite anticipate that the citizens will undertake a revolution rather than live in this democracy which is not very redistributive towards themselves, and since a revolution is the worst outcome for them, the elite will prefer to will undertake a coup in order to prevent the revolution.

We can think of this as a "defensive coup" since the elite are not undertaking the coup in order to reduce redistribution, but to prevent a revolution. Many military coups against democracy in Latin America claimed that they were there to protect the capitalist system or even democracy from revolution—a salient case being the one in Chile in 1973. This model shows that there might be some truth to those claims.

Nevertheless, it is interesting that there is still an important interaction between this and redistribution. We can have that

$$V^p(R, \mu\,(\zeta = 0)) > V^p(D, \tau^D = \tilde{\tau})$$

but it might still be the case that

$$V^p(R, \mu\,(\zeta = 0)) < V^p(D)$$

That is, revolution would not have been attractive for the citizens, if democracy was not trying to defend itself against a coup! Therefore, the reason why revolution might become a threat in the first place is the fact that the coup constraint is preventing democratic politics from catering to the wishes of the citizens.

10. Conclusion

In this chapter we have introduced a model of coups. We showed how to integrate this theory of coups with our theory of democratization in Chapter 6. This extended model allows us to study the conditions under which democracy is not only created, but under which it consolidates—surely a question of equal importance. Many democracies, once created, quickly collapse, so here we have built a framework to understand why. We have shown that many of the same issues which arose in modelling democratization arise in studying democratic consolidation. In particular, coups arise because democrats cannot credibly promise not to use their power to enact pro-citizen and anti-elite legislation and policies. To avoid this, the only solution is for the elite to take power—to mount a coup.

We showed how whether or not a democracy was consolidated depended on inter-group inequality, though whether or not this comparative static maps into a statement about observed measures of inequality depends on the nature of political identities. When political conflict is between the poor and the rich we expect, for example, higher inequality to lead to more coups. We also showed that the power of the elite mattered for democratic consolidation. If the elite have sufficient power then they do not need to undertake coups. This suggests that there might be institutional solutions to avoiding coups, just as we argued that democracy is an

institutional solution to avoid revolutions. Perhaps democrats could alter institutions and by doing so give more power in democracy to the elite. This would limit the power of democracy, but it might help consolidate it. Democracy would be consolidated but limited. Nevertheless, there are dangers inherent in such a strategy, even if it is feasible. If democrats, in their desire to consolidate democracy, give the elite too much power, then the democracy that they consolidate may be so limited in its ability to transform society that it is not stable since the mass of citizens may push for a revolution and much more radical social and political change.

These are just the initial empirical lessons from the model. In the next three chapters we shall see that many other factors can be important for determining whether or not democracy consolidates.

Part 4

Putting the Models to Work

CHAPTER 8

The Role of the Middle Class

1. Introduction

In this part of the book we put the basic models of democratization and coups to work in a number of different settings. To keep things simple we shall do this only in the context of our basic extensive form static game where the commitment problem is modeled in a reduced form way. Our aim here is to show the utility of the framework we have developed for thinking about why some countries are democratic and others are not and illustrate some ways in which the framework can be enriched and extended. We shall also keep the analysis and statements of results more informal than in the book so far. For instance, we will not present formal specifications of strategies, though it will be straightforward to fill in the details from the analysis we have already presented.

In this chapter we extend our framework by allowing for a third group with interests intermediate to those of the elite and the great mass of citizens. For simplicity we shall call this group the middle class. Our model so far focused on the political conflict between the elite and the citizens. Clearly, real world societies do not correspond to our simple model with only two groups. Just as the distinction between the elite and the citizens, and between the rich and the poor, is useful as a tractable device for developing ideas, so is the three class model (another application of Occam's Razor). Since many individuals see themselves as part of a "middle class," distinct from the rich and the poor, and because political scientists believe that decisive voters in democracy are often from the middle class, we believe this approach is useful.

What's more, a long tradition in social science, including Moore's, *Social Origins of Dictatorship and Democracy*, views third classes, such as the middle class, or what Moore called, following Marxist terminology, the bourgeoisie, as the key actor in the processes that ultimately lead to democracy. Moore suggested that only societies with a sufficiently strong bourgeoisie would become democratic, whereas societies where landowners were very strong so that the emerging bourgeoisie had to enter into an alliance with them would turn into dictatorships. Scholars within the modernization tradition have also stressed the importance of the middle class (e.g. Lipset, 1959, Dahl, 1971). Huntington (1991, p. 66) suggests the key role of the middle class in reducing the distributional conflicts which make democracy unstable. He argues

> "economic development promotes the expansion of the middle class ... Democracy
> is premised ... on majority rule, and democracy is difficult in a situation of
> concentrated inequalities in which a large, impoverished majority confronts a
> small, wealthy oligarchy."

Similarly, the literature on Latin American dictatorships and democratic consolidation emphasizes the important role played by the middle class. We have seen this already in our discussion on the role of the Radical party in the history of democracy in Argentina, and also discussed the idea that the relatively large middle class in countries such as Colombia and Costa Rica may help to explain why these countries have an unusually democratic political history compared to most of their neighbors.

Motivated by these issues, in this chapter we extend our analysis of political conflict based on the citizens versus the elite by including the middle class. We show how this changes the main results from our basic approach, and in what sense the middle class plays an important role in the process of the creation and consolidation of democracy. In this chapter, instead of referring to the elite and the citizens, we refer to these three groups as the rich, the middle class and the poor. We use this language because we will investigate various situations, some where we can think of the middle class as forming a coalition with the poor against the rich, and sometimes where the middle class form a coalition with the rich against the poor, thus becoming part of the "elite". In this case one could think of the composition of the elite as sometimes including the middle class and so to avoid confusion we drop this language from this chapter.

We start with an analysis of the emergence of partial democracy, that is, a situation in which only a limited segment of society participates in voting.[1] This segment typically includes the elite and middle class, while the poor are excluded because of income or literacy restrictions on voting. Although democracy emerged in some Latin American or African countries as a direct move from nondemocracy towards universal mass suffrage, as discussed in detail in Chapters 1 and 3, European democracy emerged more gradually. Our three-class model enables an analysis of such incremental democratizations. In particular, when the threat of revolution from the disenfranchised comes as a result of a coalition between the middle class and the poor, it may be beneficial for the rich elites to break the coalition by only extending voting rights to the middle class. Because the middle class are, by definition, richer than the poor, they are easier to dissuade from revolution.

The next step is to analyze the move from a partial to full democracy. Here we distinguish between two different approaches. The first, which is often invoked in explaining the 1867 Second Reform Act in Britain, is that competition among elites, for example between the rich and the middle class, led to the extension of democratic rights by one of the groups in order to increase their likelihood of remaining in power. According to this story, Tory Prime Minister Disraeli introduced a radical reform, enfranchising a large group of the population, in order to strengthen his party in its competition against the Liberals led by Gladstone. We show how this type of intra-elite competition can be modeled within this framework, but then also argue that it is unlikely to provide a satisfactory explanation for either the British or other cases of transition

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[1]Since partial democracy is less than full democracy we could refer to it as a form of nondemocracy. Recall from Chapter 2 however that the focus of our analysis is to understand the forces which push a society towards or away from democracy. Though most of our analysis has focused on contrasting full democracy with the rule of some elite, we can therefore study the move from political control by the rich to a partial democracy, which includes also the middle class, as an instance of democratization.

from partial to full democracy. Instead, as in our baseline model of Chapter 6, the revolutionary threat from the disenfranchised poor appears to have been important both in the British case and in the other cases we have studied.

Inspired by this, we use our three-class model to analyze the response of a partial democracy to a threat of revolution from the poor. More specifically, we model the situation as one where the rich and the middle class have voting rights, and the poor challenge the system. Once again, the promises of the existing regime to redistribute in the future are not fully credible, because with de jure political power in the hands of the rich and the middle class, they will revert to policies they prefer once the threat of revolution subsides. Therefore, full democracy emerges as a way to change the future distribution of political power, thus creating a credible commitment to future pro-poor policy. The new results in this instance involve the role of the middle class: if the middle class are sufficiently poor, even partial democracy will generate policies, for example, rates of redistributive taxation, which are close to those the poor prefer. In this case the poor expect relatively pro-poor policies in the future even if the exact promises made to them while they have an effective threat of revolution are not kept. Here, greater inequality in the form of a relatively poor middle class may make full democracy less likely by enabling the existing regime to commit to policies relatively attractive to the poor without having to actually give the poor democratic rights.

The most interesting new results from our analysis of the role of the middle class come when we introduce the option to use repression. We learned in Chapter 6 that a highly unequal society may not democratize because with high levels of inequality democracy would adopt policies which were radically different to those preferred by the rich. Anticipating this, the rich are willing to use repression to prevent democratization. In a model of redistributive taxation, the poor, who constitute a majority in democracy, will be in favor of very high rates of income redistribution. However, if the middle class is sufficiently large, the median voter in a full democracy could be a middle class agent, and moreover, if the middle class are relatively affluent, this median voter would choose only limited redistribution. Therefore, a relatively large and affluent middle class acts as a buffer between the rich and poor and limits redistribution. By ensuring that policies are not too far from those preferred by the rich, it discourages the rich from using repression, and makes democracy more likely.

The discussion of the middle class as a buffer focuses on a model where initially the rich are in power, and are considering extending voting rights to the rest of the population, which includes the middle class and the poor. An alternative scenario, relevant in many Latin American instances, is that a nondemocracy represents the interests of the rich and the middle class, and has to decide whether to move to a democracy with the poor also included in the system. In this case, which we can also think of as a movement from partial democracy to democracy, the model provides a way to formalize the often discussed distinction between soft-liners and hard-liners in the political science literature. According to many qualitative accounts (see O'Donnell and Schmitter, 1986) when nondemocratic regimes are challenged, there are often divides between

hard-liners who want to use force to keep the system going, and soft-liners who want to administer a smooth transition to democracy. Transitions to democracy take place when soft-liners become more influential within the existing regime. In our framework, a natural divide exists between the rich and the middle class. Because the rich have more to lose from the policies adopted by a democracy, they are more pro-repression than the middle class. For an interesting set of parameter values, there will be repression when the rich, who correspond to hard-liners, are more influential within nondemocracy, but peaceful transition to democracy when the middle class, the soft-liners, are more influential.

Finally we move in section 7 to an analysis of coups. We show there that the role of the middle class can mirror its role in reducing the inclination of the rich to repress to avoid democratizing. If the median voter in democracy is a middle class agent and if the middle class is relatively affluent, then this mitigates the anti-rich impact of democracy and makes coups less attractive for the rich. The fact that the middle class can be a buffer between the rich and the poor may therefore help to consolidate democracy as well as create it in the first place.

Overall, therefore, the analysis in this chapter will reveal that the middle class will play an important role in the emergence of democracy in a number of ways: first, they can be the driving force for democracy, especially for the emergence of partial democracy; second, they can be in favor of the poor being included in the political arena, facilitating a move from partial to full democracy; third, and perhaps most interesting, they can act as a buffer between the rich and the poor by ensuring that democracy will not be very anti-rich, and therefore dissuading the rich from using repression or mounting coups; and finally, when they are in power together with the rich, they can play the role of soft-liners arguing against repression and in favor of a transition to democracy, which is less costly for them than it is for the rich.

2. The Three-Class Model

We first generalize our basic two group model of Chapter 4 to allow for a third income group. There are three groups of agents, the rich of size δ^r, the middle class of size δ^m and the poor of size δ^p. We normalize total population to 1 as before, thus $\sum_i \delta^i = 1$, and assume that $\delta^p > \delta^m > \delta^r$, that is, the poor are the most populous, and then the middle class, and the rich constitute the smallest group in the population. Also, we denote average income by $\bar{y}$ as before, and introduce the notation that

$$(8.1) \qquad\qquad y^r = \frac{\theta^r}{\delta^r}\bar{y}, \ y^m = \frac{\theta^m}{\delta^m}\bar{y}, \text{ and } y^p = \frac{\theta^p}{\delta^p}\bar{y}.$$

This implies that group i has a share θ^i of the economy's total income, and naturally $\sum_i \theta^i = 1$. Moreover, we assume that

$$(8.2) \qquad\qquad \frac{\theta^r}{\delta^r} > \frac{\theta^m}{\delta^m} > \frac{\theta^p}{\delta^p},$$

so that the rich are richer than the middle class, who are in turn richer than the poor.

As before, we assume that the political system determines a nonnegative income tax rate $\tau \geq 0$, the proceeds of which are redistributed lump sum, and there is an aggregate cost of

taxation $C(\tau)\bar{y}$. Nevertheless, as we showed in Chapter 4, one can easily introduce group specific transfers without altering the thrust of the results, hence the set-up we use here is only for simplicity.

Given this setup, we can define the most preferred tax rates of rich, middle-class and poor agents. For any group, the most preferred tax rate is that which maximizes $\hat{y}^i$, therefore, the most preferred tax rate of group i satisfies the following condition which we write in the Kuhn-Tucker form to allow for the possibility of corner solution: $-y^i + \left(1 - C'(\tau^i)\right)\bar{y} = 0$ and $\tau^i > 0$, or $-y^i + \left(1 - C'(\tau^i)\right)\bar{y} \leq 0$ and $\tau^i = 0$. Substituting for the definitions of incomes we can write these two conditions as

$$
\begin{aligned}
\left(\frac{\delta^i - \theta^i}{\delta^i}\right) - C'(\tau^i) &= 0 \text{ and } \tau^i > 0, \text{ or} \\
\left(\frac{\delta^i - \theta^i}{\delta^i}\right) - C'(\tau^i) &\leq 0 \text{ and } \tau^i = 0.
\end{aligned}
\tag{8.3}
$$

Since $y^r > \bar{y}$ by definition, we have that for the rich (8.3) holds as an inequality, and $\tau^r = 0$ as before. Moreover, since $\bar{y} > y^p$, the most preferred tax rate of the poor is positive, i.e., $\tau^p > 0$, given by:

$$
\left(\frac{\delta^p - \theta^p}{\delta^p}\right) = C'(\tau^p).
\tag{8.4}
$$

The most preferred to tax rate of the middle class could be zero or positive depending on whether y^m is greater or less than mean income $\bar{y}$. In most real world income distributions, the rich are sufficiently rich that the median is less than the mean, so we assume that $\theta^m/\delta^m < 1$ or $\bar{y} > y^m$. Therefore, we have that τ^m is given by

$$
\left(\frac{\delta^m - \theta^m}{\delta^m}\right) = C'(\tau^m),
\tag{8.5}
$$

and $\tau^m > 0$. This assumption allows us to focus on the most interesting case. However, by virtue of the fact that the middle class are richer than the poor, i.e., $\theta^m/\delta^m > \theta^p/\delta^p$, we also have that

$$
\tau^p > \tau^m,
$$

so that the middle class always prefer lower taxes than the poor.

We can apply the analysis of Chapter 4 to determine the democratic equilibrium of this model. Consider the game where two 'Downsian' political parties noncooperatively offer tax policies in an attempt to win an election. There is majority voting. Since all individuals have single-peaked preferences the MVT applies and the unique equilibrium will involve both parties offering the policy preferred by the median voter. The nature of the democratic political equilibrium will then depend crucially on the relative sizes of the three groups. In particular, the assumption above that $\delta^p > \delta^m > \delta^r$ immediately implies $\delta^r < 1/2$, so the rich are not the majority. This leaves us with two interesting cases:

(1) $\delta^p < 1/2$, so the poor are not the majority either, and the median voter will be a middle-class agent. In that case, majority voting will lead to the most-preferred policy of the middle class, τ^m.

(2) $\delta^p \geq 1/2$, so the poor are the majority, and majority voting will generate their most preferred policy, τ^p.

We will now separately analyze these two cases.

First suppose that $\delta^p \geq 1/2$. Then the poor are the majority, and democratic politics will lead to their most preferred tax rate, τ^p, as given by (8.4). The comparative statics of this equilibrium are very similar to those of the two-class model, but what matters now is θ^p, which is a measure of the gap between the poor and average income, not necessarily the gap between the poor in the rich. For example, when θ^p declines, so that poor become relatively poorer, their most preferred tax rate τ^p increases. In other words, $d\tau^p/d\theta^p < 0$. However, note that this can happen while the gap between the rich and the poor remains constant. For example, we could have a simultaneous decline in θ^p and θ^r, compensated by an increase in θ^m. In this case, the poor would still vote for, and obtain, higher taxes, but they are not poorer relative to the rich. They are simply poorer relative to average income.

This observation already shows that the relationship between inequality and the equilibrium policy will now depend on exactly what measure of inequality we use. For example, a common measure in the literature is the Gini coefficient or the standard deviation of the logarithm of individual income. Now consider a change in income distribution such that the middle class becomes poor, i.e., θ^m falls, and the rich become richer, that is, θ^r increases, without any change in θ^p or $\bar{y}$. In this model with $\delta^p \geq 1/2$ this has no effect on the equilibrium rate of taxation, whereas according to both measures, income inequality has increased. In fact, if $y^m < \bar{y}$, according to the more rigorous and demanding definition of a mean-preserving spread (see Rothschild and Stiglitz, 1970, 1971), we have a more unequal distribution—one that is a mean-preserving spread of the original one, meaning that the distribution now has more weight in the tails than the original distribution. Similarly, if we used the measure of inequality that's the gap between the rich and the poor (for example, the often used measure of the ratio of 90th and 10th percentiles of the income distribution), again inequality has increased, but there is no effect on the equilibrium policy chosen. Instead, this model makes a very specific prediction: the equilibrium policy should depend on the gap between the poor and average incomes. But this prediction doesn't necessarily map into a relationship between policy and a standard measure of inequality.

Next consider the case where $\delta^p < 1/2$, so that the poor are not the absolute majority, and the median voter will be from the middle class. In this case, the political equilibrium is given by the tax rate that maximizes the indirect utility of the middle-class agent. In this case, the political equilibrium tax rate is given by (8.5) above. The comparative statics of this equilibrium tax rate are similar to those of the most preferred tax rate of the poor. In particular, we have

$$\frac{d\tau^m}{d\theta^m} < 0,$$

so that when the middle class become poorer relative to the average, they desire higher taxes.

Now the relationship between measures of inequality and tax rates is even more nuanced. For example, consider a change in the distribution that reduces θ^p, so that the poor become poorer, simultaneously also increasing θ^m and θ^r. Most measures would show this as an increase in inequality, but the equilibrium tax rate will actually decline.

We now use this three class framework to look at what new factors the middle class might bring into the study of the creation and consolidation of democracy.

3. Emergence of Partial Democracy

As already discussed, the Western European experience shows a gradual move towards democracy: first, the middle classes were incorporated into the political system, and then later the poor. The analysis in Chapter 6 looked at a simple game between the enfranchised and the disenfranchised. So at some level, this might be thought of as a model of a radical move to democracy starting from nondemocracy. Although the Latin American experience might be approximated by a game like this, the Western European experience also suggests that an analysis of how democracy may arise gradually and which factors might play a role in the enfranchisement of the middle class and which factors determine later democratizations where the poor are also given the vote would also be useful. Even in Latin America there were often restrictions which stopped people who were illiterate from voting (until 1936 in Colombia or until 1970 in Chile) and since literate people tend to be richer than illiterate people, the extension of voting rights only to males who were literate is very similar to a situation where voting rights are extended only to the middle class and not the poor.

Now consider a situation where the middle class are disenfranchised and pose a revolutionary threat, just as the poor did in the analysis of Chapter 6. Although during recent times a revolutionary threat from the middle class may appear far-fetched, early democratizations in Europe, like those in Britain during the first half of the 19th century, were in response to significant social unrest from the middle segments of the society. In Latin America the situation was often similar. For example, the Radical party in Argentina which organized a series of uprisings in the late nineteenth century with the aim of creating democracy was essentially an urban based middle class movement (see Alonso, 2000).

To model this issue, assume that the middle class and the poor jointly pose a revolutionary threat, but if the middle class withdraw from this process, the poor will not be able to undertake a successful revolution. Hence a middle class and poor coalition is required for revolution to be a threat. This might be because in many instances, it is members of the middle class who are more educated and have access to more opportunities, and who therefore play leadership roles in organizing extra-legal and revolutionary activities.

The rest of the setup is similar to the static game in Chapter 6. For the moment therefore we do not allow the rich to use repression. Figure 8.1 draws the game tree. There are two new elements. First, the rich now have two democratization decisions: partial and full. Second, the key revolution decision is by the middle class, since if it withdraws from the revolutionary

coalition, revolution is assumed not to take place. To keep the game tree relatively simple we have therefore suppressed the revolution action by the poor. We have also tried to keep the tree as simple as possible by expressing the payoffs in terms of vectors. Hence the payoff $V^i(R, \mu) = (V^p(R, \mu), V^m(R, \mu), V^r(R, \mu))$ and so forth.

We can analyze this game by backward induction again, but we now need to define values for all three groups, and also for revolution, partial and full democracy, as well as promised redistribution under the existing system, where the rich control de jure political power.

We assume that returns from revolution are similar to before, except that now the middle class and the poor share the returns. As in our previous model we focus the analysis on a state where revolution is a threat. Therefore, we have:

$$(8.6) \qquad\qquad V^p(R, \mu) = V^m(R, \mu) = \frac{(1 - \mu)\bar{y}}{\delta^p + \delta^m},$$

as the return to undertaking a revolution for the poor and the middle class. If they undertake a revolution, a fraction μ of the economy's income is destroyed, and the remainder is distributed between the poor and the middle class, which make up a total of $\delta^p + \delta^m$ agents. As before we have that $V^r(R, \mu) = 0$.

The revolution constraint will be binding if both the middle class and the poor prefer revolution to the status quo under the existing system, or if

$$V^p(R, \mu) = V^m(R, \mu) = \frac{(1 - \mu)\bar{y}}{\delta^p + \delta^m} > y^p \text{ and } > y^m$$

Since $y^m > y^p$, if the revolution threat is binding for the middle class, it will do so for the poor. Therefore, the revolution constraint is

$$(8.7) \qquad\qquad \mu < 1 - \left(\frac{\delta^p}{\delta^m} + 1\right)\theta^m$$

This condition behaves in an intuitive way. Note that when θ^m falls, the income share of the middle class falls, this increases inequality in the sense of the relationship between middle class income and average income. This increases the right hand side of (8.7) and makes it more likely that it is greater than μ.

As before, the rich may meet the threat of revolution by promising redistribution, which is only a partially credible promise, since they have a chance to reset the tax with probability $1 - p$ once the revolution threat has subsided. The values to the three different groups, when the rich keep political power and promise redistribution at the tax rate τ^N, are

$$(8.8) \qquad\qquad V^i(N, \tau^N) = y^i + p\left(\tau^N\left(\bar{y} - y^i\right) - C(\tau^N)\bar{y}\right).$$

for $i = p, m, r$.

On the other hand, if the rich choose partial democracy, PD, only the middle class are enfranchised, and by the assumption that $\delta^p > \delta^m > \delta^r$, in this partial democracy, the rich are minority, and the preferred tax rate of the middle class will be implemented. In general we shall use the notation τ^{PD} for the tax rate set in partial democracy. However, for now the values

$V^i(PD)$ take into account that $\tau^{PD} = \tau^m$ the ideal tax rate for a middle class agent. Therefore, we have

$$(8.9) \qquad V^i(PD) = y^i + \left(\tau^m \left(\bar{y} - y^i\right) - C(\tau^m)\bar{y}\right).$$

Finally, the values in democracy depend on whether the median voter is a poor or a middle-class agent. Recall that this depends on whether δ^p is less than or greater than $1/2$. We therefore write

$$(8.10) \qquad V^i(D) = y^i + \left(\tau^D \left(\bar{y} - y^i\right) - C(\tau^D)\bar{y}\right)$$

where

$$(8.11) \qquad \tau^D = \begin{cases} \tau^m & \text{if } \delta^p < 1/2 \\ \tau^p & \text{if } \delta^p \geq 1/2 \end{cases}$$

This immediately shows that if $\delta^p < 1/2$, full and partial democracy will lead to the same tax rate and to the same allocation. Therefore, the rich are indifferent between full and partial democratization in this case. On the other hand, when $\delta^p \geq 1/2$, because the value to the rich, $V(y^r \mid \tau^D)$, is strictly decreasing in τ^D, and because $\tau^p > \tau^m$, we have that $V^r(PD) > V^r(D)$.

The crucial issue is going to be, as in our analysis of Chapter 6, whether the promise of redistribution can prevent revolution. If it can, the rich prefer this to partial or full democratization. For the revolution to be prevented, we need that

$$(8.12) \qquad V^m(N, \tau^N) \geq V^m(R, \mu)$$

or

$$(8.13) \qquad V^p(N, \tau^N) \geq V^p(R, \mu).$$

Since $V^p(R, \mu) = V^m(R, \mu)$, and by the fact that the middle class are richer than the poor, $V^m(N, \tau^N) > V^p(N, \tau^N)$, (8.12) is easier to satisfy than (8.13), and the rich will simply try to satisfy this, and convince the middle class not to partake in the revolution. The highest value they can offer to the middle class is clearly when they set the tax rate most preferred by the middle class, τ^m. Therefore, for the promise of redistribution to prevent revolution, we need

$$
\begin{aligned}
V^m(N, \tau^N = \tau^m) &\geq V^m(R, \mu) \\
y^m + p\left(\tau^m \left(\bar{y} - y^m\right) - C(\tau^m)\bar{y}\right) &\geq \frac{(1-\mu)\bar{y}}{\delta^p + \delta^m}
\end{aligned}
$$

Define μ^* such that this condition holds as an equality, or in other words,

$$(8.14) \qquad \mu^* = 1 - \frac{(\delta^p + \delta^m)}{\delta^m} \left(\theta^m + p\left(\tau^m \left(\delta^m - \theta^m\right) - \delta^m C(\tau^m)\right)\right)$$

Finally, we also need a condition similar to those in Chapter 6 that democratization or partial democratization is sufficient to prevent revolution. This means that these options should make revolution unattractive for either the middle class or the poor. The same argument as above means that revolution is less attractive for the middle class, so the relevant condition is for them. Moreover, notice that

$$V^m(PD) \geq V^m(D),$$

since in partial democracy the middle class set their most preferred tax rate. Therefore it is sufficient to have $V^m(PD) \geq V^m(R, \mu)$, or

$$(8.15) \qquad \frac{1}{\delta^m} \left(\theta^m + \tau^m (\delta^m - \theta^m) - \delta^m C(\tau^m) \right) \geq \frac{1 - \mu}{\delta^p + \delta^m}$$

Given this discussion, we have the following result which is a direct generalization of the results of Chapter 6.

> **Proposition 8.1:** In the game described above, there is a unique subgame perfect equilibrium. Let μ^* be defined by (8.14), then:
> - If (8.7) does not bind, the rich set their most preferred tax rate $\tau^N = \tau^r$.
> - If (8.7) binds and (8.15) fails to hold, there is a revolution.
> - If (8.7) binds and $\mu \geq \mu^*$, the rich prevent democratization by setting the tax rate $\tau^N = \hat{\tau}$ such that $V^m(N, \tau^N = \hat{\tau}) = V^m(R, \mu)$.
> - Finally, if (8.7) binds, (8.15) holds and $\mu < \mu^*$, then the rich democratize. If, in addition, $\delta^p \geq 1/2$, the rich will choose partial democratization, and if $\delta^p < 1/2$, they are indifferent between partial and full democratization.

Much of the intuition of this proposition is the same as that of Proposition 6.1 from Chapter 6. Institutional change again arises as a way of transferring political power from one group to another in order to guarantee certain policies in the future. Here, partial democracy transfers power from the rich to the middle class, thereby ensuring that the middle class will obtain redistribution in the future. The new features here are the choice between partial and full democratization, and the fact that this proposition can help us explain why early in the 19th century, democracy was extended first to the middle class, and not to the whole disenfranchised population. Proposition 8.1 can also help to explain why in many situations only people who were literate were given political rights with illiterates excluded from such rights.

If this model with (8.7), (8.15), $\mu < \mu^*$, and $\delta^p < 1/2$, is a good approximation to reality, it provides one justification for the role ascribed by scholars to the middle class: early democratization was spearheaded by the middle class, and including the middle class in the system, with partial democratization, was the cheapest way for the rich to prevent social unrest.

The comparative statics with respect to inequality are worth emphasizing. Parallel to the results of Proposition 6.1 in Chapter 6, a lower fraction of income accruing to the middle class both makes the revolution constraint (8.7) more likely to hold, since the right side of (8.7) is decreasing in θ^m. To see the influence of θ^m on μ^*, we must totally differentiate (8.14) giving

$$\frac{d\mu^*}{d\theta^m} = -\frac{(\delta^p + \delta^m)}{\delta^m} \left(1 - p\tau^m + \left((\delta^m - \theta^m) - \delta^m C'(\tau^m) \right) \frac{d\tau^m}{d\theta^m} \right) < 0$$

Since from (8.5) we have $(\delta^m - \theta^m) - \delta^m C'(\tau^m) = 0$ (another application of the envelope theorem) and $1 - p\tau^m > 0$, $d\mu^*/d\theta^m < 0$ follows. Thus if the share of income going to the middle class increases μ^* falls, which implies that the rich will be able to use concessions to buy off the middle class for a larger range of parameter values.

This highlights that the relevant concept of inequality here is not the gap between the poor and the rich (as was the case in Chapter 6). The (marginal) social class that poses the revolutionary threat now and that needs to be dissuaded from revolution is the middle class, so what matters is how much they are obtaining in the existing regime. Therefore, the crucial measure of "inequality" now is how rich is a middle-class individual relative to rest of the society, or θ^m. As a result, the poorer the middle class relative to average income, the less well-off they are under the existing regime, and the more attractive is revolution for them. Hence when they are poorer, the middle class needs to receive a credible commitment of future redistribution, a move towards partial democracy.

4. From Partial to Full Democracy

The previous section discussed how partial democracy may emerge by extending the reasoning of our basic model in Chapter 6. We now turn to the reasons why partial democracy might extend political rights to the poor. We start with a model of intra-elite conflict, implicit in some of the discussions of the Second Reform Act in Britain. We then turn to a model of revolutionary threat from the poor leading to a transition to full democracy, which is more similar to our basic approach in Chapter 6.

4.1. Intra-Elite Conflict and Transition to Full Democracy. The view that inter-elite conflict is important in the transition towards democracy is, in part, inspired by the British experience, where the competition between Disraeli and Gladstone was a major factor in political reform.

In 1866, Russell's Liberal government proposed a relaxation of the property restrictions on voting. This measure was defeated by a coalition of Conservatives led by Disraeli and right wing Liberals, the "Adullamites", who thought the extension too generous. The Liberal government then collapsed and Disraeli formed a minority administration (with only 290 members of parliament as opposed to 360 outside the administration). Disraeli then proposed an even more radical extension of voting rights than the initial Liberal measure, and it was Disraeli's measure which then passed.

How could we make sense of these events? One possibility is to argue that politicians have a strong preference to stay in power, and may extend the franchise with the expectation that the newly enfranchised will return the favor by voting for their party (see, for example, Himmelfarb, 1966, who argues this for the British case; and the general discussion in Collier, 1999). In this interpretation Disraeli extended the franchise, something he had initially opposed, because he decided that the newly enfranchised would vote Conservative.

Another view, which is potentially more interesting and more in line with our approach which is based on economic incentives, is that including the poor segments of the society into the political arena might strengthen one social group at the expense of another, and therefore, the extension of the franchise to the poor is a strategic move to affect future political equilibria. In the class of models we are analyzing, including the poor into the political system would

benefit the middle class relative to the rich, and for this reason, the middle class might try to push for further democratization in order to increase their political power. If we want to apply this interpretation to the British experience, we would have to argue that the Tory party under Disraeli was more representative of the middle class than rich land-owning classes, which may not be very realistic. In any case, we will argue below that this approach does not provide an entirely satisfactory explanation for the transition from partial to full democracy. Nevertheless, it is useful to understand how this argument could be formally developed.

To formalize these ideas, consider the game depicted in Figure 8.2. The underlying political considerations are that in a partial democracy, where only the rich and middle class are enfranchised, the rich may gain power with some probability, say $q > 0$. The motivation for this is that in a restricted democracy, even if the middle class are more numerous than the rich, lobbying and other types of influence activities will be effective in controlling the political system and this sometimes allows the rich to control the outcomes. In a full democracy we shall assume that numerical superiority dominates (it is hard to lobby or bribe a large number of people) and we assume $\delta^p < 1/2$ so that the median voter is a middle-class agent who we assume determines the policy outcomes. The game starts with the middle class in power, but they are afraid of losing power to the rich in partial democracy, with probability q. Therefore, if they keep the system as it is, they will obtain their most preferred tax rate, τ^m, with probability $1 - q$, but $\tau^N = 0$ with probability q. Their corresponding expected payoff is therefore:

$$V^m(PD) = y^m + (1 - q)\left(\tau^m\left(\bar{y} - y^m\right) - C(\tau^m)\bar{y}\right)$$

In contrast, if they extend the franchise to the poor, they will become the median voter, and their payoff is

$$V^m(D) = y^m + \left(\tau^m\left(\bar{y} - y^m\right) - C(\tau^m)\bar{y}\right).$$

Knowing that by including the poor into the political system, they will become the median voter, the middle class extend the franchise and administer a transition to full democracy. This ensures that they obtain their most preferred tax rate.

The reasoning underlying institutional change is again similar to our baseline argument: a particular group, now the middle class, have power today, but this power is transitory. They therefore want to change institutions so as to lock in their political power. Before the relevant institutional change was for the poor to obtain the vote, so that they become powerful themselves. Here, the middle class want to include the poor in the system so that the poor counterbalance the rich, and ensure that the middle class becomes more powerful.

Although this inter-elite competition view is interesting, it does not receive much support from the historical evidence in the British case. The Conservatives lost the 1868 election immediately after having passed the franchise extension (and the Liberal party lost the election of 1885 after pushing through the Third Reform Act in 1884). So if the strategy was aimed at winning elections, it was clearly a failure. Although the fact that the Conservatives lost the election does not prove that franchise extension was not aimed at winning elections, other aspects of this reform also appear inconsistent with a strategy of maximizing Conservative votes.

In particular, as the result of the split over the Corn Laws, support for the Conservative party was essentially concentrated in rural areas, with Tory landowners exerting substantial control over the electorate in the absence of a secret ballot. The reform measure passed under Disraeli increased the voting population by only 45 percent in counties compared to 145 percent in the boroughs, effectively ensuring a Conservative defeat in the following elections.

The notion that the Liberals and Conservatives were prepared to extend the franchise simply to keep their party in power is also not completely persuasive either. Instead, both parties were fundamentally opposed to extending the franchise further. Between 1859 and 1865 the Liberal prime minister Palmerston, who was opposed to franchise extension, and the Conservative leader Lord Derby, colluded so that the issue of suffrage would never be raised in parliament (Lee, 1994, p. 138). During this period Disraeli himself was an implacable opponent to political reform. In opposing reform in 1859 he said

> "If you establish a democracy, you must in due season reap the fruits of a democracy. You will in due season have great impatience of the public bodies combined in due season with great increase of the public expenditure. You will in due season reap the fruits of such united influence. You will in due season have wars entered into from passion, and not from reason; and you will in due season submit to peace ignominiously sought and ignominiously obtained, which will diminish your authority and perhaps endanger your independence. You will, in due season, with a democracy find that your property is less valuable and that your freedom is less complete." (quoted in Lang, 1999, pp. 81-82).

Overall, the most plausible interpretation of the inter-party rivalry in Britain during the 1860's and 1870's was that, while both parties regarded the extension of voting rights as inevitable due to mounting social pressure, they clearly saw that it could be structured in ways which were more or less advantageous to themselves. This created a complicated 'end game'. Cowling (1967, p. 89) argues that the Conservative party supported Disraeli in 1867 because if the Act failed "the Liberals might then do precisely what Derby and Disraeli had striven in 1866 to prevent their doing—carry Reform on their own lines." In fact, Disraeli's first move when becoming prime minister was to introduce a *less* generous franchise extension, but he realized that this would not gain majority support. He then switched to the more radical proposal which he could see pass by gaining the support of a heterogeneous group of Liberals. The one triumph of the 1867 reform for Disraeli was the fact that it limited the redistribution of seats away from the counties to the boroughs, which would have been even more substantial otherwise. This strategy reduced the impact of the franchise extension for the Conservative party and its constituency. Smith (1967, p. 97) also agrees and argues that "Derby and Disraeli ... in 1867, did not determine to trust the people, or put their faith in a Conservative democracy. They did what they felt they had to do, to satisfy the popular agitation and reconcile the upper strata of the working classes to the established political system".

Other cases of nineteenth-century democratization in Europe also do not offer much support for the view that the transition to full democracy was a way for one sub-group of the elite to increase their own vote share. For example, in the German case, as already discussed, the threat of revolution appeared to be the main factor. With army units in revolt and the economy collapsing in Germany in 1918-1919, the former political elites attempted to prevent revolution by generating a transition which would cause minimal damage to their interests.

In France, there were more distinct subsets within elites. Orleanists and Legitimists formed separate factions within the Monarchist camp, and the Republicans, though democratic, were basically middle class and were not in favor of universal male suffrage in 1848. When the Monarchy collapsed in 1848, these groups had to concede to the demands of the revolutionaries. The same is true for the period after 1870. The conflict at the time, particularly the Commune, forced democracy along the lines of 1848. Although no group within the elite were committed to universal male suffrage, they were forced to reintroduce it.

The Swedish case is perhaps the most similar to Britain. In 1906, the Liberal party's first ever government fell after failing to pass a law introducing universal male suffrage. The reform measure of 1909 was then passed by the Conservative government under Lindman. As with Disraeli in 1867, "Lindman and his Conservative ministry that took office a year after the Liberals' 1906 failure saw an opportunity to pass a political reform on its own terms" (Collier, 1999, p. 84). Although male suffrage was conceded in one house, the Conservatives kept control over the other through the maintenance of multiple voting and tax-payer suffrage. As with the British case, this pattern of events was not the result of attempts by the Conservatives to gain votes, but rather a damage limitation exercise in the face of mounting social pressure for a full democracy.

4.2. The Threat of Revolution and Transition to Full Democracy. So if the move from partial to full democracy was not the result of inter-elite competition, what was the cause? Our answer, perhaps not surprisingly, is again the threat of revolution from the disenfranchised poor. As the discussion in Chapter 1 illustrates, there was significant political and social unrest during the years leading to the Second Reform Act in Britain. In Chapter 3 we discussed evidence suggesting that in many other countries political reforms were frequently driven by similar forces. We therefore believe that we need a model along the lines of those in Chapter 6 to understand transition from partial to full democracy.

Let us then analyze how a society might transition from partial to full democracy because the poor form an effective challenge, or pose a revolutionary threat. The underlying economic model is the same as our basic three-class model described above.

How is this model different from that of Chapter 6? The main difference is that now without further institutional change, we are in a world with partial democracy, the middle class is politically decisive with respect to the tax rate in partial democracy, and given $\bar{y} > y^m$ there is going to be positive taxation, and therefore redistribution towards the poor, even when they are excluded from the political system. Figure 8.3 draws the game. The revolution threat now

comes from the poor, and that takes the same form as in Chapter 6. After a revolution the poor share the remaining income, and the middle class and the rich receive nothing. In particular, if there is the revolution we have

$$V^p(R, \mu) = \frac{(1 - \mu)\bar{y}}{\delta^p}.$$

and $V^m(R, \mu) = V^r(R, \mu) = 0$.

The important point to note is that without further democratization, we are in partial democracy, so the relevant values are as in (8.9) above. This implies that the revolution constraint is now different, because the existing system is redistributing at the tax rate τ^{PD}. In particular, in this case the revolution constraint would require

$$V^p(R, \mu) > V^p(PD),$$

which is equivalent to

(8.16) $$\mu < 1 - \theta^p - \left(\tau^m\left(\delta^p - \theta^p\right) - \delta^p C(\tau^m)\right).$$

In addition, partial democracy can now promise to tax at a rate τ^{PD} greater than τ^m, in the same way that the rich promised higher redistribution in nondemocracy, to stave off a revolution. The difference is that, if those holding political power, the middle-class and the rich, get a chance to reset the tax, they will not go down to zero taxation, but to the most preferred tax rate of the median enfranchised voter, who is now a middle-class agent. Therefore, the values to the three social groups following a promise of future redistribution by the existing regime are:

(8.17) $$V^i(PD, \tau^{PD}) = y^i + p\left(\tau^{PD}\left(\bar{y} - y^i\right) - C(\tau^{PD})\bar{y}\right) + (1 - p)\left(\tau^m\left(\bar{y} - y^i\right) - C(\tau^m)\bar{y}\right)$$

for $i = p, m, r$, where we incorporate the fact that if the middle class get to re-set the tax rate then they choose their preferred rate and set τ^m. Following our previous analysis, we can now determine a critical level, μ^*, so that at μ^*, we have

$$V^p(PD, \tau^{PD} = \tau^p) = V^p(R, \mu^*),$$

or

(8.18) $$\mu^* = 1 - \theta^p - \left(p\left(\tau^p\left(\delta^p - \theta^p\right) - \delta^p C(\tau^p)\right) + (1 - p)\left(\tau^m\left(\delta^p - \theta^p\right) - \delta^p C(\tau^m)\right)\right).$$

Notice an important new feature for future reference: μ^* is decreasing in τ^m. Intuitively, when the existing regime is more redistributive, it is easier to convince the poor with promises of future redistribution (since even when the existing regime gets a chance to reset the tax, there will be some redistribution). This implies that when the middle class favor more redistribution it will be easier to convince the poor not to undertake a revolution. In consequence it will be easier to avoid democratizing.

Finally, we need to check that transition to full democracy prevents a revolution. The above discussion shows that when $\delta^p < 1/2$, full democracy will also implement the most preferred tax rate of a middle-class agent. Therefore, in this case, full democracy is no different than partial democracy. The more interesting case is when $\delta^p \geq 1/2$, so that the median voter in full

democracy is a poor agent, and democracy leads to the most preferred tax rate of the poor, τ^p. In this case, the condition for full democratization to prevent revolution is: $V^p(R, \mu) \leq V^p(D)$, which is equivalent to:

$$(8.19) \qquad\qquad \mu \geq 1 - \theta^p - \left(\tau^p(\delta^p - \theta^p) - \delta^p C(\tau^p)\right).$$

Given this discussion, we can state:

> **Proposition 8.2:** In the game described above there is a unique subgame perfect equilibrium such that:
> - If (8.16) does not bind, then partial democracy sets the most preferred tax rate of the middle class, $\tau^{PD} = \tau^m$.
> - If (8.16) binds and (1) $\delta^p \geq 1/2$ and (8.19) fails to hold, or (2) $\delta^p < 1/2$, and $\mu < \mu^*$, then there is a revolution.
> - If (8.16) binds and $\mu \geq \mu^*$, then the existing regime prevents transition to full democracy by promising to redistribute at the tax rate $\tau^{PD} = \hat{\tau}$ such that $V^p(PD, \tau^{PD} = \hat{\tau}) = V^p(R, \mu)$.
> - Finally, if (8.16) binds, (8.19) holds, $\delta^p \geq 1/2$, and $\mu < \mu^*$, then transition to full democracy happens as a credible commitment to future redistribution towards the poor.

For the most part, the results of this proposition are similar to those of Proposition 6.1. However, there is an important new result here. We know from our results above that τ^m is higher when the middle class are relatively poor, i.e., when θ^m/δ^m is low. But our analysis here shows that a high level of τ^m makes partial democracy more attractive for the poor, and decreases μ^*. As a result, societies where the middle class are relatively poor may be able to stave off the threat of revolution without having to fully democratize. This is because it is the inability of nondemocratic regimes to credibly commit to make policy pro-poor that leads to democracy. Here it is the middle class that is pivotal in nondemocracy (or partial democracy) and if they renege on any promised concession they offer the poor, they will revert to their preferred polity, τ^m. If the middle class are relatively poor, τ^m will not be too far from τ^p the policy preferred by the poor. In this case, the fact that the middle class may not be able to commit to offering τ^p is less important, revolution less attractive and democracy less likely to arise. Therefore, the model here suggests that full democratization is more likely not only when the poor are poor, but also when the middle class is relatively rich. This result is certainly in line with scholars who have argued for the importance of the strength and affluence of the middle class in democratization.

5. Repression: The Middle Class As A Buffer

In this section, we revisit the simple game analyzed in Section 3, where both the middle class and the poor are disenfranchised, but make the alternative assumption that the revolution threat is posed by the poor. In reality both the middle class and the poor will pose threats when they are excluded from political power. What matters is which groups is pivotal. In the previous

section we considered the situation where both middle class and poor were disenfranchised, but the middle class were pivotal. Here we investigate the alternative scenario; as in our basic model of democratization of Chapter 6, the rich have to satisfy the poor in order to prevent revolution. Crucially however we reintroduce the possibility that the rich can use repression to prevent revolution. The key question is: when will the rich prefer repression rather than democratization?

We will see that in this model the presence of the middle class may act as a buffer between the rich and the poor, and allow society to avoid repression. We will therefore see that repression is more likely to arise in societies where the middle class is small or relatively poor.

The underlying model is the same as our basic three-class model. Agents again value post-tax income, but in addition, there are the potential costs of repression if the rich choose the repression strategy. More specifically, the utility of an agent of class i now takes the form given in (6.8).

Figure 8.4 draws the game tree. The rich have two democratization options: partial and full. Also the key revolution decision is now by the poor (they can undertake a revolution even without the help of the middle class). In addition, we still have the feature that the promise to redistribute by the rich is imperfect, as they can get to reset the tax after the threat of revolution has subsided with probability $1 - p$ which implies that any tax set initially will stick with probability p.

We assume that the returns from revolution are similar to before, but since the poor are the main revolutionary element, we assume for the sake of simplicity that they share the returns only among themselves. So the return to the poor from undertaking a revolution in the state is:

$$(8.20) \qquad\qquad V^p(R, \mu) = \frac{(1 - \mu)\bar{y}}{\delta^p}.$$

The middle class and the rich obtain nothing after a revolution, so $V^m(R, \mu) = V^r(R, \mu) = 0$.

The revolution constraint will be binding if the poor prefer revolution to no redistribution under the existing system, or if $V^p(R, \mu) = (1 - \mu)\bar{y}/\delta^p > y^p$. The revolution constraint can be written as

$$(8.21) \qquad\qquad \theta^p < 1 - \mu$$

As before, the rich may meet the revolution threat by promising redistribution, which is only a partially credible promise, since they have a chance to reset the tax with probability p once the revolution threat has subsided. The values to the three different groups, when the rich keep political power and promise redistribution at the tax rate $\hat{\tau}$, are given by (8.8) evaluated at $\tau^N = \hat{\tau}$.

If the rich choose partial democracy, PD, only the middle class are enfranchised, and by the assumption that $\delta^p > \delta^m > \delta^r$, in this partial democracy, the rich are a minority, and the most preferred tax rate of the middle class will be implemented. By assumption, this tax rate, τ^m, is strictly positive. Therefore, we have the values $V^i(PD)$ given by (8.9).

Finally, the values in democracy depend on whether the median voter is a poor or a middle-class agent. Recall that this depends on whether δ^p is less than or greater than $1/2$. These values are again given by (8.10) with the tax rate determined by (8.11). As before, if $\delta^p < 1/2$, then $V^r(PD) = V^r(D)$, but when $\delta^p \geq 1/2$, we have $V^r(PD) > V^r(D)$.

The crucial issue is going to be, as in our analysis of Chapter 6 and in Section 3 above, whether the promise of redistribution can prevent revolution. But now, in contrast to before where the middle class were the politically pivotal group, it is the poor that need to be placated in order to avoid a revolution. Thus for the revolution to be prevented, we need that

$$(8.22) \qquad\qquad V^p(N, \tau^N) \geq V^p(R, \mu).$$

Since the highest value that the rich can offer to the poor is clearly when they set the tax rate most preferred by the poor, τ^p, this is equivalent to

$$V^p(N, \tau^N = \tau^p) \geq V^p(R, \mu)$$

Define μ^* such that this condition holds as an equality, or in other words,

$$(8.23) \qquad\qquad \mu^* = 1 - \theta^p - p\left(\tau^p(\delta^p - \theta^p) - \delta^p C(\tau^p)\right).$$

The rich can now also try to prevent the revolution by undertaking a partial democratization. Following partial democratization, the median voter will be a middle-class agent, and will choose a tax rate of $\tau^{PD} = \tau^m$. This strategy will prevent revolution if

$$V^p(PD) \geq V^p(R, \mu),$$

or if

$$(8.24) \qquad\qquad \mu \geq 1 - \theta^p - \left(\tau^m(\delta^p - \theta^p) - \delta^p C(\tau^m)\right).$$

Finally, we need to look at payoffs from repression, which are:

$$(8.25) \qquad\qquad V^i(O \mid \kappa) = (1 - \kappa)y^i \text{ for } i = p, m, r.$$

The analysis is similar to before, and in particular, we need to determine threshold values for the cost of repression such that the rich are indifferent between repression and their other alternatives. Denote these threshold values by $\hat{\kappa}$ and $\tilde{\kappa}(\tau)$ such that the rich are indifferent between their various options at these threshold levels. The second threshold is conditioned on the tax rate that will result in either democracy, τ^D or partial democracy τ^{PD}. More specifically, we have

$$V^r(O \mid \hat{\kappa}) = V^r(N, \tau^N = \hat{\tau}),$$

where $\hat{\tau}$ is such that $V^p(N, \tau^N = \hat{\tau}) = V^p(R, \mu)$. In other words,

$$(8.26) \qquad\qquad \hat{\kappa} = \frac{p}{\theta^r}\left(\delta^r C(\hat{\tau}) - \hat{\tau}\left(\delta^r - \theta^r\right)\right).$$

Therefore, at $\hat{\kappa}$, the rich are indifferent between redistribution and repression. As a result, for all $\kappa < \hat{\kappa}$, they prefer repression to promising redistribution. This implies that one set of parameter configurations where repression will emerge is when $\mu \geq \mu^*$ and $\kappa < \hat{\kappa}$

Next, define the threshold for the elites to be indifferent between democratization and repression by $\tilde{\kappa}(\tau)$ is a function of the tax rate in democracy:

$$(8.27) \qquad\qquad V^r(O \mid \tilde{\kappa}(\tau)) = V^r(D)$$

or

$$(8.28) \qquad\qquad V^r(O \mid \tilde{\kappa}(\tau)) = V^r(PD).$$

This two conditions both imply the same formula,

$$(8.29) \qquad\qquad \tilde{\kappa}(\tau) = \frac{1}{\theta^r} \left(\delta^r C(\tau) - \tau \left(\delta^r - \theta^r \right) \right).$$

where $\tau = \tau^D$ if the value to repression is equated to the value of full democracy (i.e., (8.27)), or $\tau = \tau^{PD}$ if the value of partial democracy is relevant (i.e., (8.28)).

At $\tilde{\kappa}(\tau)$, the rich are indifferent between repression and either partial or full democratization, which will lead to the tax rate $\tau \in \{\tau^D, \tau^{PD}\}$. As a result, for all $\kappa < \tilde{\kappa}(\tau)$, they prefer repression to democratization. Therefore, another set of parameter values where repression will be an equilibrium outcome is when $\mu < \mu^*$ and $\kappa < \tilde{\kappa}(\tau)$.

> **Proposition 8.3:** Assume that (8.19) holds. There exists a unique subgame perfect equilibrium. Let μ^*, $\tilde{\kappa}(\tau)$ and $\hat{\kappa}$ be as defined above. Then
> - If (8.21) does not bind, the rich set their preferred tax rate $\tau^N = \tau^r$.
> - Suppose (8.21) binds. Then:
> (1) If $\mu < \mu^*$ and (8.24) holds, $\delta^p \geq 1/2$, and $\kappa \geq \tilde{\kappa}(\tau^{PD})$, the rich undertake a partial democratization.
> (2) If $\mu < \mu^*$, (8.24) does not hold, $\kappa \geq \tilde{\kappa}(\tau^D)$ and $\delta^p \geq 1/2$, the rich fully democratize.
> (3) If (1) $\mu < \mu^*$, (8.24) does not hold and $\delta^p < 1/2$, or (2) $\mu < \mu^*$, (8.24) does not hold, $\kappa < \tilde{\kappa}(\tau^D)$ and $\delta^p \geq 1/2$, (3) $\mu < \mu^*$, (8.24) holds, and $\kappa < \tilde{\kappa}(\tau^{PD})$, or (4) $\mu \geq \mu^*$ and $\kappa < \hat{\kappa}$, then the rich use repression.
> (4) If $\mu \geq \mu^*$ and $\kappa \geq \hat{\kappa}$, the rich prevent democratization by promising to redistribute by setting the tax rate $\tau^N = \hat{\tau}$ such that $V^p(N, \tau^N = \hat{\tau}) = V^p(R, \mu)$.

To understand the main result in this proposition, note that when the revolution constraint binds there are several possibilities. The first one is that the rich are unable to use concessions to maintain power ($\mu < \mu^*$), but (8.24) holds and $\delta^p \geq 1/2$. This implies that a partial democratization will be sufficient to avoid a revolution, essentially because the middle class prefer more redistribution than the rich. Moreover, since $\delta^p \geq 1/2$, full democratization would bring the poor to power, something the rich would like to avoid if they could help it. In this case partial democratization occurs if $\kappa \geq \tilde{\kappa}(\tau^{PD})$ so that repression is relatively costly. In the next case, full democratization arises because neither concessions not partial democratization work (i.e., $\mu < \mu^*$ and (8.24) does not hold) and repression is relatively costly (i.e., $\kappa \geq \tilde{\kappa}(\tau^D)$). Since $\delta^p \geq 1/2$ and (8.19) holds, the creation of full democracy leads to a tax rate of τ^p which avoids revolution. The third situation is where repression arises. This happens in four types of situations. First, concessions to the poor again do not work, (8.24) does not hold, and $\delta^p < 1/2$.

In this case partial democracy is insufficiently redistributive to avoid revolution. Moreover, full democratization leads to the median voter being a member of the middle class, and since this would lead to a tax rate τ^m the failure of (8.24) to hold implies that this will also lead the poor to revolt. In this case the rich have no option but to repress if they want to avoid a revolution. Second, again neither concessions nor partial democratization can avoid a revolution, but since $\delta^p \geq 1/2$ and (8.19) holds full democratization does. Nevertheless, when $\kappa < \tilde{\kappa}(\tau^D)$ repression is preferred to full democracy. Thirdly, concessions do not work but partial democracy does and $\kappa < \tilde{\kappa}(\tau^{PD})$. Here, though partial democracy would be sufficient to avoid a revolution the rich find it better to repress than enfranchise the middle class. The fourth case is where concessions work but repression is cheaper ($\mu \geq \mu^*$ and $\kappa < \hat{\kappa}$). The final case is the familiar one where concessions do work and repression is relatively costly so that the rich maintain power by setting a tax rate sufficiently high to placate the poor.

This proposition is similar to Propositions 6.2. The main difference is that now one of the two key thresholds, $\tilde{\kappa}(\tau)$, depends on the size and the level of income of the middle class. It is straightforward to see that $\tilde{\kappa}(\tau)$ is increasing in τ, therefore, a higher level of the tax rate in democracy, τ, makes repression more attractive for the rich. Taxes in democracy will be higher when the median voter is a poor agent, i.e., $\delta^p \geq 1/2$, which corresponds to the case where the middle class is small, so that the poor are decisive in democracy, or when the median voter is a middle-class agent, i.e., $\delta^p < 1/2$, but he is relatively poor, and likes higher taxes.

Therefore, a relatively large and affluent middle class may make democracy less costly for the rich, and may act as a buffer between the poor and the rich, making repression less likely. Conversely, when the middle class is small or poor, the rich may be more inclined to undertake repression. The caveat 'may' here is necessary because this need not always be the case. For instance, if θ^m increases τ^m falls and (8.24) becomes less likely. If $\mu < \mu^*$ and (8.24) ceases to hold and $\delta^p < 1/2$, then the rich switch to repression since neither partial nor full democracy are redistributive enough to stop a revolution.

6. Repression: Soft-liners vs. Hard-liners

The previous section discussed a model where the rich had to choose between repression and democratization to prevent a revolutionary threat from the poor, who were until then excluded from the political system. We also presumed that the middle classes, like the poor, were outside the system. Therefore, democratization brought the middle classes as well as the poor into political power, and in this way, the middle class played an important role in affecting the trade-off between repression and democratization: with a large and relatively rich middle class, the rich anticipated that they would not face high taxes in democracy, and were more likely to democratize rather than repress.

In this section, we analyze a similar game, but where both the rich and the middle class are part of the ruling coalition, and they have to decide jointly whether to promise redistribution to the poor under the existing regime, democratize or repress. The key insight of our analysis will

be that the rich are always more in favor of repression than the middle class. This has a simple reason: the rich have more to lose from redistributive taxation than the middle class.

This difference between the attitudes of the rich and the middle class towards repression gives us a way of formalizing the often-made distinction between soft-liners and hard-liners in dictatorships. It is argued, especially in the context of Latin American and Southern European transitions to democracy, that there is often a split within the elite controlling dictatorships, with hard-liners wishing to use force to prolong the dictatorship, while the soft-liners trying to administer a soft landing to democracy. Indeed, O'Donnell and Schmitter (1986, p. 19) state,

> "we assert that there is no transition whose beginning is not the consequence—direct or indirect—of important divisions within the authoritarian regime itself, principally along the fluctuating cleavage between hard-liners and soft-liners."

But who are hard-liners and soft-liners? Elites in nondemocratic regimes are obviously heterogeneous, but what are important sources of heterogeneity? Our three-class model provides a simple answer to this question by mapping the soft-liners into middle-class agents and the hard-liners into rich agents. We will see in Chapter 9 that there can be other splits, for example between landowners and capitalists along the same lines, but for now our focus is with the three-class model where the only difference is in the levels of income, not what types of activities these incomes are being generated from.

The economic model is the same as before with three groups of agents. In nondemocracy when the rich and the middle-class prefer different things we have to propose a way to aggregate their diverging preferences, specifically with respect to the decision as to whether or not to repress the poor. In this chapter so far when we modeled partial democracy we considered it to be a situation where the preferences of the middle class determined the policy outcome, at least if unconstrained by the threat of revolution. Here we adopt a different approach which allows the preferences of both rich and middle class to matter. We assume policy decisions in nondemocracy are made according to a utilitarian social welfare function, meaning that repression will take place if the repression decision maximizes the weighted sum of utilities of the rich and the middle class.

There are various ways in which such an approach can be justified, but it is a natural extension of our model in Chapter 4 where the parameter χ represented the power of the elite in democracy. We argued there, and substantiated this argument in the Appendix to the chapter, that many models of democratic politics boiled down to different microfoundations for χ. In general therefore we can think of the democratic tax rate as maximizing a weighted sum of utilities with the median voter model being a special case with $\chi = 0$. Analogous reasoning suggests that we can treat the intra-elite preference aggregation problem in the same way and imagine that the repression decision was simply that which maximizes a weighted sum of utilities of the rich and the middle class. For instance, we can think of elite control as a limited type of democracy (such as most European and Latin American countries before the creation of universal suffrage) where political parties compete only for the votes of members/factions of the

elite. For simplicity, and without affecting our main results, we shall proceed here by assuming that the weights on the preferences of different sub-sets of the elite are the same so that the repression decision simply maximizes the weighted sum of utilities of the elite.

There is again the democratization option, and the feature that the promise to redistribute by the rich is imperfectly credible, as the elite can get to reset the tax after the threat of revolution has subsided with probability $1 - p$.

We assume that returns from revolution are similar to before with the poor sharing the returns only among themselves. The return to the poor from undertaking a revolution is $V^p(R, \mu) = (1 - \mu)\bar{y}/\delta^p$ with $V^m(R, \mu) = V^r(R, \mu) = 0$.

As usual, the revolution constraint will be binding if the poor prefer revolution to the existing system, or if $(1 - \mu)\bar{y}/\delta^p > y^p$. The relevant revolution constraint can be written as

$$(8.30) \qquad\qquad\qquad\qquad 1 - \mu > \theta^p.$$

In this section, we will assume that this condition holds.

The values to the three different groups, when the existing system is maintained and redistribution at the tax rate τ^{PD} is promised are given again by $V^i(PD, \tau^{PD})$ in (8.17). Note that since both the rich and the middle class are part of the ruling coalition, we refer to this regime as partial democracy.

The values in full democracy depend on whether the median voter is a poor or a middle-class agent. Recall that this depends on whether δ^p is less than or greater than $1/2$. Here we assume that $\delta^p \geq 1/2$, so

$$V^i(D) = y^i + \left(\tau^p \left(\bar{y} - y^i \right) - C(\tau^p)\bar{y} \right).$$

As in our previous analysis and in Chapter 6, the promise of redistribution is only imperfectly credible, and it will prevent the revolution only if $V^p(PD, \tau^{PD}) \geq V^p(R, \mu)$. Once again, we can determine a critical value, μ^*, such that at μ^*, we have

$$V^p(PD, \tau^{PD} = \tau^p) = V^p(R, \mu^*),$$

To simplify the discussion, we are not going to focus on the case where $\mu < \mu^*$, so that the promise of redistribution is not sufficient to prevent revolution. The choice is therefore between democratization and repression. The payoffs from repression are again given by (8.25).

We are again going to determine two threshold values, but now one referring to the rich and the other to the middle class, making the respective group indifferent between democratization and repression. Let these two critical values be $\tilde{\kappa}^r$ and $\tilde{\kappa}^m$ for the rich and the middle class. They are defined by

$$V^r(O \mid \tilde{\kappa}^r) = V^r(D) \text{ and } V^m(O \mid \tilde{\kappa}^m) = V^m(D)$$

or more explicitly,

$$(8.31) \qquad\qquad \begin{aligned} \tilde{\kappa}^r &= \frac{1}{\theta^r} \left(\delta^r C(\tau^p) - \tau^p \left(\delta^r - \theta^r \right) \right), \\ \tilde{\kappa}^m &= \frac{1}{\theta^m} \left(\delta^m C(\tau^p) - \tau^p \left(\delta^m - \theta^m \right) \right). \end{aligned}$$

As before, the rich prefer repression to democratization when $\kappa < \tilde{\kappa}^r$, and the middle class prefer repression to democratization when $\kappa < \tilde{\kappa}^m$.

The important point is that since $\theta^r/\delta^r > \theta^m/\delta^m$ by the fact that the rich are richer than the middle class, we have that $\tilde{\kappa}^m < \tilde{\kappa}^r$, thus for $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$, the rich want to use repression, while the middle class prefer democratization to repression. In this region therefore the preferences of the two factions of the elite diverge. In this case repression will be chosen if

$$\delta^r V^r(O \mid \kappa) + \delta^m V^m(O \mid \kappa) > \delta^r V^r(D) + \delta^m V^m(D)$$

or if,

$$\delta^r(1 - \kappa)y^r + \delta^m(1 - \kappa)y^m$$
$$> \quad \delta^r\left(y^r + \tau^p\left(\bar{y} - y^r\right) - C(\tau^p)\bar{y}\right) + \delta^m\left(y^m + \tau^p\left(\bar{y} - y^m\right) - C(\tau^p)\bar{y}\right).$$

Now substituting for the definitions of y^r and y^m and dividing through by $\bar{y}$ we find,

$$\kappa < \frac{1}{(\theta^r + \theta^m)}\left(\delta^r C(\tau^p) - \tau^p\left(\delta^r - \theta^r\right) + \delta^m C(\tau^p) - \tau^p\left(\delta^m - \theta^m\right)\right).$$

Using the definitions of $\tilde{\kappa}^r$ and $\tilde{\kappa}^m$ we also have,

$$\kappa < \tilde{\kappa}^e = \frac{\theta^r\tilde{\kappa}^r + \theta^m\tilde{\kappa}^m}{(\theta^r + \theta^m)}.$$

where, $\tilde{\kappa}^e \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$. If $\kappa < \tilde{\kappa}^e$ the preferences of the rich determine that repression will be used, while if $\kappa \geq \tilde{\kappa}^e$ it is the preferences of the middle-class that win and democracy is created even though the rich would prefer to use repression when $\kappa \in [\tilde{\kappa}^e, \tilde{\kappa}^r)$.

As before, we also need to ensure that democratization prevents revolution, and the condition for this is again (8.19). This analysis leads to the following proposition.

Proposition 8.4: Assume that $\delta^p \geq 1/2$, $\mu < \mu^*$, $1 - \mu > \theta^p$, and (8.19) holds so that democratization prevents revolution. Then, in the unique subgame perfect equilibrium:
- If $\kappa \geq \tilde{\kappa}^r$, then both the rich and the middle class prefer democratization to repression, and democratization occurs as a credible commitment to future redistribution.
- If $\kappa < \tilde{\kappa}^m$, then both the rich and the middle class prefer repression to democratization, and they use repression to prevent revolution.
- If $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$, the rich prefer repression to democratization, while the middle class prefer democratization to repression. If $\kappa < \tilde{\kappa}^e$ the elite use repression to avoid democratizing while, if $\kappa \geq \tilde{\kappa}^e$, they democratize.

This proposition, especially the case where $\kappa \in \left(\tilde{\kappa}^m, \tilde{\kappa}^r\right)$, captures the different attitudes of the soft-liners (here the middle class) and the hard-liners (here the rich). The hard-liners have more to lose from democratization and prefer to use repression even when soft-liners prefer a transition to democracy.

This model can be used to formalize the idea that democratizations occur when the elite 'splits.' To see this consider the case where $\kappa < \tilde{\kappa}^m$, so that initially both factions of the elite favor repression. Now consider a situation where κ increases. For instance the costs of

repression may increase because the end of the Cold War moves the international community in a more pro-democratic manner, or democratizations in neighboring countries make repression less and less feasible. In this case κ can move into the region where $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^r)$. Initially, the rich still favor repression while now the middle class swing in favor of democracy. Here the elite split in the sense that different segments now prefer different policies. Nevertheless, as long as $\kappa \in (\tilde{\kappa}^m, \tilde{\kappa}^e)$ the preferences of the rich dominate and repression is used in equilibrium. However, if κ increases above $\tilde{\kappa}^e$, even though the rich still favor repression the preferences of the middle class dominate and democratization occurs. At this point the split in the elite leads to a democratization, but only when the power of the middle classes is sufficiently large within the elite. In our model of preference aggregation here (i.e., the utilitarian social welfare function) as κ increases both groups become less and less in favor of repression and this can lead to a switch in the decision of the elite even when the rich still prefer repression.

It is also interesting to note that the disagreement between the rich and the middle class regarding repression becomes stronger when the middle class is relatively poor. When the middle class is relatively richer, i.e., when θ^m/δ^m is higher, they also have more to lose from redistribution in democracy and they become more favorable towards repression.

7. The Role of the Middle Class in Consolidating Democracy

In this section we switch attention from the creation of democracy and examine how the middle class may play an important role in democratic consolidation. We will show how a large and relatively rich middle class might help consolidate democracy. Intuitively, when the median voter is a middle-class agent, democracy is less redistributive, and becomes even less redistributive when the middle class become richer. As democracy becomes less redistributive, the rich have less to gain by changing the regime, and democracy becomes more likely to survive.

Let us now return to the three-class model. The basic set-up is identical to before. We assume that the median voter in a full democracy is a member of the middle class and prefers the tax rate $\tau^m > 0$. This implies that the values $V^i(D)$ satisfy (8.10) with $\tau^D = \tau^m$. The rich have to decide whether or not to mount a coup and the payoffs after a coup are,

$$V^i(C, \varphi) = (1 - \varphi)y^i \text{ for } i = p, m, r.$$

As before, the median voter may meet the threat of a coup by promising redistribution, which is only a partially credible promise, since he has a chance to reset the tax with probability p once the coup threat has subsided. The values to the three different groups, when there is democracy and a promise of redistribution at the tax rate $\tau^D \leq \tau^m$, are

$$V^i(D, \tau^D) = y^i + p\left(\tau^D\left(\bar{y} - y^i\right) - C(\tau^D)\bar{y}\right) + (1-p)\left(\tau^m\left(\bar{y} - y^i\right) - C(\tau^m)\bar{y}\right).$$

Whether a coup is attractive for the rich given the status quo depends on whether the coup constraint, $V^r(C, \varphi) > V^r(D)$, binds. This coup constraint can be expressed as

(8.32) $$\varphi < \frac{1}{\theta^r}\left(C(\tau^m)\delta^r - \tau^m\left(\delta^r - \theta^r\right)\right).$$

When this constraint does not bind, democracy is not redistributive enough, or coups are suffi-ciently costly that the rich never find a coup profitable. In this case, we refer to democracy as fully consolidated: there is never any effective threat against the stability of democracy. It is clear that (8.32) is easier to satisfy than (7.4) since $\tau^m < \tau^p$. Since the middle class are richer, they prefer less taxation, and this make coups less attractive to the rich. Moreover, the greater is θ^m the lower is τ^m and the cheaper a coup must be for it to be attractive to the rich.

When this constraint binds, democracy is not fully consolidated: if the middle class do not take an action, there will be a coup along the equilibrium path. The action that they can take is to reduce the fiscal burden that democracy places upon the rich, or in other words reduce the tax rate. The value to the rich of the middle class setting a tax rate of $\tilde{\tau}$ is $V^r(D, \tau^D = \tilde{\tau})$. This strategy of promising less distribution will prevent the coup only if this value is greater than the return to the rich following a coup, i.e., $V^r(D, \tau^D = \tilde{\tau}) \geq V^r(C, \varphi)$. In other words, democracy will survive only if

$$\varphi \leq \frac{p}{\theta^r} \left(\delta^r C(\tilde{\tau}) - \tilde{\tau} \left(\delta^r - \theta^r \right) \right) + \frac{(1-p)}{\theta^r} \left(\delta^r C(\tau^m) - \tau^m \left(\delta^r - \theta^r \right) \right)$$

As in our analysis of the basic static consolidation game in Chapter 7, we can now define a threshold value φ^{**}, such that when $\varphi < \varphi^{**}$, the promise of limited redistribution by democracy is not sufficient to dissuade the rich from a coup. Of course, the most attractive promise that can be made to the rich is to stop redistribution away from them, i.e. $\tau^D = 0$, therefore, we must have that at φ^{**}, $V^r(D, \tau^D = 0) = V^r(C, \varphi)$. Solving this equality, gives the threshold value φ^{**} as:

(8.33) $$\varphi^{**} = \frac{(1-p)}{\theta^r} \left(\delta^r C(\tau^m) - \tau^m \left(\delta^r - \theta^r \right) \right).$$

Given this discussion, we can summarize the subgame perfect equilibrium of this game as:

Proposition 8.5: In the game described above, there is a unique subgame perfect equi-librium such that:
- If the coup constraint (8.32) does not bind, the coup threat is weak, democracy is fully consolidated and the middle class set their most preferred tax rate $\tau^m > 0$.
- If the coup constraint (8.32) binds and $\varphi \geq \varphi^{**}$, then democracy is semi-consolidated. The middle class set a tax rate $\tilde{\tau} < \tau^m$ such that $V^r(D, \tau^D = \tilde{\tau}) = V^r(C, \varphi)$.
- If the coup constraint (8.32) binds and $\varphi < \varphi^{**}$, then democracy is unconsolidated. There is a coup, the rich come to power and set their most preferred tax rate, $\tau^D = \tau^r$.

The main insight that this model adds is that it is the preferred tax rate of the middle class which is now crucial in the coup constraint and the definition of (8.33).

Moreover, it is easy to see that $\varphi^{**} < \varphi^*$ derived in section 7.1. Taxes in democracy will be higher when the median voter is a poor agent, i.e., $\delta^p \geq 1/2$, which corresponds to the case where the middle class is small, or when the median voter is a middle-class agent, i.e., $\delta^p < 1/2$, but he is relatively poor, and likes higher taxes. Both of these cases make coups more attractive to the rich. Therefore, a relatively large and affluent middle class makes democracy less costly

for the rich, and acts as a buffer between the poor and the rich, making coups less likely and thus helping to consolidate democracy.

8. Conclusion

In this chapter we introduced a third group into our analysis, the middle class. We focused the discussion on situations where sociopolitical conflict was along the lines of socioeconomic class and we used this model to generate some interesting new insights, which are consistent with some of the claims made in the political science and sociology literatures on the importance of the middle class for democracy. Though we investigated various phenomena in this chapter, including how the introduction of the middle class could allow us to provide a simple model of how 'splits in the elite' might work, there are two main results that we believe may be the most significant.

First, a strong and large middle class may aid democratization because they are less in favor of radical policies than poor people. Hence if the rich are convinced that democracy will be controlled by the interests of middle class agents they have less to fear from democracy and are less inclined to use repression to avoid it. This may occur either because the middle class grows numerically, and thus the median voter becomes a middle class agent, or because the median voter is already middle class and the middle class become richer (and thus prefer less redistribution). It is also interesting to note that other theories of the distribution of power in democracy, such as those we discuss in the appendix to Chapter 4, emphasize that the political power of the middle classes in democracy is often greater than their number would indicate. The most famous example of this is 'Director's law of income redistribution' (Stigler, 1970) which claims that the preponderance of redistributive policies in democracy actually favor the middle classes and not the poor. Though there are no definitive microfoundations for this claim, and it is contentious empirically, it can be formalized in a variety of ways. For instance, Persson and Tabellini (2000, pp. 57-58) show in a probabilistic voting model (see Appendix to Chapter 4, section 2) how, if the middle class are less ideological than the poor and the rich, then their preferences will be critical in determining the policies adopted in a democracy. An alternative approach would be to assume in the context of a lobbying model (Grossman and Helpman, 2001, Appendix to Chapter 4, section 3) that the middle class were better able to solve the collective action problem than other groups.

Second, and relatedly, a strong middle class may encourage democratic consolidation. The mechanism by which it does so is similar to that by which it helps to promote democratization. If the middle class is sufficiently influential in democratic politics, then democracy will not be too costly for the rich and as a result coups will be less attractive. Hence a strengthening of the middle class, either in terms of an increase in its size, its political power, or in terms of its relative income, may lead to the consolidation of a previously unconsolidated democracy. There is of course a natural caveat here. If the middle class become too rich then they become indistinguishable from the rich and will therefore not be able to play the critical role of buffer between the rich and the poor.

Overall the models of this chapter suggest that third groups, the middle class or the bourgeoisie, can play important roles in democratization. They can do so because they alter the nature of political conflict. Though scholars in the democratization literature have certainly suggested that the middle class can play an important role in democracy, they have not provided microfoundations for these claims. In this chapter we showed that extending our framework to three groups provides natural microfoundations for the importance attributed to the middle class.

CHAPTER 9

Economic Structure and Democracy

1. Introduction

Until now in the book we have taken the determination of the level and distribution of income as exogenous. In this chapter we endogenize the level and distribution of income. Instead of being directly endowed with income, people have various endowments of assets: land, labor and physical and human capital. We also introduce a technology, an aggregate production function, which determines how these factors of production can be combined to produce output and we introduce key economic institutions, particularly property rights and competitive markets, which determine the rates of return on the various assets.

Why would any of this matter? Intuitively, the structure of the economy or economic institutions could be important if they influence the trade-off between democracy and nondemocracy for the elite, or the benefits of democracy as opposed to revolution for the citizens. There are many reasons why this might be so. First, the structure of the economy might influence the costs of revolutions, repression or coups. Second, the structure of the economy may also influence the nature of redistributive politics between different groups, something which our framework links to the creation and consolidation of democracy. We investigate both sets of ideas in this chapter. The models we analyze will also allow us to consider some of the most salient claims in the political science and sociology literatures about democracy. For instance, the claim that democracy can never be sustained in a primarily agrarian society, or at least one where the elite are large landowners, is very common in the literature from Moore (1966), though Dahl (1971) to Rueschemeyer, Stephens and Stephens (1992). Yet the microfoundations of this claim are unclear. The models of this chapter will help to isolate some mechanisms that may induce such a connection.

There seem to be a number of plausible reasons for why the costs of coups and repression might be related to the structure of the economy. Most important, repression and coups are costly because they disrupt economic life. Production in a modern capitalist economy requires inputs from many diverse firms, and much of this is not coordinated centrally or consciously, but organized by the invisible hand of the market, and also by the visible hand of established firms. Moreover, most of these economic relationships are based on some sort of implicit trust. At the simplest level, the employer knows that the workers will turn up the following day, and the workers know that when they turn up, there will be work for them and they will be paid. More important, each firm trusts that its suppliers will provide it with the materials necessary for production, and customers and firms downstream are there to purchase these products. Even

more important, there is an implicit trust in the quality of the goods and services provided. Employers believe that workers will not only turn up but also exert appropriate amounts of effort, and suppliers will supply not just any odd materials, but materials of sufficient quality to enable production. Finally, customers trust that they will be buying relatively high-quality products, not things that would be unattractive for them to consume. Any sudden eruption of violence, any turmoil transforming the political system, any situation heightening the already existing conflicts in society will also disrupt the economic structure, the relationships of trust, the cooperation that is the very essence of capitalist production. In a related discussion Dahl (1971, p. 79) notes the

> "enormous limitations, costs and inefficiencies of violence, coercion and compulsion in managing an advanced society where incentives and complex behavior are needed that cannot be manipulated by threats of violence."

There are also analogous ideas in the literature on military politics. For instance Finer (1976, p. 17) argues that military governments cannot run complex industrial societies because the costs of doing so would be too high. He notes

> "as an economy advances, as the division of labour becomes more and more extensive, as the secondary and then the tertiary services expand, and as the society requires the existence of a professional bureaucracy, of technicians ... so the army ceases to be able to rule by its own resources alone."

These ideas suggest why repression and coups will be costly. The reasoning emphasizes the breakdown of complex economic relations, which are important for capitalist production. Although the same relationships are present in agrarian production as well, they are clearly less important. Quality issues are less paramount when it comes to agricultural products than they are in manufacturing. In a less developed and less industrialized economy, there are fewer complex relationships of buyer and supplier networks, and less reliance on investments in skills and in relationship-specific capital. These considerations naturally suggest that repression and coups will become more costly in economies where production techniques are capital intensive, both physical and human, rather than land intensive.

Of equal importance is that the structure of the economy may influence the form of political conflict and the redistributive implications of democracy for the elite. For instance, landowners may have more to lose in democracy than industrialists. Recall that our whole approach is based on the presumption that the citizens have the political power to set policy to favor themselves in democracy. One factor that may limit the ability of the citizens to get the policies they want in democracy is that the elite may have power out of proportion to their numbers (for instance, through lobbying or the control of parties as analyzed in the Appendix to Chapter 4). But there is an equally important economic factor which limits what the citizens can do, which we referred to as the Laffer curve in Chapter 4. It is easiest to discuss this in the context of income redistribution. If taxes are very high, this will stifle economic activity so much and create such deep economic distortions that there won't be much output left. Therefore, democracy will be

naturally restrained in applying high taxes, trying to ensure that these taxes do not distort the allocation of resources too much, and do not induce the elite to withdraw their assets from economic activity, thus reducing tax revenues. But the extent to which these considerations apply to capital and to land differs significantly. A high tax rate on land will at most encourage land owners to leave their lands empty, but there isn't much more that they can do. In contrast, physical capital is more elastically supplied or more mobile: tax capital at a higher rate, and there will not be much accumulation, capital holders will invest their money in non-taxable sectors, or take it abroad where it will not be taxed (a possibility we treat in detail in the next chapter). Human capital is probably in the most elastic supply since it is useless unless people exert effort which they will not be prepared to do if tax rates becomes too high. This implies that democracy will naturally apply higher taxes on land owners than physical or human capital owners in an effort to maximize redistribution without creating too many distortions. Similarly, democracy in many unequal societies will at first turn to asset redistribution and since land is much easier and probably less distortionary to redistribute than physical capital, land reform is a way of dealing with the most severe iniquities. Human capital is of course impossible to redistribute. Again, landowners have much more to lose from democracy than capitalists or industrialists.

These ideas imply that an elite which is heavily invested in land is typically more willing to use force to preserve nondemocracy or ensure a transition back to nondemocracy than an elite which is invested in physical of human capital. This may be because repression and coups are less costly in such a society and therefore the costs of opposing or undermining democracy are lower relative to the benefit from doing so (which is the avoidance of pro-citizen anti-elite policies such as redistributive taxation). Or it may be that the benefits of avoiding democracy are greater for landowners since they expect their incomes to be taxed at a higher rate, or even expect their assets to be redistributed in land reforms.

A final consideration may be that landowners are typically richer than industrialists or those with human capital, especially in relatively poor countries which are the ones at the margin of becoming democratic, or at the relevant threshold of economic and political development where countries could be democratic but still have not consolidated their democracies. Therefore, in terms of our analysis in Chapter 8, landowners correspond to the rich, and industrialists and people with high human capital to the middle class. Landowners will lose more from taxation because they're richer, and hence, everything else equal, they will be more in favor of actions to prevent democracy. Nevertheless, in this chapter we shall examine the implications of economic structure holding inequality constant so as to focus more clearly on the other mechanisms described above.

We conclude this chapter by outlining how the ideas discussed here might be useful in understanding the relationship between economic and political development.

2. Economic Structure and Income Distribution

We now introduce an explicit economic structure which will enable us to endogenize income distribution and talk about the political implications of different factor endowments. We want this structure to include labor (as the source of income for the citizens), physical capital and land. To keep things simple we shall abstract from human capital in most of the analysis and return to its implications in section 10. We will consider a fully competitive economy with unique final consumption good, produced via the aggregate production function

$$Y = F(K, L, N)$$

where K is the capital stock, L is total amount of productive land and N is the labor force. Y is aggregate output which will be the physical quantity that people will have to consume. All of these factors are fully employed, and we assume that the production function F exhibits constant returns to scale, so that when all three factors are doubled, total output will be doubled. Constant returns to scale is important because it implies that all revenues from production are distributed as incomes to the factors of production, capital, land and labor. Fully competitive markets imply that all factors of production will be paid their marginal products. Holding institutions constant, inequality will result because these marginal products differ, and there are different scarcities for different factors.

The simplest way to provide a microfoundations for the framework we have used so far is to assume that the aggregate production function takes the special Cobb-Douglas form

(9.1) $$Y = (K + \sigma L)^{\theta} N^{1-\theta}$$

where $0 < \theta < 1$, and $\sigma > 0$. As will become clear later when we calculate the distribution of income in this model, the choice of $1 - \theta$ as the power to which N is raised is chosen deliberately to relate this model to the ones we have used so far in the book.

There are two features implicit in this function. First, there is a limited amount of substitution between labor and the other factors of production (more precisely, the elasticity of substitution between labor and the other factors is exactly equal to 1). Second, there is a much higher level of substitution between capital and land. Both of these assumptions are plausible. For instance, they imply that the share of labor in national income is constant when income grows as a result of capital accumulation, while the share of land falls and the share of capital rises. This is roughly consistent with empirical evidence.

Let us see this in greater detail. First, let us assume, like before, that there are $1 - \delta$ citizens and now these agents correspond to wage earners. Hence, $N = 1 - \delta$, and we can write the production function as:

$$Y = (K + \sigma L)^{\theta} (1 - \delta)^{1-\theta}.$$

Moreover, the remaining δ agents, who constitute the elite, do not own any labor, and each of them holds a fraction δ of total capital stock, K, and a fraction δ of total land stock, L.

We assume that the final good Y is the numeraire (i.e., its price is normalized to 1). Throughout, all other prices are therefore relative to the price of the final good. Exploiting the fact that in competitive labor markets all factors of production will be paid their full marginal products, we have the following expressions for factor prices

$$(9.2) \qquad\qquad \begin{aligned} w &= (1-\theta)\left(\frac{K+\sigma L}{1-\delta}\right)^{\theta}, \\ r &= \theta\left(\frac{K+\sigma L}{1-\delta}\right)^{\theta-1}, \\ v &= \sigma\theta\left(\frac{K+\sigma L}{1-\delta}\right)^{\theta-1}. \end{aligned}$$

Here w denotes the wage rate, r the return to capital, and v is the rental rate of land. These prices are all 'real' or relative prices because they are measured in terms of the final good.

The shares of national income accruing to three factors are given as

$$(9.3) \qquad\qquad \begin{aligned} s_N &\equiv \frac{wN}{Y} = 1-\theta \\ s_K &\equiv \frac{rK}{Y} = \theta\frac{K}{K+\sigma L} \\ s_L &\equiv \frac{vL}{Y} = \theta\frac{\sigma L}{K+\sigma L} \end{aligned}$$

The interesting thing here is that the share of national income accruing to labor is a constant equal to $1-\theta$. This stems directly from the functional form of the Cobb-Douglas production function (9.1). Note for instance that even if capital accumulates, and from (9.2) real wages increase, the share of labor in national income is nevertheless constant. At the same time, the share of capital in national income increases, and that of land declines.

Now total income is $(K+\sigma L)^{\theta}(1-\delta)^{1-\theta}$ and since total population is 1, this is also average income $\bar{y}$. Hence:

$$(9.4) \qquad\qquad \bar{y} = (K+\sigma L)^{\theta}(1-\delta)^{1-\theta}$$

Exploiting the fact that citizens only have labor income, we can derive an expression for the income of a citizen, denoted y^p:

$$(9.5) \qquad \begin{aligned} y^p &= (1-\theta)\left(\frac{K+\sigma L}{1-\delta}\right)^{\theta} = \frac{(1-\theta)(K+\sigma L)^{\theta}(1-\delta)^{1-\theta}}{1-\delta} \\ &= \left(\frac{1-\theta}{1-\delta}\right)\bar{y}, \end{aligned}$$

which is the exact expression for y^p we have used throughout the book.

Recall that, for now, we are assuming that all members of the elite are homogeneous and own both capital and land. Therefore, we have

$$(9.6) \qquad\qquad y^r = \frac{rK+vL}{\delta} = \frac{\theta}{\delta}(K+\sigma L)^{\theta}(1-\delta)^{1-\theta} = \frac{\theta}{\delta}\bar{y}$$

as the expression which gives the income of a member of the elite.

We assume that the parameters are such that average incomes are less than the incomes of the rich, or in other words: $\delta < \theta$, which is identical to the assumption we made in the model where incomes are exogenous.

3. Political Conflict

We now show how our previous analyses of policy determination in democracy can be adapted to this more complex economic model. As before, all individuals have utility functions that are linear in consumption and since people consume all their income, they aim to maximize income. Again we assume that there are two policy instruments, a tax rate which is proportional to income and a lump-sum transfer which all agents receive. As before, it is costly to redistribute income. Although we now have a model with a richer set of underlying institutions, we assume these to be exogenous in the analysis of this chapter, though in section 9 we discuss how they could enter into the analysis.

The utility of an individual i is now, $(1 - \tau)y^i + T$ or $i = p, r$ where the government budget constraint again implies that

$$T = \delta\tau y^r + (1 - \delta)\tau y^p - C(\tau)\bar{y} = (\tau - C(\tau))\,\bar{y}.$$

Incorporating the costs of taxation, we have the indirect utility of a poor agent as $V\left(y^p \mid \tau\right) = (1-\tau)y^p + (\tau - C(\tau))\,\bar{y}$. The first order condition of maximizing this indirect utility is identical to that which we have derived before and since we know from Chapter 4 that preferences are single peaked, we can apply the median voter theorem to determine the (unconstrained) democratic equilibrium tax rate again denoted τ^p. Using the fact that the incomes of the poor are given (9.5) and average income is given by (9.4), this equilibrium tax, τ^p, is identical to our baseline tax rate in Chapter 4, namely (4.11).

4. Capital, Land and the Transition to Democracy

In this section we embed the economic and political models of the last two sections into our basic democratization model of Chapter 6, section 6 which incorporated repression. The first issue we examine is how the structure of the economy influences the costs of repression. Following our discussion above, we assume that repression creates costs for the elites depending on the sources of their incomes, in particular, whether they rely more on income from capital or income from land. As already discussed above, is plausible to presume that the disruption associated with putting down the threat of revolution and an uprising by the citizens will be much more costly for industrialists, for factories, for commerce, than for land and landowners. As a result, when land is very important for the elites, they will be more willing to bear the cost of repression to avoid democratization. In a society where income from capital becomes more important than income from land, it is more likely that the potential costs of repression exceed those of democracy, and the elite prefer to give democracy to the dissatisfied citizens rather than use force against them.

Given the parallels to the analysis we conducted before, we will simply outline the model here. The rich elite have to decide whether to repress, to democratize, or to promise redistribution, and if there is no repression, no democratization and no revolution, nature decides once more whether the elite get to reset the tax that they have promised. The game tree for this model is identical to Figure 6.2.

The underlying economic model is the same as the one we described in section 2 of this chapter. The elite own capital and land. Moreover, all members of the elite have identical endowments, so that there is no heterogeneity among the elite (we return for the distinction between industrialists and landowners below). As before, the payoff to the citizens from a revolution is $V^p(R, \mu) = (1 - \mu)\bar{y}/(1 - \delta)$, while the elite always have $V^r(R, \mu) = 0$.

Repression is costly for the elite. So far in the book, since income was exogenously determined, we simply assumed that repression (and coups) destroyed some fraction of income. The arguments above however suggest that it may be more useful to imagine conflict actually destroying capital itself and this is what we assume in this chapter. However, all the results of this chapter apply when it is income that is destroyed as long as the fraction of income coming from capital that is destroyed is larger than the fraction which comes from land. Moreover, it can be verified that all the results of previous chapters could be re-stated if we allow assets rather than income itself to be destroyed by repression, revolution or coups.

Consequently, if the elite choose to repress in order to avoid a revolution and democratization they will lose a fraction κ_K of the capital stock and a fraction κ_L of land. Moreover, we assumed

$$\kappa_K \geq \kappa_L.$$

To reduce notation we set $\kappa_L = \kappa$ and $\kappa_K = \varrho\kappa$ where $\varrho \geq 1$.

The values to the citizens and to the elite if there is democracy are given by

$$
\begin{aligned}
(9.7) \qquad V^p(D) &= w + \tau^p(\bar{y} - w) - C(\tau^p)\bar{y} \\
&= \frac{1}{1 - \delta}\left(1 - \theta + \tau^p(\theta - \delta) - (1 - \delta)C(\tau^p)\right)(K + \sigma L)^\theta (1 - \delta)^{1-\theta}, \\
V^r(D) &= \frac{rK + vL}{\delta} + \tau^p\left(\bar{y} - \frac{rK + vL}{\delta}\right) - C(\tau^p)\bar{y} \\
&= \frac{1}{\delta}\left(\theta + \tau^p(\delta - \theta) - \delta C(\tau^p)\right)(K + \sigma L)^\theta (1 - \delta)^{1-\theta},
\end{aligned}
$$

where the factor prices w, r and v are given by (9.2), and the most preferred tax rate of the citizens is τ^p. These expressions take into account that once there is democratization, the citizens set their most preferred tax rate unconstrained.

If, on the other hand, the elite choose repression, the payoffs are

$$
\begin{aligned}
(9.8) \qquad V^p(O\,|\kappa) &= (1 - \theta)\left(\frac{(1 - \varrho\kappa)K + \sigma(1 - \kappa)L}{1 - \delta}\right)^\theta, \\
V^r(O\,|\kappa) &= \frac{\theta}{\delta}\left((1 - \varrho\kappa)K + \sigma(1 - \kappa)L\right)^\theta (1 - \delta)^{1-\theta}.
\end{aligned}
$$

Finally, the elite could offer redistribution under the existing regime, without democratizing and without resorting to repression. The best they can do in this case is to offer redistribution at the favorite tax rate of the citizens, τ^p, given by (4.11), and in this case the values are

$$(9.9)\quad V^p(N, \tau^N = \tau^p) = \frac{1}{1-\delta}\left(1 - \theta + p\left(\tau^p(\theta - \delta) - (1-\delta)C(\tau^p)\right)\right)(K + \sigma L)^\theta (1-\delta)^{1-\theta},$$

$$V^r(N, \tau^N = \tau^p) = \frac{1}{\delta}\left(\theta + p\left(\tau^p(\delta - \theta) - \delta C(\tau^p)\right)\right)(K + \sigma L)^\theta (1-\delta)^{1-\theta},$$

which incorporates the fact that this promise will be realized only with probability p.

As before, if $\theta \leq \mu$, the revolution threat is absent. The more interesting case for the discussion here is the one where $\theta > \mu$, which for the sake of simplicity we assume to be the case. The promise to redistribute will prevent a revolution if we have that $V^p(N, \tau^N = \tau^p) \geq V^p(R, \mu)$. By the same arguments as those in Chapter 6, this is equivalent to $\mu \geq \mu^*$ where μ^* is given by (6.6).

If $\mu < \mu^*$, the elite cannot prevent a revolution by promising redistribution, so they have to resort either to democratization or to repression. We assume as usual that $V^p(D) \geq V^p(R, \mu)$ so that democratization prevents revolution and the formula for this is identical to (6.7).

When will the elite prefer repression? This depends on whether $\mu \geq \mu^*$ or not. When $\mu \geq \mu^*$, the relevant comparison is between redistribution and repression since, for the elite, redistribution is always preferable to democratization when it is feasible. The case that is more interesting for us is when $\mu < \mu^*$, so that there is a trade-off between repression and democratization. In this case, the elite simply compare $V^r(D)$ and $V^r(O\,|\kappa)$ as given by (9.7) and (9.8). It is clear that they will prefer repression if $V^r(D) < V^r(O\,|\kappa)$ or if

$$(9.10)\qquad \theta + \tau^p(\delta - \theta) - \delta C(\tau^p) < \theta\left(\frac{(1-\varrho\kappa)K + \sigma(1-\kappa)L}{K + \sigma L}\right)^\theta.$$

It is useful to re-write (9.10) in terms of the capital to land ratio, $k = K/L$. This gives

$$(9.11)\qquad \theta + \tau^p(\delta - \theta) - \delta C(\tau^p) < \theta\left(\frac{(1-\varrho\kappa)k + \sigma(1-\kappa)}{k + \sigma}\right)^\theta,$$

as the condition under which repression takes place. We shall say that when k is higher, the economy is more 'capital intensive' whereas low values of k correspond to relatively 'land intensive' societies. Condition (9.11) makes it clear that capital intensity of a society will be a crucial determinant of whether repression will be attractive for the elite or not. We discuss the key comparative statics arising from this condition below. For now, we summarize the analysis in:

> **Proposition 9.1:** Assume that (6.7) holds, $\theta > \mu$, and $\mu < \mu^*$ where μ^* is given by (6.6). Then we have that
>   - If (9.11) does not hold, then democratization happens as a credible commitment to future redistribution by the elite.
>   - If (9.11) holds, then the elite use repression to prevent revolution.

This proposition is therefore similar to the main results in Chapter 6. The interest for us here is that whether the condition determining whether repression is desirable, (9.11), holds or not depends on how capital intensive the economy is (i.e., on the level of k). The easiest way to see this is to consider the case where $\varrho = 1$ so that the costs of repression fall equally on capital and land. In this case we have:

Proposition 9.2: Consider the above game with $\varrho = 1$. Then (9.11) is independent of k, so the political equilibrium is unaffected by the capital intensity of the economy.

In contrast, if $\varrho > 1$, it is straightforward to verify that (9.11) is less likely to hold as k increases. Therefore, let us define k^* such that

$$(9.12) \qquad \theta + \tau^p (\delta - \theta) - \delta C(\tau^p) = \theta \left(\frac{(1 - \rho\kappa)k^* + \sigma(1 - \kappa)}{k^* + \sigma} \right)^\theta .$$

Then we can state:

Corollary 9.1: Consider a society described by the above game with $\varrho > 1$ and define k^* by (9.12). Then in the unique subgame perfect equilibrium we have that: if $k < k^*$, then the elite will meet the threat of revolution with repression, and if $k \geq k^*$, they will democratize in response to the threat to revolution.

This corollary is the main result of this section. It shows that a more capital-intensive society is more likely to become democratic. This is because the use of force by the elite is more costly in such a society compared to a land intensive society, or expressed differently, capital investments make the elites more pro-democractic than land holdings (and in a sense to made precise below, industrialists are more pro-democratic than landowners).

5. Costs of Coup on Capital and Land

We now move to extend these ideas to coups. Because of the parallels between using repression and mounting coups, there also appear to be natural reasons for these costs to also depend on how capital intensive the economy is. In particular, suppose that during a coup a certain fraction of the productive assets of the economy get destroyed. Let the fraction of physical capital that is destroyed be φ_K and that of land be φ_L if a coup is undertaken. It is natural to think that

$$\varphi_K \geq \varphi_L,$$

in other words, that the disruptions associated with a coup are more destructive to capital than to land. The reasons for why this is plausible are similar to those we discussed above. Coups and the associated turbulence and disruption will lead to the breakdown of complex economic relations. These are much more important for capitalist production than agrarian production. This is natural, since there is less concern about the quality of products in agriculture than in manufacturing. Moreover, the importance of complex relationships between buyer and supplier networks, and of investments in skills and in relationship-specific capital is far greater in more industrialized activities. Therefore, land will be hurt less as a result of a coup than capital.

Let $\varphi_L = \varphi$ and let $\varphi_K = \xi\varphi$ where $\xi \geq 1$. Given this assumption, we can write the incomes after coups as:

$$(9.13) \qquad \tilde{y}^p = (1-\theta)\left(\frac{(1-\xi\varphi)K + \sigma(1-\varphi)L}{1-\delta}\right)^\theta$$

$$(9.14) \qquad \tilde{y}^r = \frac{\theta}{\delta}\left((1-\xi\varphi)K + \sigma(1-\varphi)L\right)^\theta (1-\delta)^{1-\theta}$$

Clearly, both of these expressions are less than the corresponding ones before the coup, (9.5) and (9.6), since the disruptions associated with a coup will typically lead to the destruction of a certain fraction of the productive assets of the economy.

Armed with this specification of the costs of coups we can now analyze the impact of economic structure on coups and democratic consolidation. The game tree for the model of this section is identical to that depicted in Figure 7.1.

Whether or not the elite wish to mount a coup will depend on the continuation value in democracy and nondemocracy. Faced with the threat of a coup, the median voter will wish to make a concession to avoid a coup, i.e., set $\tau^D < \tau^p$. After this, the elite decide whether to undertake the coup. If they do so, society switches to nondemocracy, and the elite set the tax rate. Naturally, after a successful coup, they will choose their most preferred tax rate, $\tau^N = 0$. As a result, the game ends with respective payoffs for the citizens and the elite, $V^p(C, \varphi) = \tilde{y}^p$ and $V^r(C, \varphi) = \tilde{y}^r$, where $\tilde{y}^p$ and $\tilde{y}^r$ are given by (9.13) and (9.14). Alternatively, if the elite decide not to undertake a coup, the political system remains democratic and with probability $1 - p$, the median voter may get to reset the tax from that promised by the citizens in the previous stage. Therefore, with probability p, the tax promised by the citizens, τ^D, remains, and the citizens and the elite receive values $V\left(y^p \mid \tau^D\right)$ and $V\left(y^r \mid \tau^D\right)$ where

$$V\left(y^r \mid \tau^D\right) = \frac{1}{1-\delta}\left(1 - \theta + \tau^D(\theta - \delta) - (1-\delta)C(\tau^D)\right)(K + \sigma L)^\theta (1-\delta)^{1-\theta}, \text{ and}$$

$$V\left(y^r \mid \tau^D\right) = \frac{1}{\delta}\left(\theta + \tau^D(\delta - \theta) - \delta C(\tau^D)\right)(K + \sigma L)^\theta (1-\delta)^{1-\theta}.$$

If, on the other hand, nature allows democracy to reset the tax, they both receive the values pertinent to (unconstrained) democracy, $V^p(D)$ and $V^r(D)$, as given by (9.7). Therefore, the values resulting from a democratic promise of lower taxation at the rate τ^D, are $V^p(D, \tau^D)$ and $V^r(D, \tau^D)$ such that

$$(9.15) \quad V^p(D, \tau^D) = \frac{1}{1-\delta}\left[1 - \theta + p\left(\tau^D(\theta - \delta) - (1-\delta)C(\tau^D)\right)\right.$$
$$\left. + (1-p)\left(\tau^p(\theta - \delta) - (1-\delta)C(\tau^p)\right)\right](K + \sigma L)^\theta (1-\delta)^{1-\theta},$$
$$V^r(D, \tau^D) = \frac{1}{\delta}\left[\theta + p\left(\tau^D(\delta - \theta) - \delta C(\tau^D)\right)\right.$$
$$\left. + (1-p)\left(\tau^p(\delta - \theta) - \delta C(\tau^p)\right)\right](K + \sigma L)^\theta (1-\delta)^{1-\theta}.$$

These expressions take into account that with probability $1 - p$, the citizens get to reset the tax, the coup decision is already a bygone, and consequently, they will choose their most preferred tax rate, τ^p.

We can now characterize the subgame perfect equilibrium of this game by backward induction. Whether a coup is attractive for the elite depends on whether the coup constraint, $V^r(C, \varphi) > V^r(D)$, binds. This states that a coup is more attractive than living under an unconstrained democracy. This coup constraint can be expressed as

$$(9.16) \qquad \theta + \tau^p (\delta - \theta) - \delta C(\tau^p) < \theta \left(\frac{(1 - \xi\varphi)k + \sigma(1 - \varphi)}{k + \sigma} \right)^\theta .$$

where we again write the expression in terms of the capital intensity of the economy $k = K/L$. When this constraint does not bind coups are sufficiently costly that the elite never find a coup profitable —democracy is *fully consolidated*. (9.16) is fairly intuitive and responds to changes in parameters in the way we should expect. For example, a greater democratic tax rate, τ^p, makes it more likely to hold, since only the left-hand side depends on τ^p and is decreasing in it, and greater level of φ make it less likely to hold, since a greater fraction of the assets of the elite will be destroyed in the process of a coup.

In contrast, when this constraint binds, the democratic regime is not fully consolidated: if the citizens do not deviate from their most preferred to tax rate, there will be a coup along the equilibrium path. We can therefore define a critical value of the fraction of assets destroyed in a coup, denoted φ^*, such that when $\varphi < \varphi^*$, (a coup is not too costly) the promise of limited redistribution by the citizens is not sufficient to dissuade the elite from a coup. Of course, the most attractive promise that the citizens can make to the elite is to stop redistribution away from them totally, i.e., $\tau^D = 0$. Therefore, we must have that at φ^*, $V^r(D, \tau^D = 0) = V^r(C, \varphi^*)$, or:

$$(9.17) \qquad \varphi^* = \left[1 - \left(1 + \frac{(1 - p)}{\theta} \left(\tau^p(\delta - \theta) - \delta C(\tau^p) \right) \right)^{\frac{1}{\theta}} \right] \left(\frac{k + \sigma}{\xi k + \sigma} \right)$$

This expression implies as usual that a higher level of τ^p makes democracy worse for the elite, and therefore increases φ^*, that is, the elite are willing to undertake more costly coups when τ^p is higher. We now have the following result.

> **Proposition 9.3:** In the game described above, there is a unique subgame perfect equilibrium such that:
>   - If the coup constraint (9.16) does not bind, democracy is *fully consolidated* and the citizens set their most preferred tax rate $\tau^p > 0$.
>   - If the coup constraint (9.16) binds and $\varphi \geq \varphi^*$, then democracy is *semi-consolidated*. The citizens set a tax rate $\tau^D = \tilde{\tau} < \tau^p$ such that $V^r(D, \tau^D = \tilde{\tau}) = V^r(C, \varphi)$.
>   - If the coup constraint (9.16) binds and $\varphi < \varphi^*$, then democracy is *unconsolidated*. There is a coup, the elite come to power and set their most preferred tax rate, $\tau^N = 0$.

The novel part of this result is that the likelihood of a coup is now affected by the economic structure, in particular, by whether or not society is capital or land intensive. However, the only reason why the degree of capital intensity will affect the propensity of the elite to mount

coups is that different fractions of capital and land are destroyed in the process of the coup, i.e., $\varphi_K > \varphi_L$. To emphasize this, we state an analoguous result to Proposition 9.2:

> **Proposition 9.4:** Consider the above game with $\xi = 1$. Then (9.16) is independent of k, so the political equilibrium is unaffected by the capital intensity of the economy.

The proof of this result follows from (9.17) since when $\xi = 1$ the term $(k + \sigma) / (\xi k + \sigma) = 1$ and cancels from the right side. This proposition states that there is no link between economic structure and capital intensity when costs of coups are the same for capital and land holders.

This picture changes substantially when $\xi > 1$, however. With a greater cost of coups on capital than land, (9.16) implies that as k increases the coup constraint becomes less tight and from (9.17), φ^* decreases. This implies that we can define two threshold levels $\hat{k}$ and k^* such that at $k = \hat{k}$, (9.16) holds with equality. On the other hand, $k = k^*$ is such that when democracy promises $\tau^D = 0$ the elite are indifferent between a coup and living in democracy. Naturally, $k^* < \hat{k}$. This discussion establishes the next result:

> **Corollary 9.2:** Consider a society described by the above game and assume that $\xi > 1$. Let $\hat{k}$ and k^* be as described above. In the unique subgame perfect equilibrium we have that: if $k < k^*$, then society is an unconsolidated democracy. If $k^* \leq k < \hat{k}$, then society is a semi-consolidated democracy. If $k \geq \hat{k}$, then society is a fully consolidated democracy.

Therefore, in a very land intensive society where k is low, then there will be a coup during periods of crises. However, when the structure of production is different—i.e., when capital is relatively more important in the production process and in the asset portfolios of the elite, as captured by the threshold level of capital intensity k^*—then coups will no longer happen along the equilibrium path, and democracy persists. But because $k < \hat{k}$, democracy is not a fully consolidated political institution, and survives only by making concessions to the elite who pose an effective coup threat. As society becomes even more capital intensive and k increases, it will eventually become a fully consolidated democracy without the shadow of a coup affecting equilibrium tax rates and redistributive policies.

This model therefore illustrates how the structure of the economy, in particular the extent of capital intensity, influences the propensity of democracy to consolidate. The underlying idea is that in a more industrialized society with a greater fraction of the assets of the elite is in the form of physical capital, the turbulence and disruption associated with coups, like those created by repression, are more damaging. In consequence coups, as well as repression, will be less attractive in a capital intensive society.

6. Capital, Land and the Burden of Democracy

An even more important channel via which the economic structure may affect democracy is that the elite's attitudes toward democracy will also vary with the structure of the economy, because there are typically different burdens of taxation on capital and land. In this section, we analyze a model with this feature. For the sake of brevity, we focus only on coups and

democratic consolidations Given the analysis in the preceding two sections, it is clear that the analysis of transition to democracy is very similar, and factors discouraging coups will also discourage repression, facilitating transition to democracy.

The key idea in this section is that because land is supplied more inelastically, when allowed, the citizens will impose higher taxes on land than on capital. Thus, everything else equal, the elite will be more opposed to democracy when land is more important for their incomes. This gives us another reason for land intensive economies to be less likely to consolidate democracy (and also to transition to democracy).

Let us now discuss this issue by assuming that there can be separate taxes on income from different sources. In particular, a tax rate on capital income, τ_K, and one on income from land, τ_L. Throughout, we will simplify the discussion by assuming that there is no tax on labor income, i.e., the tax on labor, τ_N, is equal to 0. Clearly, the citizens would not like to tax their own incomes, but more generally, in a nondemocratic regime the elite might like to tax the citizens and redistribute to themselves (as in our discussions of targeted transfers in previous chapters), and to simplify the exposition, we ignore this possibility by restricting attention to the case where $\tau_N = 0$.

How do we model the costs of taxation when there are separate taxes on capital income and land income? The costs of taxation originate, in large part, from the fact that factors are supplied elastically. For example, labor taxation will be "costly" because individuals will take more leisure instead of supplying work to the market. There are two aspects to these costs, both of them relevant for this discussion. First, as less labor is supplied to the market, measured income and therefore tax revenues will decline. This constitutes a cost for those who will use tax revenues, since there are fewer revenues now. Second, there is also a cost of allocative efficiency; without the taxation, labor was being allocated to its best use, market work. Taxation discourages this, and creates a distortion by creating an incentive for time to be re-allocated away from its most efficient uses, forcing it to be used somewhere it is less valuable, in leisure or home production. Capital taxation will be similarly costly, especially as capital can flee to other activities, or even abroad, and avoid taxes. Again, this response of capital will be costly both because there are substantially less revenues from taxation, and also because the allocation of capital between various activities is distorted. More generally, in all cases, distortions from taxation result because in its effort to avoid taxes, each of these factors is not being allocated to its most productive use, and measured market income on which taxes are collected is declining. It is also important to note that both of these costs relate to the "elasticity of the supply" of various factors. When a factor is supplied inelastically, it cannot be withdrawn from market activity very easily, hence measured income will not change and there will be few distortions. Thinking of the supply elasticities as the major factor determining the costs of taxation immediately reveals that taxing capital should be more costly than taxing land. After all, capital can go to other sectors quite easily, but land is set in its place; at best, it can be withdrawn to inactivity.

Motivated by these considerations, we will think that when the tax on capital is τ_K there is a cost of taxation equal to $C_K(\tau_K) rK$, and when the tax on the land is τ_L, the cost of taxation is $C_L(\tau_L) vL$. As before, we assume that both of these functions are continuous, differentiable and convex. Moreover, we impose the usual boundary condition that $C'_L(0) = C'_K(0) = 0$, and a slightly different boundary condition $C'_L(1) > 1$ and $C'_K(1) > 1$ (the reason for this difference will become clear below). The crucial assumption we make is that

$$C'_L(\tau) < C'_K(\tau) \text{ for all } \tau > 0.$$

This assumption implies that the marginal cost of taxing capital is always higher than the marginal cost of taxing land, which is equivalent to capital being supplied more elastically than land. The important implication of this assumption will be that the citizens would like to impose greater taxes on land than on capital.

To further simplify the discussion, we now depart in one more respect from our baseline model, and as in our targeted transfers model, assume that as well as lump sum transfers, there are also transfers targeted to specific groups, in particular to the citizens, T_p, as well as a lump sum transfer to the elite, T_r.

Given all these pieces, we can write the total post-tax incomes of the elite and the citizens as follows:

$$
\begin{aligned}
\hat{y}^p &= w + T_p \\
\hat{y}^r &= (1 - \tau_K)\frac{rK}{\delta} + (1 - \tau_L)\frac{vL}{\delta} + T_r,
\end{aligned}
$$

which incorporates are assumption above that all capital and land are equally owned by each member of the elite, and there are δ of them.

The government budget constraint can now be written as

(9.18) $$\delta T_r + (1 - \delta)T_p = \tau_K rK - C_K(\tau_K) rK + \tau_L vL - C_L(\tau_L) vL$$

The left hand side of (9.18) is total expenditure on transfers. T_r is the lump sum transfer that members of the elite receive, and is thus multiplied by δ, T_p is the transfer to a citizen, hence it is multiplied by $1 - \delta$. The right hand side is total tax revenue from the taxation of capital and land. At the tax rates τ_K, τ_L, capital owners pay a total of $\tau_K rK$ in tax, and landowners pay $\tau_L vL$. From these amounts, we need to subtract the costs of taxation, $C_K(\tau_K) rK$ and $C_L(\tau_L) vL$.

Given the availability of a targeted transfer to themselves, the citizens would simply redistribute all the income they raise from capital and land using this targeted transfer, hence we will have $T_r = 0$ in democracy.

Next, note that since the citizens are no longer taxing themselves, their most preferred taxes will be those that maximize the net tax receipts, the right hand side of (9.18)—in other words, the citizens would now like to be at the top of the Laffer curve, which relates total tax revenue to tax rate. Therefore, citizens' most preferred taxes can be computed simply by solving the following maximization problem:

$$\max_{\tau_K, \tau_L} \ \tau_K r K - C_K\left(\tau_K\right) r K + \tau_L v L - C_L\left(\tau_L\right) v L.$$

The first-order conditions are straightforward and give the most preferred taxes for the poor, τ_K^p, τ_L^p implicitly as:

(9.19)
$$C_K'\left(\tau_K^p\right) = 1$$
$$C_L'\left(\tau_L^p\right) = 1$$

which maximize their net tax revenues. The assumption that $C_L'\left(\tau\right) < C_K'\left(\tau\right)$ immediately implies that $\tau_K^p < \tau_L^p$.

Let us next compute the net burden of democratic taxation on the elite. As in Chapter 4 we define the burden to be the net amount of redistribution away from the elite. Since they receive no transfers now, this is simply equal to taxes they pay, hence

$$\text{Burden}\left(\tau_K^p, \tau_L^p\right) = \tau_K^p r K + \tau_L^p v L.$$

Using (9.3), we can write this relative to total income and in terms of capital intensity as

(9.20)
$$\mathcal{B} \equiv \frac{\text{Burden}\left(\tau_K^p, \tau_L^p\right)}{Y} = \tau_K^p \frac{k}{k+\sigma} + \tau_L^p \frac{\sigma}{k+\sigma}$$

First note that from (9.19) the tax rates τ_K^p and τ_L^p are independent of k. Then equation (9.20) implies that as the economy becomes more capital intensive, the burden of democracy on the elite will decrease. This reflects the fact that capital is less attractive to tax than land. To see this analytically, note that the burden of taxes, $\mathcal{B}$, is decreasing in capital intensity:

$$\frac{d\mathcal{B}}{dk} = \frac{\tau_K^p}{k+\sigma} - \frac{\tau_K^p k + \tau_L^p \sigma}{\left(k+\sigma\right)^2} < 0,$$

which follows immediately from the fact that $\tau_K^p < \tau_L^p$. This result implies that elites will be less opposed to democracy for another reason when they are invested more and capital than land; this is because democracy will tax capital less than it will tax land.

There is another interesting interpretation of $\tau_K^p < \tau_L^p$. So far, we have emphasized the different tax rates imposed on incomes generated by land and capital. Another possibility is redistribution of assets. Since asset redistribution has not been explicitly considered in this chapter, we might think that the potential for asset redistribution is also incorporated into these taxes τ_K^p and τ_L^p. Are there any reasons to think that the potential for asset redistribution is different for capital and for land? The answer is yes. While democracy can easily redistribute land via land reform, redistribution of capital is much harder since capital, in the form of factories, is not easily divisible. More important, when these factories are taken away from their owners and given to new parties, they will typically not be very productive. This is because the complex relationships necessary for capitalist production, the specific investments, the know-how, are all in the hands of the original owners, and very difficult, or even impossible to transfer. One could argue that rather than redistribute the capital itself, shares in firms could be redistributed, yet the modern theory of the firm (e.g., Hart, 1995) suggests precisely that the incentives of agents within a firm depend on the ownership structure so that capital cannot be

arbitrarily redistributed without damaging productivity. Indeed, if capital markets are perfect one would expect the initial ownership structure to be efficient (though if they are not then the effects of redistribution are more complex, see, for example, Legros and Newman, 1996).

Land is much easier to redistribute without creating distortions. When land is taken from big land owners and redistributed to agrarian workers, the loss of efficiency may not be significant, and in fact according to some estimates, there might even be a gain in efficiency since many of the big farms are owned by major landowners who farm more land than is efficient (see Binswanger, Deininger and Feder, 1995, discuss evidence that land reforms may have efficiency gains, and Besley and Burgess, 2000, show that land reforms in India have had little adverse effects on aggregate economic performance). This suggests that land reform will often be an attractive policy tool for democracies to achieve their fiscal objectives without creating major distortions. Naturally, this implies a greater burden of democracy on landowners than for capital owners. This consideration implies that when land is a more important part of the assets of the rich, they will have more to fear from democracy, and typically they will expect greater redistribution away from them and a greater burden. This could be captured by our result that $\tau_K^p < \tau_L^p$.

Let us now put these two pieces together and analyze the likelihood of coups in a world with different taxes on capital and land. Consider the economic model described above, and the political model depicted by the game in Figure 7.1. We will also further simplify the discussion by assuming that the same fraction of capital and land are destroyed in the process of a coup, i.e., $\varphi_K = \varphi_L$ or that $\xi = 1$. This assumption serves to isolate the channel we want to emphasize in this section.

If the citizens get to set their most preferred taxes and transfers, taxes on capital and land will be given by (9.19), and we will also have $T_r = 0$. This implies that the transfer to each citizen will be given by

$$(9.21) \qquad T_p^p = \frac{\tau_K^p rK - C_K\left(\tau_K^p\right) rK + \tau_L^p vL - C_L\left(\tau_L^p\right) vL}{1 - \delta}$$

with τ_K^p and τ_L^p given by (9.19) and the superscript p on T_p^p indicates that it is the preferred value of the citizens. Therefore, the corresponding values are those in an unconstrained democracy:

$$(9.22) \qquad \begin{aligned} V^p(D) &= w + T_p^p, \\ V^r(D) &= \left(1 - \tau_K^p\right)\frac{rK}{\delta} + \left(1 - \tau_L^p\right)\frac{vL}{\delta}, \end{aligned}$$

with factor prices, w, r, and v, given by (9.2), with τ_K^p and τ_L^p given by (9.19) and T_p^p given by (9.21).

Whether the elite mount a coup will depend on the continuation values in democracy and nondemocracy. The citizens again set taxes on capital and labor income, which are potentially different from their most preferred tax rates, τ_K^p and τ_L^p, and we denote them by $\tilde{\tau}_K$ and $\tilde{\tau}_L$. The corresponding redistribution to a citizen is

$$(9.23) \qquad \tilde{T}_p^p = \frac{\tilde{\tau}_K rK - C_K\left(\tilde{\tau}_K\right) rK + \tilde{\tau}_L vL - C_L\left(\tilde{\tau}_L\right) vL}{1 - \delta}.$$

(That the citizens would decide to cut taxes on capital and land rather than redistribute lump sum to the elite is obvious, since these taxes are distortionary. Note also that if we had allowed labor income to be taxed the citizens could find it optimal to tax themselves and transfers resources to the elite to avoid a coup).

After this, the elite decide whether to undertake the coup. If they do so, society switches to nondemocracy, and the elite set the tax rate. Naturally, they will choose their most preferred tax rates, $\tau_K^N = \tau_L^N = 0$. As a result, the game ends with respective payoffs for the citizens and the elite, $V^p(C, \varphi)$ and $V^r(C, \varphi)$, where

$$(9.24) \qquad V^p(C, \varphi) = (1 - \theta)(1 - \varphi)^\theta \left(\frac{K + \sigma L}{1 - \delta} \right)^\theta,$$

$$V^r(C, \varphi) = \frac{\theta}{\delta}(1 - \varphi)^\theta (K + \sigma L)^\theta (1 - \delta)^{1-\theta} = \frac{\theta}{\delta}(1 - \varphi)^\theta Y$$

Alternatively, if the elite decide not to undertake a coup, the political system remains democratic. In this case, nature moves one more time, and determines whether democracy gets to reset the tax from that promised by the citizens in the previous stage. As before, this continuation game captures the fact that democracy may be unable to commit to less redistribution, i.e., to not adopting pro-citizen policies, once the threat of a coup disappears. Nature determines with probability p that the tax rates promised by the citizens remain, and the citizens and the elite receive values $V\left(y^p \mid \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L\right)$ and $V\left(y^r \mid \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L\right)$ where,

$$V\left(y^r \mid \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L\right) = w + \tilde{T}_p^p$$

$$V\left(y^r \mid \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L\right) = (1 - \tilde{\tau}_K)\frac{rK}{\delta} + (1 - \tilde{\tau}_L)\frac{vL}{\delta},$$

where $\tilde{T}_p^p$ is given by (9.23).

If, on the other hand, nature allows democracy to reset the tax, they both receive the (unconstrained) democracy values, $V^p(D)$ and $V^r(D)$, as given by (9.22). Therefore, the values resulting from a promise of less redistribution, only at the tax rates $(\tilde{\tau}_K, \tilde{\tau}_L)$, by the citizens in democracy are $V^p(D, \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L)$ and $V^r(D, \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L)$ such that

$$(9.25) \quad V^p(D, \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L) = w + (1 - p)T_p^p + p\tilde{T}_p^p$$

$$V^r(D, \tau_K^D = \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L) = \left(1 - p\tilde{\tau}_K - (1 - p)\tau_K^p\right)\frac{rK}{\delta} + \left(1 - p\tilde{\tau}_L - (1 - p)\tau_L^p\right)\frac{vL}{\delta}$$

with w, r, and v, given by (9.2), with τ_K^p and τ_L^p given by (9.19), T_p^p given by (9.21) $\tilde{T}_p^p$ is given by (9.23). These expressions take into account that with probability $1 - p$, the citizens get to reset the tax in which case they are unconstrained and will choose their most preferred taxes τ_K^p and τ_L^p as given by (9.19).

We can now characterize the subgame perfect equilibrium of this game by backward induction. The crucial issues are whether undertaking a coup is in the interests of the elite and whether the citizens can prevent a coup by promising concessions.

Whether a coup is attractive depends on whether the coup constraint, $V^r(C, \varphi) > V^r(D)$, binds. The answer will be yes when the burden of taxation on the elite is sufficiently high. Using

(9.22) and (9.24), the coup constraint can be expressed as

$$(9.26) \qquad (1 - \varphi)^\theta > (1 - \tau_K^p)\frac{k}{k + \sigma} + (1 - \tau_L^p)\frac{\sigma}{k + \sigma}.$$

When this constraint does not bind, democracy is fully consolidated.

In contrast, when this constraint binds, democracy is not fully consolidated: if the citizens do not take an action, there will be a coup along the equilibrium path. The action that the citizens can take is to reduce the burden that democracy places upon the elite, by reducing taxes both on capital and land. In particular, the best that the citizens can do is to promise zero taxes on both: $V^r(D, \tau_K^D = 0, \tau_L^D = 0)$ to the elite. As in our previous analysis, we can then define a threshold value for φ, φ^*, such that when $\varphi < \varphi^*$, the promise of limited distribution by the citizens is not sufficient to dissuade the elite from a coup. Therefore, we must have that at φ^*, $V^r(D, \tau_K^D = 0, \tau_L^D = 0) = V^r(C, \varphi^*)$. Solving this equality gives the threshold value φ^* as:

$$(9.27) \qquad \varphi^* = 1 - \left(\left(1 - (1 - p)\,\tau_K^p\right)\frac{k}{k + \sigma} + \left(1 - (1 - p)\,\tau_L^p\right)\frac{\sigma}{k + \sigma} \right)^{\frac{1}{\theta}}.$$

Given this discussion, we can summarize the subgame perfect equilibrium of this game as:

Proposition 9.5: In the game described above, there is a unique subgame perfect equilibrium such that:

- If the coup constraint (9.26) does not bind, democracy is fully consolidated and the citizens set their most preferred tax rates on capital and land $\tau_K^p > 0$ and $\tau_L^p > 0$ as given by (9.19).
- If the coup constraint (9.26) binds and $\varphi \geq \varphi^*$, then democracy is semi-consolidated. The citizens reduce taxes below τ_K^p and τ_L^p.
- If the coup constraint (9.26) binds and $\varphi < \varphi^*$, then democracy is unconsolidated. There is a coup, the elite come to power and set their preferred tax rates, $\tau_K^N = \tau_L^N = 0$.

Let us again define two threshold levels of capital intensity $\hat{k}$ and k^*, such that as the economy passes these threshold levels it first becomes a semi-consolidated and then a fully consolidated democracy. These threshold values are:

$$(9.28) \qquad k^* = \frac{\left(\left(1 - (1 - p)\,\tau_L^p\right)\right) - (1 - \varphi)^\theta)\,\sigma}{(1 - \varphi)^\theta - (1 - (1 - p)\,\tau_K^p)}$$

and

$$(9.29) \qquad \hat{k} = \frac{\left((1 - \tau_L^p) - (1 - \varphi)^\theta\right)\sigma}{(1 - \varphi)^\theta - (1 - \tau_K^p)}$$

Then Corollary 9.2 applies exactly as before with k^* and $\hat{k}$ as given by (9.28) and (9.29). The result is therefore very similar to before: as capital and industry become more important relative to land and agriculture, the elite become less averse to democracy and the threat against democracy diminishes. The reason why this happens is somewhat different from before, however. In the model of the previous section, the burden of democracy was independent of the composition of assets of the elite; their different attitudes towards coups originated from the different costs

that the disruption due to a coup would cause. Perhaps more important in practice is that not all segments of the elite will suffer equally in democracy. The model in this section emphasizes this by constructing a model where land is taxed more heavily (or perhaps redistributed more radically by land reform), and therefore, the elite have more to fear from democracy when land is an important source of income for them. As the degree of capital intensity increases their opposition to democracy declines and consolidation is more likely.

The implications of the model of this section carry over immediately to democratization. Since the burden of democracy falls more heavily on landowners than on capitalists as the capital intensity of the economy increases, repression will become less and less attractive relative to democracy and democratization becomes more likely to arise. Indeed, by analogy to the above analysis there will exist a level of capital intensity which is sufficiently high to ensure that repression will never be attractive to the elite.

7. Conflict Between Landowners and Industrialists

The above analysis showed how the increased capital intensity of an economy made coups against democracy less likely. To simplify the discussion, we allowed the composition of assets to change, but we assumed that the elite was homogeneous, with each member of the elite holding the same share of capital and land. In practice, there are distinct groups, landowners and industrialists, and certain groups are more opposed to democracy than others. Such distinctions are an enduring theme of the literature stemming from Moore (1966) and have emerged in the more recent literature on democratization under the guise of 'hard-liners' and 'soft-liners.' In the last chapter we discussed how the distinction between a hard-liner and a soft-liner could be given some content and microfoundations in the context of a model with both rich and middle class agents. Nevertheless, in Chapter 8 incomes were still exogenous and the only difference between such agents was their income levels.

The models of this chapter give us another approach to this issue. In particular, since both the costs of repression and coups fall more heavily on capital holders than land holders, and the burden of democracy is greater on the latter than the former, we would expect capitalists and industrialists to be less opposed to democracy than landowners. Thus we can imagine situations where the elite will split, capitalists will be in favor of conceding democracy while landowners will be opposed to it.

Although the discussion of hard-liners and soft-liners in the political science literature has been restricted to discussions of transition to democracy, the underlying logic suggests that such a distinction ought to be important for democratic consolidation as well. There is heterogeneity amongst those opposed to democracy, and when splits occur amongst these groups how their preferences are aggregated will be crucial in determining whether or not democracy survives. We shall therefore follow the last two sections in focusing on how capital intensity influences democratic consolidation in circumstances where the elite are heterogeneous. This provides some contrast to our analysis of Chapter 8 where elite heterogeneity was discussed only in the context of democratization.

In this section, we use the same model as in the previous section, but with three groups of agents, workers, landowners and industrialists. We denote the number of industrialists by δ^k and landowners by δ^l, such that $\delta^k + \delta^l = \delta$. All capital is held by industrialists, and all land is held by landowners. We also continue the analysis of the last section by assuming that there are no differential costs of a coup for landowners (i.e. $\xi = 1$), but there are different tax rates imposed on them by the poor workers. The political situation is again described by a similar game. The citizens first decide to set taxes on capital and land, τ_K^D and τ_L^D, and they may want to offer promises $\tilde{\tau}_K$ and $\tilde{\tau}_L$ which differ from their ideal tax rates. Then if the elite decide not to undertake a coup, there is another move by nature, capturing the commitment problem of democracy: with probability $1 - p$, the citizens get to reset taxes from $\tilde{\tau}_K$ and $\tilde{\tau}_L$.

To talk about what the elite want to do however we have to propose a way of aggregating the preferences of the capitalists and the landowners. As we discussed before there are various ways to do this but here we follow the model of Chapter 8 section 6 where we aggregated the preferences of the rich and the middle class by assuming that decisions were determined by using a utilitarian social welfare function. We shall make the same assumption here so that the elite will be in favor of a coup if this decision maximizes the sum of utilities of the elite —landowners plus industrialists.

The payoffs are also different now because there are three groups. If the outcome of the game is democracy, the citizens set their most preferred tax rates given by (9.19), and the payoffs to the citizens, the industrialists (capitalists) and the landowners, are respectively:

$$
\begin{aligned}
V^p(D) &= w + T_p, \\
V^k(D) &= \left(1 - \tau_K^p\right) \frac{rK}{\delta^k} + T_r \\
V^l(D) &= \left(1 - \tau_L^p\right) \frac{vL}{\delta^l} + T_r,
\end{aligned}
$$

with w, r, and v, given by (9.2), and since a democracy will choose $T_r = 0$, T_p given by (9.21). Here we are assuming that capital and land are equally owned within each faction of the elite. We have simplified the notation by writing $V^k(D)$ as the value to all industrialists and $V^l(D)$ as the value to all landowners, and we will do so with all the value functions in this section.

If, on the other hand, there is a coup, industrialists and landowners come to power, and in this case, we assume that they jointly choose taxes and transfers, and this will result in no taxation, but in the process of the coup, a fraction φ of the capital stock and of land are destroyed. Therefore, the payoffs to a worker, a industrialist and a landowner are

$$
\begin{aligned}
V^p(C, \varphi) &= (1-\theta)(1-\varphi)^\theta \left(\frac{K + \sigma L}{1 - \delta} \right)^\theta, \\
V^k(C, \varphi) &= \theta(1 - \varphi)^\theta (K + \sigma L)^{\theta - 1} (1 - \delta)^{1 - \theta} \frac{K}{\delta^k} \\
V^l(C, \varphi) &= \theta(1 - \varphi)^\theta (K + \sigma L)^{\theta - 1} (1 - \delta)^{1 - \theta} \sigma \frac{L}{\delta^l}
\end{aligned}
$$

In specifying these payoffs to a coup we are imposing that in the nondemocracy which is established after a coup, there will be no taxation of the elite. It is possible that industrialists might be in favor of setting $\tau_L^N > 0$ and $T_r > 0$, taxing landowners to redistribute to themselves. Similarly landowners may be in favor of taxing industrialists. However, such taxation would be determined here by maximizing the same welfare function that determined whether or not a coup takes place, and the utilitarian form of the objective function ensures that such taxation never occurs in equilibrium.

Finally, the expected payoffs when the poor promise redistribution at the tax rates $\tau_K^D = \tilde{\tau}_K$ and $\tau_L^D = \tilde{\tau}_L$, taking into account that they have to stick to this promise with probability p, are:

$$
\begin{aligned}
V^p(D, \tau_K^D &= \tilde{\tau}_K, \tau_L^D = \tilde{\tau}_L) = w + (1-p)\,T_p^p + p\tilde{T}_p^p \\
V^k(D, \tau_K^D &= \tilde{\tau}_K) = \left(1 - p\tilde{\tau}_K - (1-p)\,\tau_K^p\right) r\frac{K}{\delta^k} \\
V^l(D, \tau_L^D &= \tilde{\tau}_L) = \left(1 - p\tilde{\tau}_L - (1-p)\,\tau_L^p\right) v\frac{L}{\delta^l}.
\end{aligned}
$$

Parallel to our analysis before, we can again define a coup constraint and threshold values for φ, such that the elite are indifferent between a coup and living in democracy. If coups are more costly than this critical level then we are in a fully consolidated democracy. These values will now depend on the balance of political power within the elite. We first define the basic coup constraints that imply that $V^k(C, \varphi) > V^k(D)$ and $V^l(C, \varphi) > V^l(D)$. These are, respectively

$$
\text{(9.30)} \qquad \theta(1-\varphi)^\theta \, (K + \sigma L)^{\theta-1} \, (1-\delta)^{1-\theta} > \left(1 - \tau_K^p\right) r,
$$

and

$$
\text{(9.31)} \qquad \theta(1-\varphi)^\theta \, (K + \sigma L)^{\theta-1} \, (1-\delta)^{1-\theta}\sigma > \left(1 - \tau_L^p\right) v
$$

If these constraints hold, then democracy must make some sort of concession in the high state in order to avoid a coup and is therefore not fully consolidated.

We therefore write down the constraints $V^k(C, \varphi) > V^k(D, \tau_K^D = 0)$ and $V^l(C, \varphi) > V^l(D, \tau_L^D = 0)$ which show when a coup will take place even when the poor make the best possible concession they can promise to make. These conditions will determine the conditions under which democracy is semi-consolidated. From this we have the constraint under which industrialists prefer a coup rather than accept the best possible concession from the citizens

$$
\text{(9.32)} \qquad \theta(1-\varphi)^\theta \, (K + \sigma L)^{\theta-1} \, (1-\delta)^{1-\theta} > \left(1 - (1-p)\tau_K^p\right) r,
$$

and a constraint which shows the circumstances under which the best possible concession to landowners is worse for them than mounting a coup,

$$
\text{(9.33)} \qquad \theta(1-\varphi)^\theta \, (K + \sigma L)^{\theta-1} \, (1-\delta)^{1-\theta}\sigma > \left(1 - (1-p)\tau_L^p\right) v
$$

recalling that these are evaluated at $\tau_K^D = 0$ and $\tau_L^D = 0$.

To see under what circumstances a coup will take place we have to study whether or not a coup maximizes a utilitarian welfare function of the elite. It will do so if,

$$\delta^k V^k(C, \varphi) + \delta^l V^l(C, \varphi) > \delta^k V^k(D, \tau_K^D = 0) + \delta^l V^l(D, \tau_L^D = 0).$$

Here $\delta^k V^k(C, \varphi) + \delta^l V^l(C, \varphi)$ is the sum of the utilities of industrialists and landowners when the elite mount a coup against democracy. $\delta^k V^k(D, \tau_K^D = 0) + \delta^l V^l(D, \tau_L^D = 0)$ is the sum of utilities when industrialists and landowners accept the best possible concession and do not mount a coup. Note that it can be the case that $V^l(C, \varphi) > V^l(D, \tau_L^D = 0)$, so that landowners are in favor of the coup, while $V^k(C, \varphi) < V^k(D, \tau_K^D = 0)$ so that industrialists are against. Now,

$$
\begin{aligned}
& \delta^k V^k(C, \varphi) + \delta^l V^l(C, \varphi) \\
= \ & \theta(1-\varphi)^\theta (K + \sigma L)^{\theta-1} (1-\delta)^{1-\theta} \left(\delta^k \frac{K}{\delta^k} + \delta^l \sigma \frac{L}{\delta^l} \right), \\
= \ & \theta(1-\varphi)^\theta (K + \sigma L)^\theta (1-\delta)^{1-\theta} = \theta(1-\varphi)^\theta Y.
\end{aligned}
$$

Similarly,

$$
\begin{aligned}
\delta^k V^k(D, \tau_K^D = \ & 0) + \delta^l V^l(D, \tau_L^D = 0) \\
= \ & \delta^k \left(1 - (1-p)\tau_K^p \right) r \frac{K}{\delta^k} + \delta^l \left(1 - (1-p)\tau_L^p \right) v \frac{L}{\delta^l}.
\end{aligned}
$$

Thus a coup occurs when democracy makes the best possible promise it can (i.e. $\tau_K^D = 0, \tau_L^D = 0$) if,

(9.34) $\qquad \theta(1-\varphi)^\theta Y > \left(1 - (1-p)\tau_K^p \right) rK + \left(1 - (1-p)\tau_L^p \right) vL.$

A coup occurs when democracy makes no concessions when

(9.35) $\qquad\qquad (1-\varphi)^\theta Y > \left(1 - \tau_K^p \right) rK + \left(1 - \tau_L^p \right) vL.$

Note however that (9.35) is the same equation as (9.26). Moreover, (9.34) implies exactly the same critical value for the cost of a coup φ^* given in (9.27). Thus the analysis of Proposition 9.5 applies in this case. For example, we can define critical levels of capital intensity, k^* and $\hat{k}$ such that if $k < k^*$ a coup will occur. For $k \in [k^*, \hat{k})$ democracy can survive by making concessions and is therefore semi-consolidated, while if $k \geq \hat{k}$ democracy is fully consolidated.

Interestingly, situations now emerge where the interests and preferences of the elite diverge. Because $\tau_K^p < \tau_L^p$ landowners are naturally more inclined to have a coup than industrialists. However, as capital intensity increases industrialists gain in power relative to landowners and so the coup decision more and more reflects their interests (since they lose less from democracy they are less inclined to mount coups). Thus we can have an interesting situation where there is a split in the elite. Landowners want a coup, but industrialists do not, and the preferences of the industrialists dominate when the capital intensity becomes high enough.

What matters here is not simply that the elite as a whole is becoming more pro-democratic as the economy develops and capital and industry become more important. In contrast, and somewhat more realistically, there are divisions within the elite, the old aristocratic landowners

are always more opposed to democracy because they are the ones paying a greater price and fearing an even greater price in the future from democratic politics. Their attitudes are not changing very fast, but with industrialization the structure of the economy is changing, new factions of the elite are becoming more and more powerful, and industrialists have more to lose from coups and less to fear from democracy. As these new segments gain more power, democracy has less to fear from the elite. This result follows from the fact that as capital intensity increases, the intensity of preference of the different elite factions changes with industrialists becoming more and more opposed to a coup, and landlords less and less in favor. Relative intensity of preference maps into relative political power.

8. Industrialists, Landowners and Democracy in Practice

How do the perspectives developed in this chapter so far help us understand cross-country differences in the creation and consolidation of democracy? The comparison between Latin America and Western Europe is particularly telling. When European countries such as Britain and France moved towards full democracy in the 1870's they were primarily urban societies. When Brazil, Guatemala or Venezuela democratized in the 1940's they were primarily rural. In the European cases, though democracy created redistribution of income and economic and social policies that favored the poor, no radical program of asset redistribution emerged. Though certainly European socialists certainly talked about the 'socialization of the capital stock' this was never actually proposed as a serious electoral strategy, except perhaps in the context of nationalization of industry. Yet nationalization, at least in the British case, was often of industries which made heavy losses and was always compensated. Serious redistribution of capital only took place after communist revolutions. In Latin America however, the newly enfranchised rural poor demanded agrarian reform—the wholesale redistribution of land (see Lapp, 2004). This happened consistently in Latin American democratizations, except in the more urbanized countries such as Argentina and Uruguay where politics had evolved around a rural versus urban cleavage.[1] As we have noted, the response to demands for radical land redistribution in Brazil in 1964, in Guatemala in 1954, in Venezuela in 1948, or in Chile in 1973 was a coup. Thus the notion that industrialists, because they have less to fear from redistribution, are less anti-democratic than landowners seems consistent with the cross-country historical experience.

The idea that industrialists and landowners may have different preferences toward democracy can also help explain the dynamics of democratization in Central America in the 1990's. In El Salvador, for instance, economic diversification took place after the 1940's with new import substitution industries in the towns and a move from coffee to cotton (see Williams, 1986, Paige, 1997). Since cotton was much more mechanized, there was a large amount of shedding of rural labor and workers moved to the towns and urban areas. The concentration of people in urban areas seems to have added considerably to the political instability of the country. Moreover,

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[1]For example, the support of Perón in Argentina was mostly urban and his policies aimed at redistributing from the rural sector to Buenos Aires. Clearly, as in the British and other Western European cases, urban workers were not interested in land redistribution.

a new breed of industrialists invested in cotton and industry emerged. This new elite suffered much heavier losses from the fighting and were central to the push for compromise that began in the 1980's. Thus the idea that repression is more costly for industrialists fits very well with the Central American evidence, as does the idea that increasing political power of industrialists can lead to a split in the regime and democratization.

Wood (2000) presents an interesting extension of these ideas to South Africa, arguing that a similar transformation took place with white landowners becoming much less important relative to industrialists who benefitted much less from the Apartheid regime (since they were hurt by restriction of African accumulating human capital) and also lost more through repression and the international sanctions placed on South Africa.

9. Economic Institutions

The analysis in this chapter (and for that matter, and his entire book) took the structure of economic institutions as given. Nevertheless, it is clear that if those with political power are able to alter such institutions this may have important implications for democracy. Imagine, for instance that instead of markets being competitive, those in power could intervene and distort markets. In a nondemocracy run by capital and land owners, the elite could intervene to reduce wages, perhaps by creating monopsonies in the labor market. In nondemocracy this would increase the share of national income going to capital and land and reduce that accruing to labor below $1-\theta$. In such a society, democratization would not only lead to taxation policies that the elite would not like, but it would also undermine their preferred economic institutions. For example, once the citizens, who get their income from supplying their labor, dominate democratic politics, they will have an incentive to pass laws undermining the market power of industrialists or landowners. Indeed, they will have an incentive to increase their own market power, perhaps by facilitating the formation of trade unions, introducing unemployment insurance, minimum wages, or firing costs. This would have the effect of reducing θ in democracy. As we saw in the historical discussion of Chapter 3, democratization in Britain in the 19th century led to important changes in labor market legislation, switching bargaining power away to employers and towards workers.

The effect of allowing labor market and other economic institutions to be endogenized in this way is to make the elite more anti-democratic and the citizens more pro-democratic. Thus revolution will become more attractive, because as in our models with targeted transfers, the nondemocratic status quo becomes worse for the citizens. Simultaneously, democracy will be worse for the elite and they will therefore be more inclined to use repression to avoid it. Clearly, once democracy has been created, the ability to manipulate economic institutions also increases the incentives of the elite to mount coups. In essence, allowing economic institutions to be endogenous generates results very similar to the model with targeted transfers. It increases the stakes from any particular set of political institutions and tends to make society more conflictual and more unstable.

Although we do not analyze models of endogenous economic institutions in this book, in reality this is a very important issue. For example, in the work of Moore (1966) and his many followers, great emphasis is placed on the organization of agriculture. Moore argued that one of the forces which facilitated democracy in Britain was the fact that agriculture was highly commercialized with relatively free factor markets. Though, as we noted above, pre-democratic labor market institutions in Britain certainly tried to reduce the bargaining power of workers, for example by banning trade unions, they were a long cry from the situation in Eastern Europe. Britain was one of the first places in Europe to witness a collapse of feudalism, whereas in Eastern Europe this lived on until the middle of the 19th century. Moore contrasted the situation in Britain with the 'labor repressive' agriculture in Eastern Europe. This distinction makes a lot of sense in our framework when economic institutions are endogenous. In Britain, political elites in the 19th century, though they certainly anticipated changes in economic institutions, had much less to lose from democratization than the elites of Russia or Austria-Hungary.

Moore's discussion also suggests another connection between land intensive societies and democratization. It is possible that labor repressive economic institutions, and in the limit slavery, are less inefficient and or feasible in conjunction with agricultural technology. For example, this is the standard argument about why slaves were used primarily in the Southern US before the Civil War (Fogel and Engerman, 1974, Eltis, 2000). Though we do not know of microfoundations for this claim it certainly seems consistent with much evidence and would provide another link, this time via economic institutions, between capital intensive societies and democracy—labor repression is simply less possible or attractive for industrialists.

Though in Moore's study one might take 19th century Britain to be relatively capital intensive and Russia to be land intensive, there is a lot of variation which comes from differences in economic institutions even in land intensive societies. These ideas can also help to explain the intra-Latin American variation. Take Central America. Despite all being highly specialized in the same economic activities, particularly coffee, there are large differences in the paths of political development experienced by different Central American countries (see Williams, 1994, and Paige, 1997). For example, Nicaragua had one of the most pernicious personalistic dictatorships, that of the Somoza family, throughout most of the twentieth century, until it fell to the Sandinista revolution of 1979. In Guatemala and El Salvador, such a kleptocratic regime did not emerge, but instead landed elites kept a close grip on power with the support of the military. This grip on power loosened only briefly in Guatemala in the 1940's and in El Salvador in the late 1920's. In both countries, elites took the path of repression rather than democracy and as a result, they had to fight sustained guerilla wars. These wars ended through negotiation in the 1990's, but certainly in Guatemala the same elites still maintain considerable political power. On the other hand, neighboring Costa Rica is perhaps the most democratic nation in Latin America and has been a democracy since 1948 and even before then having experienced relatively democratic and non-repressive regimes.

What can explain these differing outcomes? One clear factor is the absence of large landed estates in Costa Rica (see Williams, 1994, Gudmundson, 1995, Paige, 1997, Yashar, 1997, Lehoucq,

1998, Nugent and Robinson, 2000, Wood, 2000, Mahoney, 2000). There coffee was grown by smallholders and in the early and mid 19th century the state passed a series of 'homestead acts' basically giving away coffee growing land to anyone who wanted to farm it. On the other hand, in the other Central American countries, the expansion of the world economy in the late nineteenth century led not to homestead acts but to a series of large expropriations of lands by political elites and those with political connections. This led not to a smallholder society like Costa Rica, but rather to the creation of large estates and much higher land inequality. Most scholars see the different forms of agricultural organization, the existence of a 'landed elite' in most of Central America but its absence in Costa Rica, as being a key to explaining the different paths of political development in these countries.

The situation in relatively democratic Colombia is remarkably similar to that in Costa Rica. In Costa Rica and Colombia political elites concentrated much more on finance and the purchase and export of the crop rather than coffee production (Paige, 1997, or Mahoney, 2000, on Costa Rica, Palacios, 1980, Nugent and Robinson, 2000, on Colombia). One outcome of this was that labor market institutions were considerably more 'labor repressive' in Guatemala and El Salvador. We noted earlier that forced labor was in operation in Guatemala until the initial creation of democracy in 1945, something which did not survive the early 1820's in Colombia. The importance of this for democracy was that in Guatemala and El Salvador elites invested in land also anticipated losing their preferred labor market institutions if they democratized, as indeed they did in Guatemala in 1945.

More generally, the literature on comparative development within the Americas is predicated on the idea that initial conditions in Spanish and Portuguese colonies led to economic institutions which were designed to extract rents from indigenous peoples and control colonial elites (see for instance Lockhart and Schwartz, 1983, Coatsworth, 1993, Engerman and Sokoloff, 1997, Acemoglu, Johnson and Robinson, 2001, 2002, 2004). These institutions, such as forced labor, absence of well-defined property rights or equality before the law, and highly mercantilistic policies, persisted over time. They appear to have played a major role in the inability of Latin American countries to industrialize during the 19th century. They also help to account for why inequality became so high. Long run economic divergence within the Americas is therefore at least in part explained by the persistence of different economic institutions the origins of which lie in different initial condition in the colonies (for example, the population density of indigenous peoples).

These arguments suggest that particular sets of economic institutions persist over long periods of time. Indeed, if institutions did not persist they would hardly be able to structure social, economic and political life in the way that they do. But this also suggests that not all, or even most, economic institutions can freely be changed when political regimes change. Despite the interesting examples of correlations between democratizations, coups and changes in economic institutions we discuss in this section, this is a primary reason we have not analyzed them in great detail. The situation here is similar to our discussion in Chapter 6 about political institutions. Once created institutions, both political and economic, have strong tendencies to persist

(see Acemoglu, Johnson and Robinson, 2001, for a discussion of some mechanisms that might explain this) and in any society the institutions that it currently has will be the outcome of complex historical processes. In Guatemala and Britain, while at one level there were important changes in economic institutions at the time of democratization, at another level there are large historically determined differences in economic institutions. This means that in proposing an explanation for why democratization occurred more rapidly in Britain than in Guatemala, it is useful to treat these differences in economic institutions parametrically. Ultimately however, one would wish to develop a theory where the joint evolution of economic and political institutions are accounted for. Such a theory is beyond the scope of this book, but is an exciting area for future research (see see Acemoglu, Johnson and Robinson, 2004, for the outline of such a theory). Finally, the relationship between economic institutions and the political regimes that support them provides another link between inequality and political development; for example, societies with economic institutions favoring a narrow elite may remain non-democratic, in turn, continue to maintain such economic institutions and generate high levels of inequality, while other societies may transition to democracy and choose more egalitarian economic institutions.

10. Human Capital

The models of this chapter showed that in a society which was more (physical) capital intensive, repression and coups become more costly, and democracy becomes less radical and threatening. As a consequence, such societies ought to democratize more readily and be more prone to consolidate their democracies. Over the past half century land and even physical capital have become less and less important and human capital and technology even more important. Indeed, Goldin (2001) refers to the 20th century as the 'human capital century.' In this section we therefore extend the analysis of this chapter by focusing on what happens to democracy when human capital comes to dominate the economy.

Human capital, the skills, knowledge and education embodied in individuals, enters naturally into the above mechanisms. First, the burden of repression or coups often falls on the indviduals who are killed during conflict. It is much easier to damage or kill a human than destroy a piece of land or a machine. Thus we might anticipate that human capital will suffer the greatest losses from repression, violence and coups. Second, human capital is of course impossible to redistribute. Moreover, even the income generated from human capital is very costly to tax because unlike the output of a machine, the output generated from human capital only occurs if individuals exert effort. Effort is hard to monitor, so it is difficult for the government to force people to use their human capital, and it is easily dissuaded by high rates of income taxation. Thus a democracy in a society where productive assets are dominated by human capital as opposed to physcial capital or land is likely to be much less redistributive.

This discussion immediately suggests that is straightforward to apply a very similar analysis to above, but with $h = H/K$ as the human capital intensity of the society rather than $k = K/L$, the physical capital intensity of the society. Greater human capital intensity of the elites will make them less willing to use force against democracy because all its disruptive effects, and also

greater human capital intensity will reduce the burden of democracy, because human capital is harder to tax than physical capital or land. Both of these channels imply that as human capital becomes more important, democracy becomes more likely to arise and more likely to consolidate.

In addition, as human capital becomes more important, we can think of the middle class, as in the analysis of Chapter 8, becoming richer and more numerous, which, as discussed there, will tend to make democracy more likely.

Therefore, our analysis suggests a number of reasons for major interactions between human capital and democracy, providing us useful channels to understand the empirical relationships shown in Chapter 3, specifically Figures 3.7 and 3.8.

11. Conjectures about Political Development

We now note that the relationships between capital, both physical and human, and land intensity and democracy that we have investigated in this chapter allow us to make some conjectures about the relationship between economic development and political development. Although recent theories of economic growth sometimes emphasize the process of growth simply as an increase in the level of income of society, economic development is much more than that. With economic development, productive relationships change significantly, both workers and firms migrate from rural areas to cities, physical capital, and then later human capital and technology, become more important, and the whole economic structure becomes transformed. These themes were developed by earlier theorists of economic development, for instance Singer (1949), Rosenstein-Roden (1949), Nurske (1953), Lewis (1954) and Myrdal (1956), and particularly Kuznets (1966). They have recently been formalized to some extent by Murphy, Shleifer and Vishny (1989), Matsuyama (1994) and Acemoglu and Zilibotti (1997, 1999).

Thus economic development and increases in per-capita income come along with changes in the structure of the economy which are related to the concept of capital intensity we have used in this chapter. This perspective suggests that as an economy develops, capital becomes more important than land, industry becomes more important than agriculture, and our political framework suggests that opposition to, and threats against democracy, weaken. We might expect countries with higher income per-capita would also be more capital intensive and this would generate an empirical relationship between income per-capita and democracy.

Such a relationship, first documented by Lipset (1959), is one of the most important 'facts' in political economy. As Chapter 3 showed, this is a robust correlation in cross-country data. However, there is as yet no real theoretical explanation for this empirical fact. Lipset traced the origins of his explanation to Aristotle, and argued, like Aristotle, that "only in a wealthy society in which relatively few citizens lived in real poverty could a situation exist in which the mass of the population could intelligently participate in politics and could develop the self-restraint necessary to avoid succumbing to the appeals of irresponsible demagogues" (1959, p. 75). According to this view, the relationship between income and democracy reflects the fact that only in relatively rich countries are the citizens sufficiently "mature" and well-informed

enough to live the more complex lives associated with democracy. More recent scholars have focused on testing the robustness of this relationship rather than proposing explanations for it.

The models we developed in this book before the current chapter were constructed to be deliberately agnostic on this question, since we have designed them to give results which are invariant to the level of per-capita income (for example by normalizing the costs of taxation). However, the results in this chapter may provide a plausible microfoundation for the relationship between economic and political development. They suggest that as an economy develops, factors of production accumulate, and income per-capita rises, it is the change in the structure of the economy towards a more capital intensive endowment of assets that leads to democracy and its consolidation.

At this stage this is only a conjecture lacking empirical support. Indeed, since the empirical work on the determinants of democracy has yet to convincingly establish that there is a causal effect of income on democracy, an investigation of the implications of mechanisms in this chapter for political development is an area for future research. It is quite plausible that the correlation in the data could be due to another omitted variable. To see this, recall our discussion of the impact of economic institutions on democracy in the last section. There we argued that the different economic institutions in Guatemala, compared to Britain, may help to explain why Guatemala has been so much less democratic historically than Britain. But obviously the first order effect of economic institutions is on economic incentives and performance. Thus these differences in economic institutions may also explain why Guatemala is much poorer than Britain (see Acemoglu, Johnson and Robinson, 2001). In this account, income per-capita and democracy are positively correlated, but there is no causal relationship between the two. In fact, both are caused by something else, economic institutions (see Acemoglu, Johnson, Robinson and Yared, 2004).

12. Conclusions

In this chapter we developed a model where the level and distribution of income are endogenous and showed how the structure of the economy may help to determine the creation and consolidation of democracy. We emphasized that how important physical and human capital are compared to land in the production process, what we called the capital intensity of the economy, can influence both the costs of repression and coups, and the burden of democracy for elites. This occurs firstly because repression and the use of force is more costly for capitalists and industrialists than it is for landowners, and secondly because democracies will rationally tax land and the income from land at higher rates than capital and the income from capital. The ideas we have presented are tentative and have not been empirically tested, nevertheless they are consistent with a lot of case study and historical material and with mainstream approaches to the theory of economic development. They are also consistent with the observed correlation between per-capita income and measures of democracy.

Though we did not explicitly analyze the issue in this chapter, it is important to note that these results do not depend on the nature of political identities. Even if political conflict

were along the lines of ethnic groups X and Z, rather than socioeconomic classes, greater capital intensity would have similar consequences for democracy. To see how capital intensity influences democracy assume that the elite of each group own capital and land while the rest just have their labor. Even if conflict is between ethnic groups, greater capital intensity will still reduce the desire of the larger group X to redistribute away from the smaller group Z since this will now be more expensive. This result will be true as long as there are some capital/landowners in group Z. This reduces the incentives of group Z to mount coups once democracy has been created. Further, in nondemocracy, which here is rule by group Z, greater capital intensity makes repression more costly for Z which facilitates democratization for the reasons we have discussed.

It is interesting to contrast the results of this chapter with those of Chapter 8 where we contrasted the attitudes of the very rich and the middle class against democracy. We saw there that, consistent with the emphasis of Barrington Moore, the middle class are more pro-democractic because, given that their incomes are lower than those of the rich, they have less to lose from democratic taxation than the rich do. As a result, they were less willing to support repression to avoid democratization than the rich. The analysis in Chapter 8 showed that the same considerations made the middle class much more opposed to coups against democracy than the rich who had much more to gain from a switch to nondemocracy. The problem with those analyses was that there were no explicit economic bases corresponding to the labels "middle class" and "rich", making it difficult to link economic changes, to these potential changes in political attitudes. In this chapter, rather than focusing on these broad distinctions between the middle class and the rich, we emphasize the differences between industrialists and landowners. Just like the middle class, industrialists have less to lose from democracy and perhaps more to lose from disruption and violence than landowners do.

CHAPTER 10

Globalization and Democracy

1. Introduction

In this chapter, we discuss how globalization of the world economy might affect democracy. The framework we have developed so far shows how the emergence and survival of democracy depends on the distribution of income, and via this channel, on factor prices. Globalization, in the form of increased international trade and/or increased financial integration, will affect factor prices and income levels, and by this channel, it might have an important effect on democracy.

Many scholars have conjectured the existence of different connections between globalization and democracy and a recent empirical literature in political science has begun to investigate some of the links. This literature finds significant correlations between democratizations and changes in the international economy. For example, Quinn (2000) shows that since the 1960's measures of democracy averaged across countries are highly correlated with measures of capital account and current account liberalization. Yet this literature (see also Kubota and Milner, 2004) has focused on the effects of democracy on international liberalization (seen as a subset of more general liberalization).

To discuss the potential effects of globalization on democracy, we will distinguish three dimensions of "globalization":

(1) Increased international trade (market integration).
(2) Increased financial integration.
(3) Increased political integration.

As a first pass, in this chapter we shall treat all of these different facets of globalization as exogenous to a specific country and not amenable to control by politicians. Though whether or not a country is influenced by globalization is often, at least to some extent, under the control of domestic politicians, an important component of the recent wave of globalization is the decline in the costs of international trade and greater integration of the world economy, which politicians can do little to halt. Therefore, an analysis of the implications of exogenous globalization on political equilibrium is a useful starting point.

More international trade will typically tend to close the gaps in goods and factor prices across countries (see Dixit and Norman, 1980, Feenstra, 2003). More specifically, in the absence of international trade, locally abundant factors have lower prices. For example, if a country is abundant in labor and scarce in capital, it will have lower wages and higher returns to capital than is true on average in the world. International trade will therefore increase wages and reduce

interest rates in such a country. Both consolidation of democracy against the threat of coups and transitions to democracy are problems for relatively poorer countries that have not attained a stage where democracy is fully consolidated. Recall, for example, from Chapter 3 that richer countries are typically democracies, and it is the poorer countries that are nondemocratic or have a high risk of suffering a coup against democracy. Poor countries are also typically abundant in labor and scarce in capital. International trade should therefore reduce the income gap between the poor who earn their living from labor and the rich who are the capital-holders.

In the context of our models of politics, the reduction in the gap between the incomes of the poor and the incomes of the rich implies reduced political conflict. For example, with a smaller gap between the rich and the poor, the poor have less reason to vote for highly redistributive policies, and democracy will be less of a threat to the rich. Therefore, international trade reduces the intensity of the conflict between the rich and the poor, or as it is sometimes put in the popular press, globalization might weaken "class conflict". With less intense conflict between the rich and the poor and lower taxes in democracy, the rich will be less willing to incur the costs of a coup to revert back to nondemocracy, and democracy is more likely to consolidate. Therefore, globalization might contribute to democratic consolidation in developing nations. The same argument also implies that because democracy is less costly for the rich, nondemocratic societies which sustain themselves through repression might also be more likely to democratize, and in this case globalization should also contribute to democratization around the world. However, we should be careful in these conclusions, since as pointed out in Chapter 6, the relationship between inequality and democratization is in fact nonmonotonic. Consequently, the effects of changes in inequality on democratization depend on where we are on this relationship. If we start from a situation of relative equality, greater equality, by removing the threat of revolution, can actually impede the creation of democracy. Nevertheless, when thinking of the consolidation of democracy, it is natural to presume that greater inequality will destabilize the democratic institutions in a relatively poor society, so we should expect a reduction in inequality induced by international trade to make democracy more durable once created, even if its effect on the creation of democracy might be ambiguous. Overall, the exact effect of international trade on democracy is an empirical question, and we view the models in this chapter as most useful in framing future empirical investigations.

The reader may also note that globalization has the opposite effect on factor prices in the rich countries. While wages increase and the returns to capital fall in the labor-abundant developing in nations, wages should fall and returns to capital should increase in the capital-rich nations, such as the OECD economies. Should we expect a greater likelihood of coups against democracy in the OECD? We believe that the answer is no; since the OECD societies are already fully-consolidated democracies, a marginal increase in democratic redistribution will not push them into the position of unconsolidated democracies.

The above discussion is predicated on the presumption that increased international trade will reduce inequality in developing countries, especially narrowing the gap between capital-holders and labor. This is a prediction of most trade models (in particular, of the celebrated

Heckscher-Ohlin model), when the nondemocratic countries are scarce in physical capital and abundant in labor relative to the rest of the world. But in practice, some of the nondemocratic countries joining the world economy may be abundant in land (for example, as was the case for Argentina and Chile in the early 20th century). In this case, international trade may increase the return to land and through the mechanisms emphasized in Chapter 9, make democratization and democratic consolidation less likely.

Another important caveat is that international trade not only affects the relative price of capital and labor, but also the relative price of human capital (returns to skill). Less developed nations are typically scarce in skilled labor, and we should expect increased trade integration to reduce the skill premium in these countries. However, the recent experience in many of these countries has been an increase in the returns to skill, and a greater gap between the more educated and the less educated workers. The literature in economics explains this fact by the associated diffusion of skill-biased technologies to less developed nations, increasing the marginal product of skilled workers. We shall therefore also briefly discuss a model in which trade integration increases the returns to skills, and show that even thought this might increase overall inequality, it might again help democratic consolidation. The reason is that we can think of the skilled workers is corresponding to the "middle class" and as discussed in Chapter 8, with a richer middle class, democracy is less redistributive and may be more likely to consolidate.

Another aspect of globalization is increased financial integration. We will also show in this chapter that increased financial integration in the world economy may also affect the creation and survival of democracy. For this purpose, it is important to distinguish between the effects of capital inflows to less developed and capital-scarce nations, which will follow increased financial integration and the possibility of capital flight from these nations. Capital inflows, just like increased international trade, will reduce returns to capital in the capital-scarce countries and increase wages. Therefore, the effects of financial integration through this channel will be similar to those of increased international trade: they will reduce the income gap between the rich and the poor and by this channel may help the consolidation and creation of democracy.

The possibility of capital flight may also help democracy, but this time through a very different mechanism. In a closed economy, without the possibility that capital may be invested abroad, the elasticity of capital supply is relatively low: capital-holders can consume their capital rather than invest it, or perhaps invest it in non-taxable activities (in the 'informal sector'), which may have much lower productivity. Therefore, democracy does not have to fear a sharp reduction in investment because of high taxes. In contrast, with increased financial integration, high taxes may encourage capital-holders to take their money out of the country, and invest it in other markets where taxes are lower and where the risk of expropriation is absent. In other words, financial integration increases the elasticity of capital supply. Realizing this, democracy will impose lower taxes on capital, and will generally be forced to be less redistributive. Therefore, financial integration will also reduce redistribution in democracy because of the potential flight of capital. Anticipating this, the rich have less to fear from democracy, are more willing to accept it rather than use repression, and are less willing to undertake a coup against democracy when

a window of opportunity arises. As a result, financial integration may also help the creation and consolidation of democracy.

Lastly, globalization also comes with increased political integration, which might affect costs of coups via variety of channels. Most important, with increased political integration, countries may face greater sanctions from other democratic nations if they suffer a coup against democracy. Via this channel, globalization might help democratic consolidation. In addition, greater political integration might also help the development of civil society in less developed nations, and increase the cost of coups and contribute to democratic consolidation.

Overall, our analysis in this chapter reveals that there may be important links between globalization and the emergence and consolidation of democracy. An interesting possibility is that these links may help to explain waves of democratizations or coups. By a wave we mean a concurrent move towards democracy or away from democracy in a number of nations. Waves towards democracy may have occurred historically, for example in the period before the First World War, after the Second World War and since the 1970's (e.g., Huntington, 1991, Markoff, 1996). Interestingly, there is a close correlation between all these waves of democratization and upsurges in globalization, and indeed it is natural to think of globalization as being a phenomenon simultaneously impacting many nations and thus as a potential explanatory variable.

Though as we noted above, many scholars have discussed the relationship between globalization and democracy, our analysis here makes several important contributions. Firstly, to our knowledge nobody has previously suggested that increased international trade can influence the creation or consolidation of democracy through the channels we discuss (namely the impact on factor prices and hence the distribution of income).

Second, Bates and Lien (1985), Bates (1991), Rogowski (1991), Newman and Robinson (2002) and Boix (2003) note that the possibility of exit from a nation might promote democracy, but do not offer an analysis of the full political equilibrium when international trade affects the structure of inequality and the options of various parties in the political game.

Third, by placing the idea of exit into a standard economic model of factor mobility we discover other important effects, for example the distributional impacts of capital inflow. Though there is a huge literature in economics on the impacts of globalization, both increased trade and increased financial integration (see Prasad et al, 2003), it has only just begun to link these forces to institutional change. Scholars such as Rodrik (1997) and Garrett (1998) have emphasized the idea that increasing globalization limits the policy scope for national governments, but they do not suggest that this may influence the equilibrium structure of institutions. We show that globalization may have important effects for democracy.

Fourth, most of the literature in political science has focused on ideas about geo-politics and the ideological diffusion of democracy (e.g., Kopstein and Reilly, 2000, Maxfield, 2000).

The results we present in this chapter are suggestive but have yet to be tested empirically. Moreover, whether or not the mechanisms we discuss promote democracy depends on what part of the parameter space we are in. We noted this above with respect to the effects of increased trade integration on inequality, and the same applies to the effect of financial integration. We

see it as a theoretical possibility, though most probably not the empirically relevant case, that increased trade integration, by reducing inequality, may consolidate nondemocratic regimes.

Finally, it is worth noting that globalization may reduce the scope for democracy to set majoritarian policies by so much that the creation of democracy fails to promote stability. If democracy delivers nothing to the citizens, then revolution becomes attractive for them and repression attractive for the elite. In such a circumstance globalization will not promote democracy.

2. A Model of an Open Economy

To study the links between globalization and democracy, we are going to use a version of the model from Chapter 9 with capital, land and labor. We will focus on a single country, which will first be taken to be closed to international trade, and then we will look at the case where the country integrates into the world economy and starts trading goods with other countries.

As in Chapter 9, we shall assume that there is an aggregate production function, but instead of this directly taking capital, land and labor as inputs, we shall assume that three different intermediate goods are used as inputs. As before let Y be the output of the final good which is consumed and let Y_K, Y_L and Y_N be the amounts of the three intermediate goods used in the production of Y. The aggregate production function is again assumed to be Cobb-Douglas:

$$(10.1) \qquad\qquad Y = (Y_K + \sigma Y_L)^\theta Y_N^{1-\theta}$$

and we assume, as before, that $0 < \theta < 1$, and $\sigma > 0$.

In a closed economy with no trade, intermediate goods are themselves produced by domestic factors of production and the subscripts on the intermediate goods is to indictate that one of these is capital intensive, Y_K, another one is land intensive, Y_L, and the final one is a labor intensive, Y_N. In an open economy, intermediate goods are traded internationally. On the production side, we take the simplest possible world where all three goods are produced only using their respective factors, so, domestic production of each intermediate good is given by:

$$(10.2) \qquad\qquad \begin{aligned} Y_K &= K \\ Y_L &= L \\ Y_N &= 1 - \delta \end{aligned}$$

exploiting the fact that there are $1 - \delta$ workers. The remaining δ agents, who constitute the elite, do not own any labor, and each of them holds a fraction δ of the total capital stock, K, and a fraction δ of the total stock of land, L.

When there is no international trade, this world is identical to the one in Chapter 9. More formally, without international trade, the country in question has to use its domestic production of capital-intensive, land-intensive and labor-intensive intermediate goods to produce output. Substituting (10.2) into (10.1), we would have that

$$Y = (K + \sigma L)^\theta (1 - \delta)^{1-\theta},$$

which is identical to the aggregate production function specified in Chapter 9.

We assume that all markets, both for intermediate inputs and factors of production are perfectly competitive. We set the price of final output to be one and use this good as the numeraire. The prices for the three intermediate goods are denoted by p_K, p_L and p_N. To determine these prices we can examine the cost minimization problem of a firm choosing input demands to minimize the cost of production. Formally, a firm solves the problem

$$\min_{Y_K, Y_L, Y_N} \ p_K Y_K + p_L Y_L + p_N Y_N$$
$$\text{subject to:} \qquad Y = (Y_K + \sigma Y_L)^\theta \, Y_N^{1-\theta}$$

Here $p_K Y_K + p_L Y_L + p_N Y_N$ is the total cost of using the three intermediate goods. This is a simple constrained optimization problem. To solve it we form the Lagrangean function

$$\mathcal{L} = p_K Y_K + p_L Y_L + p_N Y_N - \left[(Y_K + \sigma Y_L)^\theta \, Y_N^{1-\theta} - Y \right]$$

and derive the first-order conditions with respect to the three choice variables Y_K, Y_L, and Y_N. These are,

$$(10.3) \qquad\qquad\qquad \theta \left(Y_K + \sigma Y_L \right)^{\theta-1} Y_N^{1-\theta} \ = \ p_K,$$
$$\theta \sigma \left(Y_K + \sigma Y_L \right)^{\theta-1} Y_N^{1-\theta} \ = \ p_L,$$
$$(1 - \theta) \left(Y_K + \sigma Y_L \right)^\theta Y_N^{-\theta} \ = \ p_N.$$

Now, from these we can derive

$$(10.4) \qquad\qquad\qquad \frac{p_K}{p_N} = \frac{\theta}{1-\theta} \frac{Y_N}{Y_K + \sigma Y_L} \quad \text{and} \quad \frac{p_K}{p_L} = \frac{1}{\sigma}.$$

where the first follows from dividing the first and third equations in (10.3), and the second follows from dividing the first two equations in (10.3). These equations imply that:

$$(10.5) \qquad p_K = \frac{p_L}{\sigma} = \theta \left(\frac{Y_N}{Y_K + \sigma Y_L} \right)^{1-\theta} \quad \text{and} \quad p_N = (1 - \theta) \left(\frac{Y_N}{Y_K + \sigma Y_L} \right)^{-\theta}.$$

Since one unit of each factor is used to produce their respective goods, and factor markets are competitive, each factor will be paid the value of its marginal product, i.e.,

$$w = p_N, \ r = p_K \text{ and } v = p_L$$

where w denotes the wage rate, r the return to capital, and v in the rental rate of land. In the closed economy, we can use (10.2) together with (10.5) to obtain

$$(10.6) \qquad\qquad\qquad p_K \ = \ \theta \left(\frac{K + \sigma L}{1 - \delta} \right)^{\theta-1}$$
$$p_L \ = \ \sigma \theta \left(\frac{K + \sigma L}{1 - \delta} \right)^{\theta-1}$$
$$p_N \ = \ (1 - \theta) \left(\frac{K + \sigma L}{1 - \delta} \right)^\theta$$

and therefore the relevant closed-economy factor prices are identical to those in Chapter 9 and given (9.2). This is, of course, not surprising given our earlier observation that the two models

are identical for the case of the closed economy. Consequently, factor shares are also the same as before and given by (9.3). Exactly as before, we have that average incomes and the incomes of the poor citizens and of the elite and average income are given by (9.4), (9.5) and (9.6). We again make an assumption ensuring that the elite are richer than average, i.e., $\theta > \delta$. Thus the elite are homogeneous and each owns capital and land in equal amounts. The citizens simply own their own labor. We shall focus in this chapter on situations where political conflict is along the lines of socio-economic class. Nevertheless, as will be clear from our previous analysis in the book, many of the results apply when political conflict is along other lines and we return briefly to this issue in the conclusion of the chapter.

We again assume there is a single tax rate on income, irrespective of its source. This tax rate again creates the standard distortions captured by the function $C(\tau)\bar{y}$. Then, the most preferred tax rate by a citizen, τ^p, is given by an equation identical to before.

2.1. Factor Prices and Incomes in an Open Economy. Now assume that this country joins the world trading system, and can trade with all the other countries in the world without any frictions. We will think of this increased trade integration as one aspect of "globalization". Since there is only a single produced good there is no incentive for countries to trade this. However, there may be incentives for countries to trade the intermediate goods which are inputs into the production of this final good since these are produced using factors of production with which countries may be differentially endowed. For now, we assume that factors of production cannot be traded (there is no capital mobility and no migration). Instead of simply using domestic stocks of capital, land and labor to produce intermediate goods, a country can trade with the rest of the world, selling its supplies of capital intensive, land intensive and labor intensive intermediate goods at world prices, and attain a different level of production of the final good. Denote world prices of capital intensive, land intensive and labor intensive goods, respectively, by $\underline{p}_N$, $\underline{p}_K$ and $\underline{p}_L$, (underlined variables will always refer to the open economy) then the budget constraint of this country is:

$$\underline{p}_K Y_K + \underline{p}_L Y_L + \underline{p}_N Y_N = \underline{p}_K K + \underline{p}_L L + \underline{p}_N (1 - \delta).$$

The left-hand side of this equation is the total expenditure of this country on intermediate goods at world prices, and the right hand side is the total revenue that this country will raise by selling its production of intermediate goods at world prices (taking into account the production functions (10.2)).

How are these world prices determined? For our focus here, this is not essential. We will simply assume that these prices are determined in some world market equilibrium, and we will take it such that

(10.7) $$\underline{p}_K = \frac{\underline{p}_L}{\sigma} = \theta \Psi^{\theta-1} \text{ and } \underline{p}_N = (1-\theta)\Psi^\theta.$$

where we can think of Ψ as the ratio of the sum of capital and land relative to labor in the world economy. Note that in (10.6) what mattered for the determination of domestic prices was the ratio of $K + \sigma L$ to $1 - \delta$. This is what we mean by "the ratio of the sum of capital and

land relative to labor." In the world economy we can think of the same ratio mattering, but where the relevant totals are the world stocks of factors, not just the stocks in one country. For example, if all countries in the world trade and there are no tariffs or trading frictions, we would have that

$$\frac{\underline{p}_K}{\underline{p}_N} = \frac{\theta}{1-\theta} \frac{\sum_j N_j}{\sum_j K_j + \sigma \sum_j L_j}$$

where N_j is total labor supply in country j, K_j is the capital stock in country j and L_j is the stock of land. In this case, we will have that Ψ is equal to the sum of the capital and land to labor ratios across the world, i.e.,

$$\Psi = \frac{\sum_j K_j + \sigma \sum_j L_j}{\sum_j N_j}.$$

If, on the other hand, there are tariffs or trading frictions, Ψ will differ from this ratio. Whether this is the case or not is not central for the analysis of this chapter.

Our focus here is with the emergence and consolidation of democracy in nondemocratic societies, and nondemocratic societies are typically poorer, and therefore, they are more abundant in labor than capital. Therefore it is natural to think that the country in question is relatively scarce in capital. Stating this as an assumption:

(10.8) $$\Psi > \frac{K + \sigma L}{1 - \delta}.$$

The most important implication of this assumption can be seen by comparing (10.7) with (10.6), which imply that after trade opening, the price of the labor-intensive intermediate good will increase in the country in question (which is throughout presumed to be a relatively labor-abundant country). Intuitively, this country is relatively abundant in labor compared to the world economy, and this depresses the price of the labor intensive intermediate good when there is no international trade. International trade pulls the price of the labor intensive good to the world level.

Once these prices are given, factor rewards in this economy will be again given by the relevant value of marginal products, now evaluated at these world prices, therefore

(10.9) $$\underline{w} = \underline{p}_N, \ \underline{r} = \underline{p}_K \text{ and } \underline{v} = \underline{p}_L$$

This implies that international trade will also increase wages relative to capital and land returns. These changes in relative factor prices will be the main channel via which international trade will have an impact on whether or not democracy emerges or consolidates.

It is also useful to note here that we are implicitly imposing *factor price equalization*. That is, with Ψ interpreted as the world capital-land to labor ratio and $\underline{p}_N$, $\underline{p}_K$ and $\underline{p}_L$ being the world prices, factor prices given by (9.2) would be the same as factor prices in other countries. Nevertheless, whether factor price equalization holds or not is also not important for the analysis here. What matters is simply that after trade opening the price of the abundant factor increases relative to other factor prices, and that for the country in question, a relatively poor country, the abundant factor is labor. This will be a feature of many trade models even when factor price

equalization does not hold, as well as the standard Heckscher-Ohlin model with factor price equalization. The important implications of this change in factor prices will be that inequality will decline after trade. Existing evidence is broadly consistent with the notion that wages are higher in capital abundant countries (e.g., Treffler, 1995, Leamer, 1998, Romalis, 2004), but there is also evidence that the recent increase in international trade has raised the incomes of higher skilled workers more, and we will discuss the implications of this below.

Now combining (10.7) and (10.9), we have that post-trade factor prices are given by:

(10.10)
$$
\begin{aligned}
\underline{w} &= (1-\theta)\Psi^\theta \\
\underline{r} &= \theta\Psi^{\theta-1} \\
\underline{v} &= \sigma\theta\Psi^{\theta-1}
\end{aligned}
$$

(10.8) implies that wages will be higher and the returns to land and capital will be lower than under autarky.

Using these factor prices, post-trade incomes are found to be:

$$\underline{y}^p = (1-\theta)\Psi^\theta$$

and

$$\underline{y}^r = \frac{\theta}{\delta}\Psi^{\theta-1}(K+\sigma L),$$

and average income in this case is:

(10.11)
$$\bar{y} = \Psi^{\theta-1}\left((1-\theta)(1-\delta)\Psi + \theta(K+\sigma L)\right).$$

Using these expressions, we obtain the most preferred (unconstrained) tax rate of the citizens as $\underline{\tau}^p$, which again satisfies the usual first-order condition:

(10.12)
$$
\begin{aligned}
\frac{\underline{y}^p}{\bar{y}} &= 1 - C'(\underline{\tau}^p), \text{ or} \\
\frac{1-\theta}{(1-\theta)(1-\delta) + \theta\frac{K+\sigma L}{\Psi}} &= 1 - C'(\underline{\tau}^p).
\end{aligned}
$$

By (10.8) $\frac{K+\sigma L}{\Psi} < 1-\delta$, so

$$\frac{1-\theta}{(1-\theta)(1-\delta) + \theta\frac{K+\sigma L}{\Psi}} > \frac{1-\theta}{1-\delta}$$

and

$$\underline{\tau}^p < \tau^p,$$

where $\underline{\tau}^p$ is the preferred tax rate of the citizens after trade, given by (10.12), and τ^p is their most preferred tax rate before trade. Thus, the citizens, whose income comes from supplying labor, prefer to set lower taxes after trade. This implies that after globalization democracy becomes less redistributive because globalization has reduced income inequality.

3. Political Conflict—Democratic Consolidation

We can now incorporate the above economic model into our political models. We begin with an analysis of democratic consolidation. The analysis mirrors those before, especially the ones in Chapter 9 section 5 and the game tree Figure 7.1 again captures the strategic situation. We assume that a fraction φ of both capital and land are lost during a coup, so there are not differential costs depending on asset composition. We can define two different coup constraints, one before trade and one after trade, and two threshold levels for φ, which we denote φ^* and $\tilde{\varphi}$, for before trade and after trade.

This discussion implies that the values from democracy before trade are given by (9.7). Similarly, before trade, the values to citizens and to members of the elite following a coup are given by (9.24).

The coup constraint before trade, $V^r(C, \varphi) > V^r(D)$, is identical to the one we derived before, (9.16) with $\xi = 1$:

$$(10.13) \qquad\qquad \theta + \tau^p (\delta - \theta) - \delta C(\tau^p) < \theta(1 - \varphi)^\theta$$

After trade, the values from democracy change because of the changes in factor prices, and are given by

$$(10.14) \qquad \underline{V}^p(D) \;=\; [(1-\theta)\Psi + \underline{\tau}^p (\theta (K + \sigma L) - (1-\theta)\delta\Psi)$$
$$-C(\underline{\tau}^p) (\theta (K + \sigma L) + (1-\theta)(1-\delta)\Psi)] \Psi^{\theta-1},$$

$$\underline{V}^r(D) \;=\; \left[\frac{\theta}{\delta} (K + \sigma L) + \underline{\tau}^p \left((1-\theta)(1-\delta)\Psi - \frac{1-\delta}{\delta}\theta (K + \sigma L)\right)\right.$$
$$\left. -C(\underline{\tau}^p) (\theta (K + \sigma L) + (1-\theta)(1-\delta)\Psi)] \Psi^{\theta-1}\right.,$$

and similarly, coup values are

$$(10.15) \qquad\qquad \underline{V}^p(C, \varphi) \;=\; (1-\theta)\Psi^\theta,$$
$$\underline{V}^r(C, \varphi) \;=\; \frac{\theta}{\delta}(1 - \varphi) (K + \sigma L) \Psi^{\theta-1}.$$

The coup constraint after trade is therefore $\underline{V}^r(C, \varphi) > \underline{V}^r(D)$, which can be written as

$$(10.16) \quad \theta + \delta\underline{\tau}^p \left(\frac{(1-\theta)(1-\delta)\Psi}{(K + \sigma L)} - \frac{(1-\delta)}{\delta}\theta\right) - \delta C(\underline{\tau}^p) \left(\theta + \frac{(1-\theta)(1-\delta)\Psi}{(K + \sigma L)}\right) < \theta(1 - \varphi).$$

It is straightforward to check that the coup constraint after trade, (10.16) binds less often than the coup constraint before trade, (10.13). This occurs for two reasons. First, as shown in the previous subsection, after trade, taxes are lower, therefore democracy is less costly to the elite. Second, with trade a coup is more costly to the elite because they are price takers, and therefore the destruction of the fraction φ of their assets is not shared with workers. Put differently, in a closed economy, once the assets of the elite are destroyed, wages fall, and the returns to capital and land increase. This implies that the incomes of the elite fall less than proportionately. In contrast, the returns to capital and land are given by international prices in the open economy, so the incomes of the elite fall proportionally as a result of the coup. This

can be seen mathematically by comparing the right-hand side of (10.16), which is $\theta(1 - \varphi)$, to the right-hand side of (10.13), $\theta(1 - \varphi)^\theta > \theta(1 - \varphi)$. As a result, a coup is now more costly to the elite.

Similarly, we can examine the circumstances when promises of policy concessions by the citizens are just sufficient to avoid a coup, given that such policies are only implemented with probability p (our basic static coup game of Cahpter 7). To do this we calculate the threshold values for the cost of a coup before trade, φ^*, and after trade, $\underline{\varphi}^*$ using the best thing that the citizens can promise the elite. For this, notice that the values of the promise of no redistribution, i.e. $\tau^D = 0$, in a democracy, taking into account that this will be upheld only with probability p, are

$$V^p(D, \tau^D = 0) = \frac{1}{1 - \delta} \left(1 - \theta + (1 - p)\left(\tau^p(\theta - \delta) - (1 - \delta) C(\tau^p)\right)\right) (K + \sigma L)^\theta (1 - \delta)^{1-\theta},$$

(10.17)

$$V^r(D, \tau^D = 0) = \frac{1}{\delta} \left(\theta + (1 - p)\left(\tau^p(\delta - \theta) - \delta C(\tau^p)\right)\right) (K + \sigma L)^\theta (1 - \delta)^{1-\theta},$$

which follow from (9.15). The corresponding values after trade are:

$$\begin{aligned}
\underline{V}^p(D, \tau^D = 0) &= [(1 - \theta)\Psi + (1 - p)\underline{\tau}^p\left(\theta(K + \sigma L) - (1 - \theta)\delta\Psi\right) \\
&\quad - (1 - p)C(\underline{\tau}^p)\left(\theta(K + \sigma L) + (1 - \theta)(1 - \delta)\Psi\right)] \Psi^{\theta-1}
\end{aligned}$$

$$\begin{aligned}
\underline{V}^r(D, \tau^D = 0) &= \left[\frac{\theta}{\delta}(K + \sigma L) + (1 - p)\underline{\tau}^p\left((1 - \theta)(1 - \delta)\Psi - \frac{1 - \delta}{\delta}\theta(K + \sigma L)\right)\right. \\
&\quad \left. - (1 - p)C(\underline{\tau}^p)\left(\theta(K + \sigma L) + (1 - \theta)(1 - \delta)\Psi\right)\right] \Psi^{\theta-1}.
\end{aligned}$$

The closed economy threshold value φ^* is defined by setting $V^r(D, \tau^D = 0) = V^r(C, \varphi)$, and hence is given by:

(10.18)
$$\varphi^* = 1 - \left(1 + \frac{(1 - p)}{\theta}\left(\tau^p(\delta - \theta) - \delta C(\tau^p)\right)\right)^{\frac{1}{\theta}}$$

which is naturally identical to (9.17) with $\xi = 1$. The relevant threshold level after trade, $\underline{\varphi}^*$, is in turn given by $\underline{V}^r(D, \tau^D = 0) = \underline{V}^r(C, \underline{\varphi}^*)$, hence:

(10.19)
$$\underline{\varphi}^* = (1 - p)\left(\delta C(\underline{\tau}^p)\left(1 + \frac{(1 - \theta)(1 - \delta)\Psi}{\theta(K + \sigma L)}\right) - \delta\underline{\tau}^p\left(\frac{(1 - \theta)(1 - \delta)\Psi}{\theta(K + \sigma L)} - \frac{(1 - \delta)}{\delta}\right)\right)$$

The same argument we used to show that (10.16) binds less often implies that

$$\underline{\varphi}^* < \varphi^*.$$

This says that, once the economy is open to international trade, coups have to be less costly to be attractive. This comparison therefore establishes the following proposition:

Proposition 10.1: Consider the economic model and the political game described above, and define φ^* by (10.18) and $\underline{\varphi}^*$ by (10.19). Then
- If $\varphi < \underline{\varphi}^*$, there will be coups both before and after trade opening.
- If $\varphi \geq \varphi^*$, there will be no coups either before or after trade opening.

- If $\underline{\varphi}^* \leq \varphi < \varphi^*$, then democracy is unconsolidated before trade opening, but semi-consolidated after trade opening.

This proposition therefore shows how globalization might help to consolidate democracy. As the discussion suggests this can be for two reasons: first, under the hypothesis that condition (10.8) holds (so that the country in question is labor abundant relative to the world), trade opening increases the returns to labor, and therefore to the poorer segments of society, relative to the returns to capital and land. Via this channel, increased international trade reduces equilibrium taxes. With lower taxation, democracy is more likely to survive. We can think of this channel as loosely corresponding to a reduction in class conflict between the elite and citizens. Such conflict is less in a more globalized economy, at least under the assumptions of this standard model.

The second reason relates to changes in the costs of a coup as a result of trade opening. In a closed economy, the costs of a coup are shared between the elite and the citizens because of general equilibrium price effects. More explicitly, the destruction of part of the stocks of capital and land reduces wages and increases the returns to capital and land because capital and land now become "scarcer". This general equilibrium price effect partly offsets the reduction in the income accruing to capital and land. In an open economy, factor prices are given, and capital and land owners bear the full burden of the destruction of their asset stocks. This also tends to make coups less attractive.

4. Political Conflict—Transition to Democracy

That increased international trade makes democracy less redistributive also has implications for the transition to democracy. Recall that a barrier to the transition to democracy is the fear of the elite that democracy will be very highly anti-elite. This fear may make them choose repression rather than democratization. If international trade makes democracy less redistributive, this should alleviate the concerns of the elite and they may now prefer to concede democracy rather than use repression to quell a potential revolutionary threat.

To analyze the issues, let us return to the model of democratization in the presence of a revolutionary threat, in particular, the version we used in Chapter 9 where we had already introduced capital, land and labor as three productive factors. The underlying economic model is the same as the one described above, and we will look at it before and after trade opening. The extensive form game depicted in Figure 6.2 again captures the strategic set-up.

We start with nondemocracy, and assume that the citizens have a potential revolutionary threat. After the revolution and before trade opening, the payoff to the citizens from a revolution is:

$$(10.20) \qquad V^p(R, \mu) = \frac{(1-\mu)\bar{y}}{1-\delta}.$$

with $\bar{y}$ given by (9.4). After trade, we have instead:

$$\underline{V}^p(R, \mu) = \frac{(1-\mu)\underline{\bar{y}}}{1-\delta}$$

with $\bar{y}$ given by (10.11). Both before and after trade the elite get 0 after a revolution.

If the elite choose to repress in order to avoid either a revolution or democratization, we assume that they will lose a fraction κ of their capital and land. This assumption about the costs of repression mirrors our assumptions about the costs of coups. The rest of the setup is the same as before. In particular, the values to the citizens and to the elite if there is a democratization are given by (9.7) before trade and by (10.14) after trade.

If the elite choose repression before trade, the payoffs are

$$(10.21) \qquad V^p(O\,|\kappa) = (1-\theta)(1-\kappa)^\theta \left(\frac{K+\sigma L}{1-\delta}\right)^\theta = \left(\frac{1-\theta}{1-\delta}\right)(1-\kappa)^\theta Y,$$

$$V^r(O\,|\kappa) = \frac{\theta}{\delta}(1-\kappa)^\theta (K+\sigma L)^\theta (1-\delta)^{1-\theta} = \frac{\theta}{\delta}(1-\kappa)^\theta Y,$$

which correspond to (9.8) above with $\varrho = 1$.

After trade, the values from repression change in a way similar to the values from a coup. In particular, we have:

$$(10.22) \qquad \underline{V}^p(O\,|\kappa) = (1-\theta)\Psi^\theta,$$

$$\underline{V}^r(O\,|\kappa) = \frac{\theta}{\delta}(1-\kappa)(K+\sigma L)\,\Psi^{\theta-1},$$

Finally, the elite could offer redistribution under the existing regime, without democratizing and without resorting to repression. The best they can do in this case is to offer redistribution at the favorite tax rate of the citizens, τ^p, and in this case the values are identical to those in (9.9). Similarly, after trade we have

$$\underline{V}^p(N,\tau^N = \underline{\tau}^p) = [(1-\theta)\Psi + p\underline{\tau}^p (\theta(K+\sigma L) - (1-\theta)\delta\Psi)$$
$$-pC(\underline{\tau}^p)(\theta(K+\sigma L) + (1-\theta)(1-\delta)\Psi)]\,\Psi^{\theta-1}$$

$$\underline{V}^r(N,\tau^N = \underline{\tau}^p) = \left[\frac{\theta}{\delta}(K+\sigma L) + p\underline{\tau}^p\left((1-\theta)(1-\delta)\Psi - \frac{1-\delta}{\delta}\theta(K+\sigma L)\right)\right]$$
$$-pC(\underline{\tau}^p)(\theta(K+\sigma L) + (1-\theta)(1-\delta)\Psi)]\,\Psi^{\theta-1}$$

which take into account that after trade the most preferred tax rate of the citizens is $\underline{\tau}^p$ has given by (10.12).

To simplify the discussion in this section, we assume that the revolution constraint always binds, that is, $\theta > \mu$ without trade and

$$\frac{\theta(K+\sigma L - (1-\delta)\Psi)}{(1-\theta)(1-\delta)\Psi + \theta(K+\sigma L)} > \mu$$

with trade. Moreover, democracy is always (before and after trade) sufficiently redistributive that it prevents revolution.

More importantly, we assume that:

$$(10.23) \qquad V^p(R,\mu) > V^p(N,\tau^N = \tau^p)$$
$$\underline{V}^p(R,\mu) > \underline{V}^p(N,\tau^N = \underline{\tau}^p)$$

These conditions imply that promise of temporary redistribution is not going to be sufficient to prevent revolution. This ensures that we are in the part of the parameter space where the trade-off is between democratization and repression, and greater inequality makes democracy less acceptable to the elite (without this assumption, we may be on the other side of the non-monotonic relationship between inequality and democratization).

With these assumptions, the analysis of the political equilibrium is straightforward. Before trade, the relevant condition for the elite to prefer democracy is

$$V^r(D) \geq V^r(O \,|\kappa).$$

This condition defines a closed economy cutoff level κ^* such that for all $\kappa \geq \kappa^*$, the elite prefer democratization to repression. More explicitly, κ^* is given by $V^r(D) = V^r(O \,|\kappa^*)$, or by

$$(10.24) \qquad \kappa^* = 1 - \left(\frac{1}{\theta} \left(\theta + \tau^p \left(\delta - \theta \right) - \delta C(\tau^p) \right) \right)^{\frac{1}{\theta}}.$$

Similarly, after trade, we need to check that for the open economy

$$\underline{V}^r(D) \geq \underline{V}^r(O \,|\kappa)$$

so we will have a new threshold defined by $\underline{V}^r(D) = \underline{V}^r(O \,|\underline{\kappa}^*)$

$$(10.25) \qquad \underline{\kappa}^* = \delta C(\underline{\tau}^p) \left(\frac{(1-\theta)(1-\delta)\Psi}{\theta(K + \sigma L)} + 1 \right) - \delta \underline{\tau}^p \left(\frac{(1-\theta)(1-\delta)\Psi}{\theta(K + \sigma L)} - \frac{(1-\delta)}{\delta} \right).$$

which of course is almost identical to the formula (10.19).

For all $\kappa \geq \underline{\kappa}^*$, the elite prefer democratization rather than using repression in an open economy. The same argument as before immediately establishes that

$$\underline{\kappa}^* < \kappa^*$$

and for the same reasons. After trade opening, democracy is less costly because the poor now prefer lower taxes, $\underline{\tau}^p$ as given by (10.12) rather than τ^p. In addition, repression is more costly to the elite in an open economy because the costs that stem from the loss in their productive capital and land from a coup are borne only by them. This is again because factor prices are given by world prices, so capital and land do not become more valuable after the disruption destroys part of them.

This discussion establishes a parallel proposition to Proposition 10.1:

Proposition 10.2: Consider the economic model and the political game described above and define κ^* by (10.24) and $\underline{\kappa}^*$ by (10.25).

- If $\kappa < \underline{\kappa}^*$, then the elite will use repression to prevent revolution and democratization both before and after trade opening.
- If $\kappa \geq \kappa^*$, then there will be democratization both before and after trade opening.
- If $\underline{\kappa}^* \leq \kappa < \kappa^*$, then the elite will use repression to prevent revolution and democratization before trade opening, and there will be democratization after trade opening.

This proposition shows that for similar reasons to those that allowed globalization to aid democratic consolidation, globalization may also facilitate a transition to democracy. Globalization makes democracy less redistributive and it also increases the costs of using force to prevent transitions to democracy. Through both channels, democratization becomes more attractive relative to repression. Consequently, this model suggests that international trade will reduce political conflict by reducing inequality, and via this channel, make democracy more likely.

4.1. Implications of Land Abundance. The above analysis is predicated on the assumption that (10.8) holds, which, in practice, implies that the country in question is abundant in labor (and scarce in capital). While this seems a reasonable assumption for many nondemocratic countries joining the world economy, there are examples of countries, such as Argentina and Chile at the beginning of the last century, where the most abundant factor is land. In this case, the exact converse of (10.8) holds, and international trade increases the relative income of the elite.

The implications for the political equilibrium are obvious from the analysis above, and we simply state this as a corollary:

> **Corollary 10.1:** Consider the economic model described above and suppose the converse of (10.8) holds. Then trade opening makes democratization and democratic consolidation less likely.

This corollary is useful in stressing that the implications of international trade for the political equilibrium depend on its implications for factor prices. While we emphasized the equalizing role of international trade based on the presumption that labor is the abundant factor in many nondemocratic countries, in certain cases international trade can increase the price of land and the incomes of the elite, thus potentially making repression and coups more attractive for them. Whether or not this is so is an empirical question we leave for future research.

5. Financial Integration

Another dimension of globalization is increased financial integration. We now analyze how increased financial integration affects the consolidation of democracy and the likelihood of the use of repression to prevent transition to democracy.

We will distinguish between two cases, which we refer to as the "capital-in" case and the "capital-out" case. Capital-in is the usual case where increased financial integration is going to lead to capital flows towards the capital-scarce country. Capital-out, on the other hand, refers to the case where capital may fly from the less developed country, despite the fact that this country is more capital scarce, because of heavy taxation there. We will analyze these two cases separately, since they emphasize different mechanisms.

5.1. Capital-in and Democracy. Consider the same model as in the previous section, but assume that there is no trade in intermediate goods. Instead we shall investigate the implications of factor mobility, specifically capital mobility. Again, we think that the country in question is

less intensive in $K + \sigma L$ than the rest of the world, for which the ratio of capital and land to labor is again denoted by Ψ.

Now imagine that there is financial integration, and this country opens to capital flows from abroad. The only difference from the above economic model is that now domestic production of intermediate goods is given by:

$$(10.26) \qquad \begin{aligned} Y_K &= K + K' \\ Y_L &= L \\ Y_N &= 1 - \delta \end{aligned}$$

where K' is the amount of capital owned by foreigners invested in the production of capital-intensive goods in this country. We assume that foreign capital can be invested in this country without any costs.

The same arguments as above now imply that domestic prices are given by

$$(10.27) \qquad \underline{p}'_K = \frac{p'_L}{\sigma} = \theta \left(\frac{K + K' + \sigma L}{1 - \delta} \right)^{\theta - 1} \text{ and } \underline{p}'_N = (1 - \theta) \left(\frac{K + K' + \sigma L}{1 - \delta} \right)^{\theta}.$$

and factor prices are

$$\underline{w}' = \underline{p}'_N, \ \underline{r}' = \underline{p}'_K \text{ and } \underline{v}' = \underline{p}'_L$$

where $\underline{w}'$ denotes the wage rate, $\underline{r}'$ is the return to capital, and $\underline{v}'$ is the rental rate of land all after financial integration. Combining these equations, we obtain:

$$(10.28) \qquad \begin{aligned} \underline{w}' &= (1 - \theta) \left(\frac{K + K' + \sigma L}{1 - \delta} \right)^{\theta} \\ \underline{r}' &= \theta \left(\frac{K + K' + \sigma L}{1 - \delta} \right)^{\theta - 1} \\ \underline{v}' &= \sigma\theta \left(\frac{K + K' + \sigma L}{1 - \delta} \right)^{\theta - 1} \end{aligned}$$

Since we have assumed that the country in question is scarce in capital relative to the world, it is reasonable to expect that $K' > 0$, so that with capital account opening, capital flows into, rather than out of, the country in question. This will generally be the case as long as taxes in this country are not too high relative to taxes abroad (or if somehow foreign capital is exempted from taxation). To see this, ignore taxation for a moment, note that the world capital-land to labor ratio is equal to Ψ, and recall that the world return to capital is $\underline{r} = \theta\Psi^{\theta - 1}$. With $K' \leq 0$, (10.8) immediately implies $\underline{r}' > \underline{r}$, that is, a higher interest rate in this country than in the world, encouraging potential capital inflows.

In fact, if foreign capital is exempted from taxation, it is straightforward to see that there will be capital inflows until the return to capital in this country is equalized to the net return to capital in the world, i.e., $\underline{r}' = \underline{r}$, where $\underline{r}$ now refers to the net return in the world economy.

More generally, equilibrium capital inflows will imply that

$$(10.29) \qquad \underline{r} = (1 - \underline{\tau})\underline{r}',$$

where $\underline{\tau}$ is the equilibrium tax rate. We assume that the world (net of tax) interest rate, $\underline{r}$, is such that (10.29) will hold when $K' > 0$, i.e., it will induce capital inflows. Next, note that inflow of capital will have exactly the same implications as increased international trade analyzed in the previous section; wages will increase and the rate of return to the factors owned by the elite will decline. To see this, note simply that from (10.28), greater K' increases $\underline{w}'$ and reduces $\underline{r}'$. This parallel between the effects of increased international trade and financial integration is not surprising given the standard economic theory of international trade. International trade in goods is a way of trading factors, and in fact a perfect substitute for trading factors when there is factor price equalization. Allowing inflows of capital into this capital-scarce country therefore has implications very similar to reducing barriers to trade in goods.

In addition to the effect of financial integration working through reduced inequality, there is another effect, which will be highlighted more in the analysis of the next subsection; democracy may want to reduce taxes even further to attract more capital (or in the next subsection, the prevent capital flight). This is because, as (10.29) makes it clear, greater taxes imply a higher pretax rate of return to capital, and thus lower wages. This additional effect on taxes will also help democratic consolidation.

Overall, this discussion establishes a version of Proposition 10.1 for the case of financial integration:

> **Proposition 10.3:** Consider the economic model and the democratic consolidation game described above, and define φ^* by (10.18) and $\underline{\varphi}^*$ by (10.19).
> - If $\varphi < \underline{\varphi}^*$, there will be coups both before and after financial integration.
> - If $\varphi \geq \varphi^*$, there will be no coups either before or after financial integration.
> - If $\underline{\varphi}^* \leq \varphi < \varphi^*$, then democracy is unconsolidated before financial integration, but consolidated after financial integration.

Therefore, just like trade opening, financial integration makes democracy less redistributive. This implies that the elite have less to fear from democracy and are less willing to undertake a coup. In addition, with financial integration, factor prices will again move towards world prices (i.e., returns to labor will increase and those to capital decline), and coups again become more costly after financial integration (recall that before financial integration coups also increase the return to capital and land, but after financial integration they do not). Both of these effects make democratic consolidation more likely after financial integration. The additional effect highlighted above is that financial integration might also encourage the median voter in democracy to choose lower taxes in order to attract more capital and increase wages. This effect is discussed in greater detail in the next subsection.

Similarly, financial integration by making democracy less redistributive and the use of force against democracy more costly may help the transition to democracy. Therefore, as long as the choice for the elite is between democratization and repression, we can also state a proposition similar to Proposition 10.2 which we refrain from doing since the analogy is immediate.

5.2. Capital-out. The previous subsection showed how financial integration can help democratic consolidation and the transition to democracy through a channel similar to the effect of increased international trade: by affecting the income gap between the elite and the citizens and by influencing the cost of using force against democracy. However, the more important role of financial integration might be the potential threat that capital may fly out and leave the country, if taxed too heavily. To put this in context, imagine a Latin American country before financial integration. If capital is taxed heavily, it can withdraw into the informal sector, or the elite may decide to consume more and save less. This is what we capture with our cost of taxation, $C(\tau)$. After financial integration, however, there is another option. If capital holders are taxed heavily, they can take their capital to Panama or the Cayman Islands, where taxes are lower. This increases the elasticity of capital with respect to taxes, and affects how much taxation democracy would like to impose on the elite. In this subsection, we analyze the implications of this potential "capital-out" channel on the consolidation of democracy. To simplify the analysis and highlight the implications of the capital-out mechanism, we now abstract from capital inflows, so after financial integration factor prices do not change.

Assume that we start with the economic model described above, and there is no trade in goods or financial flows, so factor prices are given by (9.2). The rate of return to capital is now $\theta\left((K+\sigma L)/(1-\delta)\right)^{\theta-1}$, and with the tax rate τ, the net return is

$$r(1-\tau) = (1-\tau)\theta\left(\frac{K+\sigma L}{1-\delta}\right)^{\theta-1}$$

If capital flies out it will get a (net) rate of return $\underline{r}$. We assume that

$$(1-\tau^p)\theta\left(\frac{K+\sigma L}{1-\delta}\right)^{\theta-1} < \underline{r}.$$

Therefore, if the citizens set their unconstrained tax rate, τ^p, capital will fly out. As long as capital is sufficiently important in the incomes of the elite, and therefore in the tax revenues that the citizens will collect from the elite, the citizens would not want to tax incomes at such a high rate that capital holders will take their money outside the country. Therefore, in equilibrium they have to set to lower tax rate, $\bar{\tau}^p$ such that

$$(10.30) \qquad r(1-\bar{\tau}^p) = (1-\bar{\tau}^p)\theta\left(\frac{K+\sigma L}{1-\delta}\right)^{\theta-1} = \underline{r}$$

Given this lower tax rate, democracy will become less costly, and more likely to be consolidated. Similarly, it will also be less attractive for the elite to use repression to avoid having to democratize.

More formally, after financial integration, the returns from democracy are now given by:

$$(10.31) \quad \underline{V}^p(D) = \frac{1}{1-\delta}\left(1-\theta+\bar{\tau}^p(\theta-\delta)-(1-\delta)C(\bar{\tau}^p)\right)(K+\sigma L)^\theta(1-\delta)^\theta,$$

$$\underline{V}^r(D) = \frac{1}{\delta}\left(\theta+\bar{\tau}^p(\delta-\theta)-\delta C(\bar{\tau}^p)\right)(K+\sigma L)^\theta(1-\delta)^{1-\theta}.$$

which are simply (9.7) evaluated at the tax rate $\bar{\tau}^p$. We again use the notation $\underline{V}$ to refer to values in the open economy. Since the tax rate that will apply after financial integration, $\bar{\tau}^p$ as given by (10.30), is lower than the one applying before financial integration, τ^p given by (4.11), we have that

$$\underline{V}^r(D) > V^r(D),$$

that is, democracy is better for the elite after financial integration.

Similarly, imagine the values to the citizens and elite of democracy when the citizens promise to set 0 taxes, with this promise upheld with probability p. From (9.15) these will now be given by:

$$\underline{V}^p(D, \tau^D = 0) = \frac{1}{1-\delta} \left(1 - \theta + (1-p)\left(\bar{\tau}^p(\theta - \delta) - (1-\delta)C(\bar{\tau}^p)\right)\right)(K + \sigma L)^\theta (1-\delta)^{1-\theta},$$

$$\underline{V}^r(D, \tau^D = 0) = \frac{1}{\delta}\left(\theta + (1-p)\left(\bar{\tau}^p(\delta - \theta) - \delta C(\bar{\tau}^p)\right)\right)(K + \sigma L)^\theta (1-\delta)^{1-\theta}.$$

These expressions, once again, take into account that if democracy gets to re-set taxes, the median voter will set the lower tax $\bar{\tau}^p$, instead of τ^p, since at the higher tax τ^p, capital will fly out of the country.

Even after financial integration, the costs of coups are not different, since after a coup there is no taxation, and therefore no capital flight. As a result, the values after a coup are still given by (9.24). Let us again define φ^* by (10.18) as the threshold value before financial integration, i.e., at $\varphi = \varphi^*$, we have $V^r(D, \tau^D = 0) = V^r(C, \varphi)$. Also define $\underline{\varphi}^*$ as the corresponding threshold after financial integration, i.e., such that at $\varphi = \underline{\varphi}^*$, we have

$$\underline{V}^r(D, \tau^D = 0) = V^r(C, \underline{\varphi}^*),$$

which implies that

(10.32)
$$\underline{\varphi}^* = 1 - \left(1 + \frac{(1-p)}{\theta}\left(\bar{\tau}^p(\delta - \theta) - \delta C(\bar{\tau}^p)\right)\right)^{\frac{1}{\theta}}.$$

That democracy is less redistributive after financial integration immediately implies that

$$\underline{\varphi}^* < \varphi^*.$$

Consequently, in the current model, Proposition 10.3 again applies, but because of the effects of financial integration through the potential of capital flight rather than through capital inflow. Therefore, financial integration once again may help democratic consolidation, but now through as somewhat different channel. After financial integration, democracy will not find it optimal to impose as high taxes because such taxes would induce capital holders to take their assets abroad. As democracy is expected to be less redistributive, the elite do not have as much to gain from a coup, and democracy is more likely to survive even during periods of crisis.

A similar argument would also apply to the transitions to democracy. Consider the transition to democracy game discussed in the previous section, and recall that the values to the citizens and the elite from repression are still given by (10.21) there. Make the same assumptions as in

the previous section so that concessions by nondemocracy do not work, and simply note that after financial integration, the elite prefer democratization to repression if

$$\underline{V}^r(D) \geq V^r(O \,|\kappa),$$

where $\underline{V}^r(D)$ is defined by (10.31). This condition defines a different cutoff level, now denoted by $\underline{\kappa}^*$, such that for all $\kappa \geq \underline{\kappa}^*$, the rich prefer democratization to repression after financial integration. More explicitly, $\underline{\kappa}^*$ is given by

$$(10.33) \qquad\qquad \underline{\kappa}^* = 1 - \left(\frac{1}{\theta} \left(\theta + \bar{\tau}^p \left(\delta - \theta \right) - \delta C(\bar{\tau}^p) \right) \right)^{\frac{1}{\theta}},$$

which is simply (10.24) with τ^p replaced by $\bar{\tau}^p$. That $\bar{\tau}^p < \tau^p$ immediately implies

$$\underline{\kappa}^* < \kappa^*.$$

where κ^* is given by (10.24). Since the presence of financial integration makes democracy less bad for the elite, repression has to be cheaper for it to be optimal.

As long as the choice for the elite is between democratization and repression, this analysis leads to a proposition paralleling Proposition 10.2, where now financial integration, by again making democracy less redistributive, may lead to democratization in circumstances where without financial integration the elite would have preferred repression. We do not state this proposition since its logic is clear and its implications are identical to the results already stated in this section.

6. Increased Political Integration

Another dimension of globalization is increased political integration. In a more globalized world, there are closer political links between nations. A common view is that the increased integration of Eastern European nations with the European Community has been an important element in their smooth transition to democracy and in the rapid consolidation of their democracies. Supporting this view is a finding that the post-Communist societies that are geographically closer to Western Europe (closer to Berlin, for example) are more democratic (Kopstein and Reilly, 2000).

A natural reason for this is that for a variety of reasons, greater political integration between democratic and nondemocratic societies increases the costs of using force to prevent democracy. The reasons for this might vary, ranging from potential sanctions or boycotts by democratic nations if there is a coup against democracy, to the destruction of trading relationships. Another complementary channel would be that with greater political integration, civil society in nondemocratic nations or in unconsolidated democracies becomes stronger, increasing the cost of coups or repression.

In a reduced-form way, we can capture all of these ideas by supposing that the cost of using force against democracy, more specifically the cost of coups, increases after political integration. In particular, assume that after political integration a coup leads to the destruction of a fraction $\hat{\varphi} > \varphi$ of the assets stock of the elite, where before political integration, the same fraction was

φ. This implies that after political integration, the values to the citizens and the elite following a coup are

$$(10.34) \qquad \begin{aligned} \hat{V}^p(C,\varphi) &= (1-\theta)(1-\hat{\varphi})^\theta \left(\frac{K+\sigma L}{1-\delta} \right)^\theta, \\ \hat{V}^r(C,\varphi) &= \frac{\theta}{\delta}(1-\hat{\varphi})^\theta \left(K + \sigma L \right)^\theta (1-\delta)^{1-\theta}, \end{aligned}$$

instead of (9.24) above. We can now state:

> **Proposition 10.4:** Consider the models underlying Propositions 10.1 and 10.3. Once political integration takes place, the cost of a coup is higher, and a society is more likely to be a consolidated democracy.

This proposition therefore shows how political integration may have effects similar to those induced by increase international trade and financial integration. However, though these effects ultimately have similar implications, they work through a different channel. They discourage coups by making them more costly because of international pressure and sanctions, or because of the induced development in civil society which follows from closer political links between democratic and nondemocratic nations.

7. Alternative Assumptions about the Nature of International Trade

Propositions 10.1 and 10.2 illustrate that globalization in the form of increasing integration of markets for goods may promote both the creation and consolidation of democracy. These results however stem from the structure of the models we wrote down. Most models of international trade have the implication that trade promotes the incomes of the poor in developing countries, who we are associating with the citizens, because such countries are typically labor abundant. However, as we alluded to already, the empirical evidence is somewhat equivocal about whether increased trade in fact promotes equality in poor countries. Also it could be that some developing countries, such as say Argentina or Chile, are in fact land abundant and not labor abundant. In this case increased globalization has the effect of increasing the rate of return on land. This not only increases inequality, but it also raises the incomes of the asset holders who, as we argued extensively in Chapter 9, have most to lose from democracy.

Here we sketch a different type of trade model, motivated by a salient empirical pattern in the recent data: in many of the less developed nations opening to trade over the past 25 years returns to skills, and therefore income inequality, have actually increased (see Leamer, 1995, 1998, Cragg and Epelbaum, 1996, Attanasio, Goldberg and Pavcnik, 2004). Note that this is the opposite of the prediction of the simple Heckscher-Ohlin trade model, since the less developed nations in question are relatively scarce in skilled workers. So everything else equal trade opening should reduce the skill premium in these countries. A lengthy discussion of why returns to skill appear to have increased in these countries is beyond the scope of this book, but there are some natural conjectures. Most important, there is a wide consensus that many of the important advances in technology over the past 25 years have been relatively "skill biased,"

meaning that they have favored skilled workers and everything else equal, have tended to increase the skill premium (e.g., Acemoglu, 2002). Most of these technologies are embedded in machines produced in the United States and in some other OECD economies. Less developed countries can make use of these technologies only if they import the relevant machines from the U.S. and other rich nations. This implies that when they are closed to international trade, less developed nations will typically not use these machines. The important implication for our analysis here is that trade opening now comes with a change in the technology of production towards more skill-biased technology, increasing returns to skill. So there will be a technology effect counteracting, and perhaps dominating, the standard Heckscher-Ohlin effect of trade reducing the skill premium in less developed nations (e.g., Acemoglu, 2003b, Theonig and Verdier, 2003).

What are the implications of this for democracy? The discussion so far, which was based on our two-class model, might suggest that implications of the spread of skill-biased technology to less developed nations will be the opposite of what we have emphasized: an increase in inequality and therefore a force acting against the creation and consolidation of democracy. This is certainly one possible conclusion. However, other potential forces may be at work. The increase in the returns to skills, and more generally, the increased role of human capital in the modern economy, which we have already discussed in Chapter 9, can be interestingly analyzed in our three-class model. In the context of that model, we can think of skilled workers as constituting the backbone of the middle class. This implies that trade opening, associated with the transfer of skill-biased technology, will increase the incomes of the middle class. As we saw in Chapter 8, the middle class can act as an important buffer between the rich and the poor, and an increase in the incomes of the middle class may help the creation and consolidation of democracy. This is because the median voter in democracy may be a member of the middle class, and an increase in the income of the median voter (relative to mean income) will reduce the propensity of democracy to be anti-rich. With less radical policies adopted in democracy, the rich have less to fear from democracy, and are less willing to use force in order to prevent democratization or create a switch to nondemocracy.

To highlight these issues, let us briefly return to our basic model from Chapter 8. Recall that in that model there are three groups of agents, the rich of size δ^r, the middle class of size δ^m and the poor of size δ^p. We normalize total population to 1 as before, thus $\sum_i \delta^i = 1$, and assume that $\delta^p > \delta^m > \delta^r$, that is, the poor are the most numerous, and then the middle class, and the rich are the smallest group in the population. Also, we denote average income by $\bar{y}$ as before, and let incomes be given as in (8.1) where (8.2) holds so that the rich are richer than the middle class, who are in turn richer than the poor.

To simplify the analysis, along the lines of part of the discussion in Chapter 8, let us assume that $\delta^p < 1/2$, so that the poor do not constitue an absolute majority, and a middle-class agent is the median voter. Moreover, suppose that $\theta^m < \delta^m$ or $\bar{y} > y^m$, so that the middle class is less rich than mean income, and would like to impose some amount of redistributive taxation. As in Chapter 8, the amount of redistribution preferred by the median voter, therefore, that which will result in an unconstrained democracy is given by the tax rate τ^m which satisfies (8.5).

Now consider the basic political game discussed in Chapter 8 where the society is nondemocratic with the poor and the middle class excluded from voting. Because of a potential revolution threat, the rich are considering democratization or the use of force (repression)—the promise of limited redistribution is not credible. As in the previous analysis, there will exist a cutoff level for the cost of repression, $\tilde{\kappa}(\tau^D)$ given by (8.29). When the cost of repression, κ, is equal to $\tilde{\kappa}(\tau^D)$, the rich will be indifferent between democratization and the use of force. They will prefer repression whenever $\kappa < \tilde{\kappa}(\tau^D)$. It is clear from (8.5) that an increase in the income share of the middle class will reduce τ^m and therefore decrease $\tilde{\kappa}(\tau^D)$.

Opening to international trade and the associated transfer of skill-biased technology, by increasing the incomes of the middle class, might reduce redistribution in democracy and help induce transition to democracy. In particular, suppose that after trade opening, because technology becomes more skill-biased, θ^m increases to $\hat{\theta}^m$, and as a result, the most preferred tax rate by the middle class falls to $\hat{\tau}^m$ given, from (8.5) implicitly by $(\delta^m - \hat{\theta}^m)/\delta^m = C'(\hat{\tau}^m)$. This implies that the new threshold for the rich to be indifferent between repression and democratization becomes:

$$(10.35) \qquad \hat{\kappa} = \frac{1}{\hat{\theta}^r}\left(\delta^r C(\hat{\tau}^m) - \hat{\tau}^m\left(\delta^r - \hat{\theta}^r\right)\right).$$

where $\hat{\theta}^r$ is the share of the rich in incomes after trade, and $\hat{\theta}^r < \theta^r$ since $\hat{\theta}^m > \theta^m$. Clearly we have

$$\hat{\kappa} < \tilde{\kappa}(\tau^D)$$

Then we can state:

Proposition 10.5: Consider the transition to democracy game described above. The society starts nondemocratic with the poor and the middle class excluded from voting. Define $\tilde{\kappa}(\tau^D)$ by (8.29) and $\hat{\kappa}$ which applies after opening to international trade and the transfer of skill-biased technologies by (10.35). Then we have that

- If $\kappa < \hat{\kappa}$, then the rich will use repression to prevent revolution and democratization both before and after trade opening and transfer of technology.
- If $\kappa \geq \tilde{\kappa}(\tau^D)$, then there will be democratization both before and after trade opening and transfer of technology
- If $\hat{\kappa} \leq \kappa < \tilde{\kappa}(\tau^D)$, then the rich will use repression to prevent revolution and democratization before trade opening and transfer of technology, but there will be democratization after trade opening and transfer of technology.

Therefore, this proposition shows how the recent wave of globalization and increased international trade might again make democracy more likely, but this time through a different channel. Because of the transfer of skill-biased technologies from the richer nations associated with trade opening, the income share of the middle class increases, and with a richer middle class, democracy becomes less redistributive, and the rich more willing to democratize.

It should be clear that a similar argument can be developed to show that with a richer middle class acting as a buffer in the conflict between the rich and the poor, democracy is also less likely

to fall to a coup. Therefore, through this channel, previously non-consolidated democracies are also more likely to consolidate.

8. Conclusions

In this chapter we have examined how globalization influences whether or not a country becomes a democracy and once democratic whether it stays that way. Our main objective was to show that broadening our analysis in this way generates a rich set of predictions. Many of these are conditional on the impact of trade and factor mobility on income distribution. Since the empirical literature on this topic is highly unsettled we cannot use the models of this chapter to say definitively whether globalization is or is not good for democracy. To settle this issue requires careful and intensive empirical investigation, which is an important area for future research.

It is also useful to repeat a caveat that we raised earlier when discussing the power of the elite in democracy and the effects of manipulating democracy on its creation and consolidation. We have seen that greater capital mobility, by making democracy less threatening to elites, may lead to the creation of a consolidated democracy. But it is also true, as with any effect which reduces the scope for collective choices in a democracy to deviate from those preferred by elites, that greater capital mobility implies that democracy is less able to deliver what the majority of citizens want. In such circumstances, increased globalization may reduce the ability of democracy to improve the welfare of the majority. The extent of this is also a topic for empirical investigation.

Part 5

Conclusions and The Future of Democracy

Conclusions and the Future of Democracy

In this book we have proposed a framework for thinking about why some societies are democratic while others are not. We emphasized the two related aspects of this question. First, why is it that some societies become democratic in the first place. Second, why do some democracies persist and consolidate while others collapse. In this chapter we revisit what we think we have learned, discuss some of the areas where we believe our framework can usefully be extended, and discuss what our model implies for the future of democracy.

1. Paths of Political Development Revisited

We now revisit the four narratives of political development that we laid out in Chapter 1. How does our framework help to account for these differing paths?

1.1. Britain. What explains why Britain followed a path of gradual democratization and what explains why democracy was so easy to consolidate in Britain?

At some level, the answer from our analysis is clear: the parameters, in particular, the nature of political and economic institutions, the structure of the economy, the collective action problem and the costs and benefits of revolution, were such that there was a sufficient threat of revolution in pre-democratic Britain, and the elite could not defuse these pressures without democratization. They also did not find it beneficial to use repression to prevent democratization. But this answer is also incomplete. We also have to understand how Britain came to have the parameters that it did in the 19th and 20th centuries. We now discuss which of these parameters were more important in understanding the British case and how they came about.

In the 17th century a series of political conflicts were won by those interested in introducing political institutions which limited the de jure power of the monarchy. This change in political institutions greatly improved economic institutions. By reducing the risk of state predation, property rights became more stable. De jure political power in the new system was in the hands of men with commercial and capitalistic interests and this led to large induced changes, for instance in capital and financial markets, which were important for economic expansion.

The reason that these institutional changes arose in Britain appears to be twofold. First, at the start of the early modern period Britain had political institutions which limited the powers of the monarchs more than in other places (Ertman, 1997). Why this was so seems to be the outcome of a complex historical process of the building of dynasties and invasions. Second, various significant changes took place in the structure of the economy which greatly strengthened the interest of various groups, particularly capitalistic farmers (the so called 'gentry') and merchants,

in different economic institutions. Also significant was the early collapse of feudal institutions in Britain (Brenner, 1976). These changes also increased the de facto power of these same interests which critically influenced the outcome of the Civil War and Glorious Revolution (Tawney, 1941, Brenner, 1993, Acemoglu, Johnson and Robinson, 2003). For example, merchants who became rich from trade in the colonies were able to play critical roles in both conflicts on the side of Parliament.

The outcome of the 17th century conflicts in Britain was a set of economic institutions which gave property rights to a broad set of people (see Thompson, 1975, on this). The result was the ending of the Malthusian cycle and the beginning of modern economic growth. Yet the structural changes that in consequence began, for instance urbanization and the rise of the factory system, had further implications for the distribution of de facto political power. In particular they began to make the exercise of de facto power by the poor and politically disenfranchised much easier (Tilly, 1995, and Tarrow, 1998, document the changing qualitative nature of collective action over this period). The rise in the de facto political power of the poor made the existing regime unsustainable and necessitated a change in political institutions in their favor to defuse the threat of revolution. This was to tilt the future allocation of de jure political power, and consequently to ensure future economic institutions and policies consistent with the interests of the poor. This is exactly what the process of democratization did. Political tensions were also exacerbated by the rise in inequality which, as we saw in Chapter 3, most scholars believe took place in the first half of the 19th century.

Beginning in 1832, the British political elite made a series of strategic concessions over an 86 year period. These concessions were aimed at incorporating the previously disenfranchised into politics since the alternative was seen to be social unrest, chaos and possibly revolution. The concessions were gradual because in 1832, social peace could be purchased by buying off the middle classes. Moreover, the effect of the concessions was diluted by the specific details of political institutions, particularly the continuing unrepresentative nature of the House of Lords. Although challenged during the 1832 reforms, the House of Lords provided an important bulwark for the wealthy against the potential of radical reforms emanating from a democratized House of Commons. Later, as the working classes reorganized through the Chartist movement and later through trade unions, further concessions had to be made. The Great War and the fallout from it sealed the final offer of full democracy.

Why did elites in Britain create a democracy? Many other countries faced the same pressures and political elites decided to repress the disenfranchised rather than make concessions to them. The problem with repression is that it is costly. It risks destroying assets and wealth. In the urbanized environment of nineteenth century Europe (Britain was 70% urbanized at the time of the Second Reform Act), the disenfranchised masses were relatively well organized and therefore difficult to repress. Moreover, industrialization and the policy of free trade after the 1840's based on Britain's comparative advantages had led to an economy based on physical, and increasingly human, capital. Such assets are easily destroyed by repression and conflict, making repression an increasingly costly option for elites. Since capital is much harder to redistribute, elites in

Britain found the prospect of democracy much less threatening, and were easier to convince to accept it.

Repression is attractive not just when it is relatively cheap, but also when there is a lot at stake. Our discussion suggests that the changes in economic and political institutions that allowed sustained economic growth to emerge also made democracy much less threatening to British elites.

Nevertheless, democracy did bring changes in economic institutions away from those preferred by the elite. In the nineteenth century, economic institutions, particularly in the labor market, disadvantaged the poor. For example, trade unions were illegal and as late as the 1850 in Britain workers trying to organize a union could be shipped to the penal colony in Tasmania, Australia. As we noted in Chapter 3 this and many other things changed, particularly after 1867 when economic institutions were altered to cater to the demands of the newly enfranchised. Though important for the working of the British economy in the 19th century, the implications of these changes were much less damaging to the elite than the potential of the freeing of rural labor markets or the threat of land reform in an economy dominated by a landed elite. In fact, compared to the changes in economic institutions faced by the elites in Russia or Austria-Hungary in the 19th century, or those in Guatemala and El Salvador in the 20th century, the changes in Britain were relatively easy to accept for the elite.

What about the promise of redistribution to prevent democratization? Political elites in Britain seem not to have seriously considered mass income redistribution as an alternative to democracy, though they certainly anticipated that democracy itself might lead to this. Perhaps, as J.R. Stephens understood, promises to redistribute could not be believed. It is significant, for example, that the Chartist's petition that gained the most attention from Parliament was the one presented in 1848 in the midst of the European Revolutions. With such a threat of revolution, political elites had to be seen to be listening, but as long as they maintained power they would only listen as long as the threat was present and the Chartist movement only produced transitory threats. Consequently, perhaps it is not surprising that promises of redistribution to defuse the social unrest were not at the top of the agenda in Britain.

Finally, why did democracy in Britain consolidate so easily? Our framework suggests that this was influenced by many of the same factors which we just discussed in the context of democratization. It consolidated because coups were too expensive and in any case democracy was not radical enough to pose a sufficient threat to the traditional elites. Democracy eventually brought large changes in British society, but this took half a century and had to wait until the full effect of educational reforms were able to manifest themselves. Elites never faced the sort of threats common in democratizations elsewhere in the world, such as radical asset redistribution. Under these circumstances, our approach suggests that they should have been less opposed to democracy, and indeed, they were.

1.2. Argentina. Many of the same forces that led to democracy in Britain seem to have been in operation in Argentina. As with Britain, democracy in Argentina was induced by a

series of revolts stimulated by economic and financial crises. Also as in Britain, the process of democratization took place in the context of rapidly rising inequality and economic growth. Yet Argentina democratized with very different underlying political and economic institutions than in Britain. The economy relied on agricultural exports and the boom in world trade, rather than decreasing, increased the value of the assets of the rich elite, land (O'Rourke, Taylor and Williamson, 1996). Moreover, since the economy was much less diversified it was much more susceptible to instability and was more volatile, and this created windows of opportunity to induce political change. The landed elites, while forced to concede democracy, did not like it, and were able to undermine it during the crisis surrounding the onset of the great depression.

In addition, political institutions and economic institutions did not facilitate democracy. Unlike those that emerged in Britain after 1688, political institutions placed fewer constraints on the use of political powers particularly those of the president, as witnessed by the actions of Yrigoyen in the 1920's and Perón in the 1940's. With respect to economic institutions, Argentina shared to some extent the legacy of other Spanish colonies which had been based on the exploitation of indigenous peoples. Though this legacy was small relative to countries such as Bolivia or Guatemala, the underlying set of economic institutions, particularly with respect to access to land, increased the stakes from political conflict.

During the 1930's and 1940's a highly polarized situation arose where urban working classes, which dominated democratic politics, aimed to redistribute income towards themselves. Such a situation was intolerable to rural elites and increasingly to the military which came to adopt a rabid anti-Peronist stance. Given the structure of the economy, the costs of coups against democracy were tolerable, and were exceeded by the potential benefits of the nondemocratic regime, especially given the threat of radical redistributive and populist policies in democracy. Though all sides attempted to structure institutions in their favor, for example in 1912 and again in the late 1950's when the military sponsored the introduction of proportional representation in the hope that it would lead to the fragmentation of the Peronist party, none of these measures managed to make democracy more acceptable to the elite.

Is democracy now consolidated in Argentina? Our analysis gives some reasons for hope. The substantial increase in globalization, in particular, the capital mobility brought by the financial integration since the mid 1970's, implies that democracy may be much less of a threat to elite interests than it has been historically. Perhaps more important, Argentina is a relatively highly educated society, and the increase in the value of human capital has created a strong middle class that can act as a major buffer in the conflict between the rich and the poor. Consequently, democracy was stable in the 1990's despite a large rise in inequality, suggesting that the underlying political equilibrium has changed. Moreover, one of the long run effects of the economic policies implemented by the military after 1976 is that the economic base of the left and organized labor is much weaker in Argentina now than it used to be and this is one of the explanations for the radical shift in the economic and social policies of the Peronist party in the 1990's. Paradoxically, this shift may be beneficial for the poor segments of society, even

though it is less overtly redistributive; this is because, given this shift in policies, democracy may at last be consolidated in Argentina.

1.3. Singapore. Why has Singapore not democratized? Our analysis suggests a rather simple answer. Singapore is a very equal society. There is no traditional wealthy landed elite and the economy relies on external capital and businesses. Most people therefore appear to be relatively happy with the status-quo, at least not so unhappy that they want to engage in serious, and potentially costly, collective action to induce a major change in political institutions. There is little to gain relative to what they already have.

By the same token, however, the current elite of the PAP have little to lose other than power. The PAP is primarily made up of successful middle class people and has remained relatively open in the sense that it has tried to co-opt people of talent and potential opponents. Though it is undoubtedly linked to what rich elites exist in Singapore, none of these are likely to face expropriation of their assets or wealth. Although the political elites will likely lose their considerable rents from office holding, this is unlikely to be sufficient to justify a long period of repression to keep their privileged positions. Our analysis therefore also suggests that Singapore should eventually become a consolidated democracy. At some point, there will be pressure from some segment of the population for more representative political institutions. And at that point, the elite and the PAP will not find it profitable to use repression to prevent democracy.

1.4. South Africa. Why was democracy so long delayed in South Africa and what triggered its final creation? Here the historical situation could not be more different from that in Singapore. The white elite of South Africa had a huge amount to lose from democracy which would surely have led historically to large demands for land reform, the redistribution of wealth and a massive restructuring of economic institutions away from those that benefitted the white rich elite.

The state of South Africa was founded as a settler colony in many ways similar to those in North America or Australia. Yet, unlike in the United States, the indigenous peoples did not die off from imported diseases. This led to a situation where the indigenous Africans became the labor force that the rich white elite could employ cheaply and control with coercive methods (Lundahl, 1992). In this environment, the whites not only made no concessions to the Africans, they even created a philosophy, apartheid, to justify the unequal distribution of resources in society. Repression was relatively cheap and feasible in South Africa because of the apartheid philosophy and because it was aimed at one easily identifiable racial group.

Yet the apartheid regime was ultimately unsustainable. As the economy developed the African majority became more and more vital to the sustenance of the white economy. They became increasing hostile to their predicament and politically mobilized. In response the white regime used intense repression, being prepared to ban, imprison, torture and murder to maintain its hegemony. Yet even this could not work indefinitely. The profitability of the apartheid economy gradually declined because of external sanctions and the disruptions caused by repression. Moreover, as the world changed, not only did apartheid become less internationally acceptable

after the end of the Cold War, a globalized economy meant that the white economic elite had less to fear from democracy. As land became less and mobile capital more important, the threat of a radical African majority dissipated. It addition, the concessions the white regime made during the 1970's, in particular the legalization of African trade unions, reduced many of the economic rents that apartheid had created for the whites. The reduction in these rents meant that the whites had less to lose from the loss of political control. Indeed, as Rosendorff (2001) noted in exactly this context, inequality fell from the mid 1970's onwards. Finally, the whites in conjunction with the ANC were able to negotiate a structure of political institutions that gave the whites sufficient confidence in a democratic future that they were willing to stop fighting and allow democratization.

Nevertheless, there is always uncertainty about what the future holds. For instance the attempt to induce democratic consolidation through constitutional emgineering in Zimbabwe has not been a great success. Interestingly, in his assessments of the future for democracy in South Africa, Thompson (1995, p. 275) notes there is "one great structural threat to democracy in South Africa: The lack of a well educated skilled labor force—the consequence of the abysmal state of education in South Africa." Our analysis of Chapter 9 suggests that this may indeed be a problem.

2. Extensions and Areas for Future Research

Like any social science theory, ours is highly simplified. In order to focus on mechanisms that we think are important, we abstracted from many details and also other potentially important mechanisms. This means that there will be alternative approaches to some of the basic issues we addressed and also that we will have excluded other forces which may be important to include to get a completely satisfactory theory of the creation and consolidation of democracy.

Firstly, our framework concentrated on social conflict as the main driving force which leads to different political institutions. Changes in political institutions occur not because of unanimity, but because the side that favors change becomes more powerful and manages to, at least temporarily, impose its preferences. In Chapter 3 we briefly discussed some alternative approaches to democratization. For instance the idea of Bates (1991), Rogowski (1998), Herbst (2000), or Tilly (2004), that democracy emerged out of the process of state formation, or that of Bueno de Mesquita et al. (2003) and Lizzeri and Persico (2004), that democracy was voluntarily created by political elites because it led to different equilibrium public policies that made everyone better off. Though we believe that the major patterns of democratization and democratic consolidation cannot be explained only by these alternative interpretations, ultimately these are potentially complementary approaches, and empirical work will have to determine the relative importance of different mechanisms. As we discussed in Chapter 3, empirical work on the determinants of the creation and consolidation of democracy has not progressed beyond correlations with little attention to the identification of causal relationships or isolating truly exogenous sources of variation. There has thus far been no serious attempt to discriminate between different mechanisms leading to democratization (see Acemoglu, Johnson, Robinson and Yared, 2004)

In addition to examining and testing alternative hypotheses there are several important areas in which more theoretical work appears to be a high priority. Five important areas, which we initially planned to cover in this book, have been left out to keep the book manageable.

The first of these is the role of the military. In our baseline model the only actors are different groups and we considered that these groups themselves could engage directly in conflict. In reality, there is another institution, the military, which plays a crucial role in revolutions, repression or coups. Implicitly we assumed that the military did not act as an autonomous actor, but instead formed a coalition either with the elite (in the case of repression or coups) and perhaps with the citizens in the case of revolution. Nevertheless, there is a widespread claim in political science that the military often intervenes not on behalf of some social group, but with its own interests in mind. It is also clear that in developing societies the military is very powerful relative to other social and economic groups. An important priority for research therefore is to develop a theory of military politics to get a better grasp of when the military will side with one group or another and when it may become relatively autonomous from social groups. Though there is a rich case study literature on the military (see Huntington, 1964, Finer, 1976, Nordlinger, 1977, Rouquie, 1987, Stepan, 1988, Fitch 1998, Loveman, 1999), there are as yet few generalizations about the objectives and behavior of the military. Only Ticchi and Vindigni (2003b) have tried to use the methodological approach we adopt in this book and the tools of game theory to examine the military.

The study of the military is related to another major research area in comparative politics. In Chapter 5 of the book we presented a very bare bones model of nondemocratic politics and our analysis abstracted from differences in nondemocratic regimes. Yet much of the political science literature precisely focuses on providing different taxonomies of nondemocratic regimes (e.g. Linz and Strepan, 1996). Moreover, much research argues that the type of nondemocratic regime helps to determine the potential for the creation and consolidation of democracy. Whether or not this is true is ultimately an empirical question, but it is certainly a distinct possibility (se Geddes, 1999a,b). In this book we chose to emphasize what we believe is the key distinction between democracy and nondemocratic regimes, the extent of political equality. Nevertheless introducing richer models of the institutional structure of nondemocracy will undoubtedly generate many new insights.

The second major area, left out of our analysis but clearly of central importance to understand the dynamics of democracy, is the variations in democratic institutions. A large theoretical and empirical literature emphasizes the differences between different types of democracies, for example presidential versus parliamentarian, proportional representation versus majoritarian (e.g., Cox, 1997, Lijphart, 1999, Persson and Tabellini, 2000, 2003, Persson, Roland and Tabellini, 2000). Though in the Appendix to Chapter 4 we provided some different microfoundations for the parameter χ, the most interesting approach to this would be to relate it to the more detailed structure of political institutions. Throughout the book we tried to give examples of how the details of democratic institutions are important for the feasibility and the durability of democracy. However, the formal literature is only at the beginning of a research agenda to

develop models of how the types of electoral systems or whether or not a democracy is presidential or parliamentary influence the incentives of politicians or citizens. The choice of the equilibrium form of democratic institutions and how this influences the feasibility of democracy is a very exciting area for the years ahead. Our analysis suggests that the detailed institutional structure, because of the way it influences how preferences are aggregated, will be important in determining how political conflicts take place and thus in whether or not democracy is created or consolidated.

The third area in which much more theoretical work is needed is within the context of what we called alternative political identities. A vast amount of political economy conceptualizes conflict along socioeconomic or class lines, but there is also a widespread understanding that this is not always the case. Though we have tried to show that our main results about the circumstances when democracy arises and consolidates do not depend on the nature of political identities, having a richer model of this ought to generate many new empirical predictions. An important area for research here is not just the implications of political identities but also their formation and how this in itself depends on the institutional structure. To illustrate, historians of Africa have shown how some important current ethnic identities in Africa which are salient in political conflicts are actually an outcome of incentives created during the colonial period (for example Horowitz, 1985, on the Ibo in Nigeria or Ranger, 1991, on the Shona of Zimbabwe).

A fourth important area for future research is collective action and revolution. In Chapter 5 of this book we discussed the collective action problem and argued that the available empirical evidence suggested that it is circumvented by revolutionaries providing private benefits to those who take part in a revolution. This inspired the model we developed and used throughout the text. Nevertheless, developing a deeper understanding of collective action is a fascinating area for future research, both theoretical and empirical. We also modelled 'post-revolution societies' in the crudest way. Our justification for this is that revolutions, except for one brief section of Chapter 6, are off the equilibrium path. However, developing a better understanding of what happens in revolutions and how institutions subsequently evolve is an important topic which may generate new predictions about the creation and consolidation of democracy. As with military politics, there is a rich case study literature on revolutions that can be the starting point to develop models and more explicit testable hypotheses.

Finally, and ultimately perhaps most important, the future literature has to provide richer models of the workings of economy and the form of economic institutions than we have done in this book. A particularly exciting area for future research is the investigation of the interactions between endogenous economic and political institutions. Though in Chapter 9 we endogenized the distribution of income and discussed the important role played by economic institutions we did not develop explicit models where economic institutions were determined or changed over time. Moreover, we only examined situations where income was determined by stocks of assets which were constant. In reality, capital accumulates over time and technology changes. Trying to incorporate these dynamics of growth and accumulation into our framework is a very important step (see Acemoglu and Robinson, 2000a, 2002, and Jack and Lagunoff, 2003). Such

extensions will also help to explain why there may be path dependence in political institutions, which many scholars believe to be the case.

3. The Future of Democracy

The objective of this book is to develop and present a parsimonious framework to analyze democratic and nondemocratic politics, and the transitions between these regimes. Our analysis is mostly aimed at understanding a relatively abstract picture of complex social phenomena. Although any simple framework will make predictions about the future as its own peril, it is useful to reflect upon the future of democracy given the framework we have developed already.

A number of issues appear important in thinking about whether democracies around the world will be consolidated, and how they will transform themselves from what they are today.

First, the world is experiencing an increased importance of *human capital* relative to land and physical capital. This is both because the typical citizen of both developed and developing nations is much more educated today than he or she was fifty years ago, and because technology throughout the 20th century appears to have relied more and more on the skills and the human capital of the workers (or appears to have been "skill-biased"), thus increasing the importance of human capital in the labor market (e.g., see Acemoglu, 2002). Although greater returns to human capital may increase inequality in certain instances, for example as in the U.S. economy over the past 30 years, it will generally help to close the gap between the elite and the citizens, and create a large middle class in many less developed nations that are nondemocratic or live in unconsolidated democracies. As this gap closes and a middle class emerges, we expect less distributional conflict and more stable democracies, not only in societies where political conflict has been between the rich and the poor, but also where political conflict is along other lines. The recent past has witnessed many accounts of the "end of class warfare" (e.g., Fukayama's 1992 book *End of History*). We are not predicting that there will be an end to political conflict anytime soon, but simply that with a greater role for human capital, this conflict will be less charged and intense.

Second, we now live in a highly *globalized world economy.* For reasons we have already discussed, we believe that greater international economic and financial links may help to promote and consolidate democracy. Again, conflict between elites and the majority of citizens will remain in the global world economy, but globalization may take the most disruptive weapons from both sides' arsenal in this fight. The citizens will not want to pursue the most populist and redistributive policies, making the elite more secure in democracy. The elite will be much more averse to coups and disruptions.

Third, the end of the *Cold War* implies that the implicit economic and political support that many nondemocratic regimes received has come to an end, making the transition to democracy easier, and coups against democracy harder (though there is a danger that the recent war against terrorism might offset the potential benefits of the end of the Cold War).

All three of these factors imply that the future of democracy is bright. Democracy is much more likely to triumph against nondemocracy today than in the past, both in places where it hasn't arrived yet and in places where it hasn't been consolidated yet.

And yet given these developments, do we expect democracy to change its nature in this new era? Our argument so far has been that democracy is pro-majority even possibly pro-poor. This was mainly a relative statement, comparing democracy to a typical nondemocratic regime. We also noted that there are reasons for why, in democracy, the elite may be powerful even if democracy is generally more pro-majority than nondemocracy. There are two reasons to expect that the elite may become more powerful in democracy as time goes by.

First, note that the most important sources of extra power for the elite in democracy would be their control of the party system, and thus the political agenda, and their ability to form an effective lobby against certain policies. Do we expect the elite to be able to do so more effectively in the future? There are two reasons for suspecting that the answer may be yes. With the increased bright future for democracy, the elite, especially in the current unconsolidated democracies, have to come to terms with living in democracy. In this case they might as well try to do their best in order to influence democratic politics to reduce redistributive taxation. Therefore, the returns to the elite for increasing their power in democracy may now be greater.

Perhaps more important, as democracy matures, there might be a greater opportunity to the organized groups, which potentially include the elite or certain segments thereof, to become more powerful. The argument that interest groups become stronger over time in democratic societies was first developed by Mancur Olson in his classic 1982 political economy treatise, *The Rise and Decline of Nations*. Olson pointed out that as time goes by, cooperation and trust will form between different members of influential lobbies, and perhaps more important, these lobbies will be able to more effectively capture the major branches of the government and the political system. In the context of democratic politics, one of the interest groups that might become stronger and come to dominate much of politics is the elite. If so, we might expect democracies to become less pro-majority as time goes by. The fact that new democracies appear to have been more redistributive than mature democracies throughout the 20th century, and the observation that conservative parties have become stronger in many well-established democracies over the past 40 years are consistent with this notion.

This relates to the *Iron Law of Oligarchy* formulated by the sociologist Robert Michels in his 1911 classic book Political Parties. Michels claimed that all organizations, particularly political parties, even socialist ones, tended to be captured by whoever ran them and these people then came to be incorporated into the elite. He argued that this meant democracy had little chance of radically changing society because, at best, it simply replaced one elite with another. In no case would this lead to radical majoritarian social changes. If this law is true, then a natural process of elite capture reduces the radical threat of democracy.

Second, there is also a different side to the increased importance of human capital (including, skill-biased technical change) and greater globalization. These economic developments, by reducing distributional conflict, are weakening many of the organizations that have played an

important role in supporting the majority and policies favoring the majority. The organizations losing strength include traditional social democratic parties and labor unions. This is most clearly visible in much of the Anglo-Saxon world, especially in the United States and the United Kingdom, where labor unions today are much weaker and the traditional left parties have become generally opposed to income redistribution.

If these changes become more widespread around the world, we might expect the elite and conservative parties to become more powerful, and democracy to become less redistributive in the future, especially if new forms of representation for the majority, both in the political sphere and in the workplace, do not emerge. Thus democracy will become more consolidated, but for many who expect democracy to transform society in the same way as British democracy did in the first half of the twentieth century, it may be a disappointing form of democracy.

Part 6

Appendix

Appendix to Chapter 4: The Distribution of Power in Democracy

1. Introduction

In this appendix, we analyze the models which underpin the analysis of the distribution of political power in democracy in the last section of Chapter 4. There we argued that, under some circumstances, we could think of the equilibrium policy in a democracy as maximizing a weighted sum of the indirect utilities of the rich and poor. We now develop a series of models which can provide microfoundations for those claims and clarify what those "circumstances" are.

2. Probabilistic Voting Models

2.1. Probabilistic Voting and Existence of Equilibrium. Before we discuss the probabilistic voting model, it is useful to revisit the nonexistence of voting equilibria in models without single-peaked preferences. Recall that the MVT applies only when the policy space is single dimensional and preferences are single-peaked. Although in this book we obtained a lot of mileage out of models that satisfy these assumptions, many real-world situations, where there are cross-cutting coalitions and multi-dimensional differences, do not. In these situations where the MVT does not apply, the party competition game often does not have an equilibrium in terms of pure strategies. Although in these situations mixed strategy equilibria may exist, it is often unappealing to think of parties mixing over their platforms. The probabilistic voting model first introduced by Lindeck and Weibull (1987) is useful not only as an alternative approach to policy determination, but also because it provides a potential way out of the non-existence problems that arise in the standard model.

To appreciate the contribution of the probabilistic voting model, it is useful to reconsider the source of non-existence problems with non-single-peaked preferences. The source of the problem can be illustrated in equation (4.2) in Chapter 4 above, which links the probability of winning an election for a party to the preferences of the median voter, when preferences are single peaked. We repeat this equation here as specifying the probability that party A offering platform q_A will win again party B offering policy q_B:

$$(12.1) \qquad P(q_A, q_B) = \begin{cases} 1 \text{ if } V^M(q_A) > V^M(q_B) \\ \frac{1}{2} \text{ if } V^M(q_A) = V^M(q_B) \\ 0 \text{ if } V^M(q_A) < V^M(q_B) \end{cases}$$

where M denotes the median voter. The important feature of this equation is that the probability that party A wins is a *discontinuous* function of its policy; as q_A varies, this probability jumps from 0 to 1/2 and then to 1. To illustrate the reason why, suppose that the policy vector in question, q, is unidimensional, and that the median voter M's preferences are single peaked, with his most preferred policy denoted by q^M. Then, when the two parties offer the policies q_A and q_B such that $q_A = q_B + \varepsilon < q^M$, where ε is a small positive number (in the limit infinitesimally small). The median will prefer party A, which is offering a policy closer to his preferred point. But now imagine party B changes its policy by a very small amount, increasing it by 2ε. This causes the median to prefer party B, and since the party that attracts the median wins the election, this change in policy causes a discontinuous change in $P(q_A, q_B)$ from 1 to 0.

To guarantee the existence of pure strategy Nash equilibria requires continuity of payoff functions in all strategies (as well as strategy sets to be bounded, closed and convex, and the payoff functions to be quasi-concave in own strategies; see, for example, Fudenberg and Tirole, 1991, Theorem 1.2, p. 34). As the above discussion illustrates, the Downsian party competition model does not satisfy these assumptions. Nevertheless, discontinuities will not necessarily lead to non-existence, but they do imply that we cannot establish existence under general conditions. In fact, as the analysis in Chapter 4 established, with single-peaked preferences, the Downsian model generates a unique equilibrium (even though the objective functions of the political parties are not continuous). This demonstrates that continuity is sufficient to guarantee the existence of an equilibrium, but it is not necessary—an equilibrium can exist even if behavior is discontinuous. However, the discontinuity of the objective functions leads to non-existence when preferences are not single-peaked or the policy space is multi-dimensional.

How can we ensure the existence of an equilibrium? One way is to smooth out the discontinuities in the payoff functions, in this context, the probability that party A wins the election, $P(q_A, q_B)$. This is what the probabilistic voting approach does.

The idea of the probabilistic voting approach is that an equation like (12.1) should apply at the individual level (for individual voting decisions), but because of heterogeneities at the individual level and random shocks to preferences, the probability that party A wins the election should be a smooth function of its platform. More specifically, let $p^i(q_A, q_B)$ be the probability that individual i votes for party A offering policy q_A rather than party B, which is committed to policy q_B. This is given by an equation similar to (12.1):

$$(12.2) \qquad p^i(q_A, q_B) = \begin{cases} 1 \text{ if } V^i(q_A) > V^i(q_B) \\ \frac{1}{2} \text{ if } V^i(q_A) = V^i(q_B) \\ 0 \text{ if } V^i(q_A) < V^i(q_B) \end{cases}.$$

Why would $P(q_A, q_B)$ differ from $p^i(q_A, q_B)$? The most common approach in the literature is to presume that there are some non-policy related reasons for uncertainty in individuals' preferences (either related to "ideology" or to the "valance" of the politicians), so that individual voters have slightly different preferences (see, for example, Lindbeck and Weibull, 1987, Coughlin, 1992, Persson and Tabellini, 2000). As a result, when aggregated over individuals, $P(q_A, q_B)$

will be a smooth function of policy platforms, and a small change in policy only gets a small response in terms of aggregate voting behavior. This is the approach we develop next. Our particular interest in this model is not only for the technical reason that an equilibrium may exist where otherwise it would not, but because, as we shall see, the probabilistic voting model incorporates different ideas about who has power in a democracy.

2.2. Probabilistic Voting and Swing Voters. Let the society consist of N distinct groups of voters (all voters within a group having the same economic characteristics). Examples would be the rich and the poor in the two-class model, or the rich, the middle class and the poor in the three-class model.

There is electoral competition between two parties, A and B, and let π_j^n be the fraction of voters in group n voting for party j where $j = A, B$, and let λ^n be the share of voters in group n and naturally $\sum_{n=1}^{N} \lambda^n = 1$. Then the expected vote share of party j is

$$\pi_j = \sum_{n=1}^{N} \lambda^n \pi_j^n.$$

Under Downsian electoral competition, since all voters in n have the same economic preferences, π_j^n is given by (12.2) above, and jumps discontinuously from 0 to 1 as voters in group n always vote with certainty for the party that promises the policy that they prefer more. As summarized in Proposition 4.2, this type of Downsian electoral competition leads to the policy most preferred by the median voter. We now see how different outcomes emerge when ideological differences are incorporated into voting behavior.

Instead, imagine that an individual i in group n has the following preferences:

(12.3) $$\tilde{V}^{ni}(q, j) = V^n(q) + \tilde{\sigma}_j^{ni}$$

when party j comes to power, where q is a vector of economic policies chosen by the party in power. Assume that $q \in Q \subset \mathbb{R}^S$ so that q is an S-dimensional vector. Here, $V^n(q)$ is the indirect utility of agents in group n as before, and captures their economic interests. Note that all individuals in a particular group have the same $V^n(q)$. In addition, the term $\tilde{\sigma}_j^{ni}$ can be interpreted as non-policy related benefits that the individual receives from party j. The most obvious source of these preferences would be ideological. So this model allows individuals within the same economic group to have different ideological or idiosyncratic preferences.

Now defining the difference between the two parties ideological benefits for individual i in group n by $\tilde{\sigma}^{ni} \equiv \tilde{\sigma}_B^{ni} - \tilde{\sigma}_A^{ni}$, the voting behavior of individual i can be represented by an equation similar to (12.2):

(12.4) $$p^{ni}(q_A, q_B) = \begin{cases} 1 \text{ if } V^n(q_A) - V^n(q_B) > \tilde{\sigma}^{ni} \\ \frac{1}{2} \text{ if } V^n(q_A) - V^n(q_B) = \tilde{\sigma}^{ni} \\ 0 \text{ if } V^n(q_A) - V^n(q_B) < \tilde{\sigma}^{ni} \end{cases}.$$

Since this equation makes it clear that all that matters is the difference between the two ideological benefits, we work with $\tilde{\sigma}^{ni}$ directly. Let the distribution of this differential benefit $\tilde{\sigma}^{ni}$ within group n be given by the smooth cumulative distribution function F^n defined over

$(-\infty, +\infty)$, with the associated probability density function f^n. Then, (12.4) immediately implies:

$$\pi_A^n = F^n(V^n(q_A) - V^n(q_B)). \tag{12.5}$$

Furthermore, and somewhat differently from before, suppose that parties maximize their expected vote share.[1] In this case, party A sets this policy platform q_A to maximize:

$$\pi_A = \sum_{n=1}^{N} \lambda^n F^n(V^n(q_A) - V^n(q_B)). \tag{12.6}$$

Party B faces a symmetric problem, which can be simply thought of as minimizing π_A. Equilibrium policies will then be determined as the Nash equilibrium of a game where both parties make simultaneous policy announcements to maximize their vote share.

Let us first look at the first-order condition of party A with respect to its own policy choice, q_A, taking the policy choices of the other party, q_B, as given. This requires

$$\sum_{n=1}^{N} \lambda^n f^n(V^n(q_A) - V^n(q_B)) \nabla V^n(q_A) = 0,$$

where $\nabla V^n(q_A)$ denotes the gradient vector of the function $V^n(q_A)$, i.e.,

$$\nabla V^n(q_A) = \left(\frac{\partial V^n(q_A)}{\partial q_{A1}}, ..., \frac{\partial V^n(q_A)}{\partial q_{AS}} \right),$$

so in other words, the derivative of the vote share in (12.6) needs to be equal to zero with respect to each component of the policy vector q.

This first-order condition will characterize a maximum when the second-order condition is also satisfied. The second-order requires the matrix

$$\sum_{n=1}^{N} \lambda^n f^n(V^n(q_A) - V^n(q_B)) \cdot \nabla^2 V^n(q_A) + \sum_{n=1}^{N} \lambda^n \frac{\partial f^n(V^n(q_A) - V^n(q_B))}{\partial q_A} (\nabla V^n(q_A)) \cdot (\nabla V^n(q_A))^T \tag{12.7}$$

to be negative definite, where $\nabla^2 V^n(q_A)$ denotes the Hessian of the function $V^n(q_A)$ evaluated at the policy vector, q_A, and the superscript T denotes the transpose of the vector $\nabla V^n(q_A)$.

This condition will be satisfied if voter utilities are concave functions of platforms, so that $\nabla^2 V^n(q_A)$ is negative definite, and the density of ideological differences is not increasing sharply, or in particular, if it is similar to a uniform distribution. Although ensuring that the second order

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[1] In Chapter 4, the parties' objectives function was to come to power, thus they simply wanted their vote share to be greater than 1/2. The assumption here is that they wish to maximize their vote share. This assumption is adopted to simplify the discussion. Many probabilistic voting models instead assume that parties maximize the probability of coming in office, but introduce a source of aggregate ideological preferences that is uncertain for the parties at the point where they choose their platforms. In this case, denoting the random aggregate bias in favor of party A by ω^A and assuming that it has mean zero, the aggregate vote share of party A

$$\pi_A = \sum_{n=1}^{N} \lambda^n F^n(V^n(q_A) - V^n(q_B) + \omega^A),$$

is a random variable, and maximizing the probability that $\pi_A \geq 1/2$ is equivalent to maximizing (12.6).

conditions hold in general is difficult, in what follows, we follow the literature on probabilistic voting and assume that they always do.

Since the problem of party B is symmetric, it will also promise the same policy, hence in equilibrium we will have policy convergence with $q_A = q_B$.[2] Therefore, $V^n(q_A) = V^n(q_B)$, and equilibrium policies, announced by both parties, are given by

$$(12.8) \qquad \sum_{n=1}^{N} \lambda^n f^n(0) \nabla V^n(q_A) = 0.$$

Equation (12.8), which gives equilibrium policies, also corresponds to the solution to the maximization of the following weighted utilitarian social welfare function:

$$(12.9) \qquad \sum_{n=1}^{N} \chi^n \lambda^n V^n(q),$$

where

$$\chi^n = f^n(0)$$

are the weights that different groups receive in the social welfare function. We state this result as a proposition for future reference:

> **Proposition A1: (Probabilistic Voting Theorem)** Consider a set of policy choices Q, let $q \in Q \subset \mathbb{R}^S$ be a policy vector, and let preferences be given by (12.3) as a function of policy and which party is in power, with the distribution function of $\tilde{\sigma}^{ni}$ being F^n. Then equilibrium policy is given by q^* that maximizes the weighted utilitarian social welfare function, (12.9).

There are two features worth emphasizing here. First, an equilibrium always exists as long as the second-order conditions in (12.7) are satisfied; we do not need single-peaked preferences and now the policy space, Q, can be a subset of $\mathbb{R}^S$ for $S > 1$, no longer necessarily unidimensional. Therefore, the probabilistic voting model partially avoids the non-existence problems associated either with the failure of single-peakedness or with the multidimensionality of policy spaces. This is thanks to the smoothing of the individual-level discontinuities by aggregation.

Second, and more important, this model gives us a way of thinking about and parameterizing the different political power of various groups. Note that if the $f^n(0)$'s, the density of ideological biases between parties at the point where both parties platforms give the same utility, i.e., at $V^n(q_A) = V^n(q_B)$, are identical across groups, (12.9) becomes exactly the utilitarian social welfare function. The actual equilibrium in this political economy game differs from the maximization of this utilitarian social welfare function because different groups have different sensitivities to policy. For example, imagine two groups n and n' such that n is more "ideological," meaning that there will be individuals in this group with strong preferences towards party A or party B. This corresponds to the distribution function F^n having a relatively large amount of weight in the tails. In contrast, imagine group n' is not very ideological, and the majority of the group will vote for the party that gives them slightly better economic policies. This will

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[2]There may also exist asymmetric equilibria where the two parties choose different platforms.

correspond to having relatively little weight in the tails of $F^{n'}$, and therefore a large value of $f^{n'}(0)$. In this case, voters from group n' become the "swing voters" receiving more weight in the political competition game because they are more responsive to changes in policies. Intuitively, tilting policies in favor of groups that are more likely to be responsive to policies (rather than ideological issues) is more attractive to the parties as a strategy for winning votes, so in the political equilibrium, policies are more responsive to these "swing" groups's preferences.

This discussion has immediate implications for our two-class workhorse model. Even though the poor are more numerous, it does not follow that political parties offer a policy platform which is the ideal point of the poor. This is because in the probabilistic voting model, it is not just "mere numbers" that count. When there is ideology what also matters is how willing each voter is to switch their allegiance from one party to the other. This typically means that political parties take into account the preferences of the rich as captured by our reduced-form model in the text where the political process maximized a weighted utilitarian social welfare function similar to (12.9). In this context, we can also think of changes in the weight of the rich χ^r (or with the microfoundations here $f^r(0)$) affecting how redistributive democratic politics will be.

3. Lobbying

The models discussed so far allow only the votes of the citizens to affect policies. In practice, different groups, especially those that are able to organize as a lobby, make campaign contributions or pay money to politicians in order to induce them to adopt a policy that they prefer. In this section, we develop a simple lobbying model and investigate how this affects determination of equilibrium policies.

We will see that with lobbying, political power comes not only from voting, but also from a variety of other sources, including whether various groups are organized, how much resources they have available, and their marginal willingness to pay for changes in different policies. The most important result for us will be that even with lobbying, equilibrium policies will look like the solution to a weighted utilitarian social welfare maximization problem.

Let us now develop a baseline model of lobbying model due to Grossman and Helpman (1996, 2000). Imagine again that there are N groups of agents, each with the same economic preferences. The utility of an agent in group n, when the policy q is implemented, is equal to

$$V^n(q) - \gamma^n(q)$$

where $V^n(q)$ is the usual indirect utility function, and $\gamma^n(q)$ is the per-person lobbying contribution from group n. We will allow these contributions to be a function of the policy implemented by the politician, and to emphasize this, it is written with q as an explicit argument.

To obtain sharp results, we now abstract entirely from electoral politics, and assume that there is already a politician in power. Suppose that this politician has a utility function of the

form

(12.10)
$$G(q) \equiv \sum_{n=1}^{N} \lambda^n \gamma^n(q) + a \sum_{n=1}^{N} \lambda^n V^n(q),$$

where as before λ^n is the share of group n in the population. The first term in (12.10) is the monetary receipts of the politician, and the second term is utilitarian aggregate welfare. Therefore, the parameter a determines how much the politician cares about aggregate welfare. When $a = 0$, she only cares about money, and when $a \to \infty$, she acts as a utilitarian social planner. One reason why politicians might care about aggregate welfare is because of electoral politics, for example as in the last subsection, the vote share that she receives might depend on the welfare of each group (Grossman and Helpman, 1996).

Now consider the problem of an individual i in group n. By contributing some money, he might be able to sway the politician to adopt a policy more favorable to his group. But he is one of many members in his group, and there is the natural free-rider problem associated with any type of collective action as discussed in Chapter 5. Consequently, he might let others make the contribution, and simply enjoy the benefits. This will typically be the outcome if groups are unorganized (for example, there is no effective organization coordinating their lobbying activity and excluding non-contributing members from some of the benefits etc.). On the other hand, organized groups might be able to collect contributions from their members in order to maximize group welfare.

We will think that out of the N groups of agents, $L < N$ of those are organized as lobbies, and can collect money among their members in order to further the interests of the group. The remaining $N - L$ are unorganized, and will make no contributions. Without loss of any generality, let us rank the groups such that groups $n = 1, ..., L$ will be the organized ones.

The lobbying game takes the following form: every organized lobby n simultaneously offers a schedule $\gamma^n(q) \geq 0$ which denotes the payments they would make to the politician when policy q is adopted. After observing the schedules, the politician chooses q. The important assumption here that contributions to politicians (campaign contributions or bribes) can be conditioned on the actual policy that's implemented by the politicians. This assumption may be a good approximation to reality in some situations, but in others, lobbies might simply have to make up-front contributions and hope that these help the parties that are expected to implement policies favorable to them to get elected.

This is a potentially very complex game, since various different agents (here lobbies) are choosing functions (rather than scalars or factors). Nevertheless, noticing the fact that this looks like an auction model along the lines of the work by Bernheim and Whinston (1986), it can be shown that the equilibrium has a simple form.

In particular, the following proposition can be established:[3]

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[3]Grossman and Helpman (1994) also prove that for each lobby n there exists a policy $\hat{q}^n \in \arg\max_{q \in Q} \left(\sum_{n'=1}^{L} \lambda^{n'} \hat{\gamma}^{n'}(q) + a \sum_{n'=1}^{N} \lambda^{n'} V^{n'}(q) \right)$, which satisfies $\hat{\gamma}^n(\hat{q}^n) = 0$. This means that the equilibrium contribution function of each lobby is such that there exists a policy that makes no contributions to the

Proposition A.2: (Grossman-Helpman Lobbying Equilibrium) In the lobbying game described above, contribution functions for groups $n = 1, 2...L$, $\{\hat{\gamma}^n(\cdot)\}_{n=1,2..L}$ and policy q^* constitute a subgame perfect Nash equilibrium if:

(1) $\hat{\gamma}^n(\cdot)$ is feasible in the sense that $0 \leq \hat{\gamma}^n(q) \leq V^i(q)$.

(2) The politician chooses the policy that maximizes her welfare, i.e.,

$$(12.11) \qquad q^* \in \arg\max_{q \in Q} \left(\sum_{n=1}^{L} \lambda^n \hat{\gamma}^n(q) + a \sum_{n=1}^{N} \lambda^n V^n(q) \right)$$

(3) There are no profitable deviations for any lobby, $n = 1, 2, .., L$, i.e.,

$$(12.12) \qquad q^* \in \arg\max_{q \in Q} \left(V^n(q) - \hat{\gamma}^n(q) + \sum_{n'=1}^{L} \lambda^{n'} \hat{\gamma}^{n'}(q) + a \sum_{n'=1}^{N} \lambda^{n'} V^{n'}(q) \right) .$$

Though this proposition at first looks complicated, it is really quite intuitive. Condition 1 is simply feasibility; negative contributions are not allowed, and no group would pay in amounts that would give negative utility.

Condition 2 has to hold in any subgame perfect equilibrium, since the politician chooses the policy after the lobbies offer their contribution schedules. This condition simply states that given the lobbies' contribution schedules, the politician will choose the policy that maximizes her objective.

Condition 3 is the most important restriction on the equilibrium. If this condition did not hold, then the lobby could change its contribution schedule slightly and improve its welfare.

To establish this result, we can reason as follows. Suppose, to obtain a contradiction, that this condition does not hold for lobby $n = 1$, and instead of q^*, some $\hat{q}$ maximizes (12.12). Denote the difference in the values of (12.12) for $n = 1$ evaluated at q^* and $\hat{q}$ by $\Delta > 0$ (which is strictly positive by the hypothesis that (12.12) is violated).

Then consider the following contribution schedule for lobby $n = 1$:

$$\tilde{\gamma}^1(q) = \frac{1}{\lambda^1} \left(\sum_{n=1}^{L} \lambda^n \hat{\gamma}^n(q^*) + a \sum_{n=1}^{N} \lambda^n V^n(q^*) - \sum_{n=2}^{L} \lambda^n \hat{\gamma}^n(q) - a \sum_{n=1}^{N} \lambda^n V^n(q) + \varepsilon c^1(q) \right),$$

where $c^1(q)$ is a continuous positive function reaching its strict maximum at $q = \hat{q}$. Basically, this schedule is designed by lobby 1 to induce the politician to choose $\hat{q}$ instead of q^*, and by design, it ensures greater utility for the politician at $\hat{q}$ than at q^*. To see this, suppose that with

politician, and gives her the same utility. If this condition were not true, the lobby could reduce all its contributions, and still induce the same behavior. This feature of the equilibrium is not important for the results we want to highlight here, hence it is relegated to this footnote.

this new schedule, the politician chooses q^*, in this case, her payoff is

$$
\begin{aligned}
G\left(q^*\right) &= \sum_{n=2}^{L} \lambda^n \hat{\gamma}^n\left(q^*\right) + a \sum_{n=1}^{N} \lambda^n V^n\left(q^*\right) \\
&\quad + \left(\sum_{n=1}^{L} \lambda^n \hat{\gamma}^n\left(q^*\right) + a \sum_{n=1}^{N} \lambda^n V^n\left(q^*\right) - \sum_{n=2}^{L} \lambda^n \hat{\gamma}^n\left(q^*\right) - a \sum_{n=1}^{N} \lambda^n V^n\left(q^*\right) + \varepsilon c^1\left(q^*\right) \right) \\
&= \sum_{n=1}^{L} \lambda^n \hat{\gamma}^n\left(q^*\right) + a \sum_{n=1}^{N} \lambda^n V^n\left(q^*\right) + \varepsilon c^1\left(q^*\right).
\end{aligned}
$$

On the other hand, if she chooses $\hat{q}$, this payoff will be

$$
\begin{aligned}
G\left(\hat{q}\right) &= \sum_{n=2}^{L} \lambda^n \hat{\gamma}^n\left(\hat{q}\right) + a \sum_{n=1}^{N} \lambda^n V^n\left(\hat{q}\right) + \sum_{n=1}^{L} \lambda^n \hat{\gamma}^n\left(\hat{q}\right) \\
&\quad + \left(\sum_{n=1}^{L} \lambda^n \hat{\gamma}^n\left(q^*\right) + a \sum_{n=1}^{N} \lambda^n V^n\left(q^*\right) - \sum_{n=2}^{L} \lambda^n \hat{\gamma}^n\left(\hat{q}\right) - a \sum_{n=1}^{N} \lambda^n V^n\left(\hat{q}\right) + \varepsilon c^1\left(\hat{q}\right) \right) \\
&= \sum_{n=1}^{L} \lambda^n \hat{\gamma}^n\left(q^*\right) + a \sum_{n=1}^{N} \lambda^n V^n\left(q^*\right) + \varepsilon c^1\left(\hat{q}\right).
\end{aligned}
$$

This immediately shows that for any $\varepsilon > 0$, $G\left(\hat{q}\right) > G\left(q^*\right)$. In fact, since $c^1\left(q\right)$ is maximized at $q = \hat{q}$, the politician strictly prefers the policy $q = \hat{q}$ to any other feasible alternative, when faced with this contribution schedule for any $\varepsilon > 0$.

It is also immediate to see that the change in the welfare of lobby 1 as a result of changing its strategy from $\hat{\gamma}^1$ to $\tilde{\gamma}^1$ is

$$
\Delta - \varepsilon c^1\left(q\right).
$$

Since $\Delta > 0$, for small enough ε, the lobby gains from this change, showing that the original allocation could not have been an equilibrium.

The results in Proposition A2 appear far from the simple weighted utility maximization of Chapter 4. We next see that they in fact imply weighted utility maximization. To see this, suppose that the contribution functions, the $\hat{\gamma}$'s, are differentiable. In practice, restricting to differentiable functions might be a simplifying assumption, though Bernheim and Winston (1986) show that differentiable contribution functions have the desirable property of being robust to mistakes (or perturbations) and to coalition formation.

With differentiablity, the politician's maximization problem in (12.11) implies the following first-order condition for every policy choice, q_s, within the vector q:

$$
\sum_{n=1}^{L} \lambda^n \frac{\partial \hat{\gamma}^n\left(q\right)}{\partial q_s} + a \sum_{n=1}^{N} \lambda^n \frac{\partial V^n\left(q\right)}{\partial q_s} = 0 \text{ for all } s = 1, 2, .., S.
$$

Similarly, from each lobby's optimization, (12.12):

$$\frac{\partial \hat{\gamma}^n(q)}{\partial q_s} + a\frac{\partial V^n(q)}{\partial q_s} + \sum_{n'=1}^{N} \lambda^{n'}\frac{\partial \hat{\gamma}^{n'}(q)}{\partial q_s} + a\sum_{n'=1}^{N} \lambda^{n'}\frac{\partial V^{n'}(q)}{\partial q_s} = 0$$

for all $s = 1, 2, .., S$ and $n = 1, 2, .., L$.

These two sets of first-order conditions basically state that both the politician and the lobbies are equating marginal cost to marginal benefits. For the politician, the benefits are increased contributions, while the costs are deviation from the social-welfare maximizing objective. For the lobby, the benefits are policies more in line with their interests, while the costs are increased contributions.

Combining these two first-order conditions, we obtain

(12.13)
$$\frac{\partial \hat{\gamma}^n(q)}{\partial q_s} = \frac{\partial V^n(q)}{\partial q_s}$$

for all $s = 1, 2, .., S$ and $n = 1, 2, .., L$. Intuitively, at the margin each lobby is willing to pay for a change in policy exactly as much as this policy will bring them in terms of additional return. For this reason, the equilibrium of this type of lobbying game with differentiable contribution functions are sometimes referred to as "truthful," in the sense that the contribution functions do reflect the marginal benefits of policies to the lobbies.

The real advantage of (12.13) is that it enables us to establish our main objective: the political equilibrium with lobbying can be characterized as a solution to maximizing the following function

(12.14)
$$\sum_{n=1}^{L} \lambda^n V^n(q) + a\sum_{n=1}^{N} \lambda^n V^n(q)$$

with respect to q.

In other words by maximizing a weighted social welfare function, with individuals in unorganized groups getting a weight of a and those in organized group receiving a weight of $1 + a$. Intuitively, $1/a$ measures how much money matters in politics, and the more money matters, the more weight groups that can lobby receive. As $a \to \infty$, we converge to the utilitarian social welfare function. We can therefore state:

Proposition A.3: The lobbying game with full commitment on the side of the politicians and differentiable contribution functions leads to equilibrium policies that maximize the weighted utilitarian social welfare function, (12.14).

It is also useful at this point to discuss the implications of the lobbying model for our two-class model. In a model with political divisions between the rich and the poor, it may be reasonable to think that, under certain circumstances, the rich will be more organized and can form an effective lobby to influence policies. More specifically, let us return to our baseline model and assume that the poor are unorganized, but the rich are able to form an effective lobby. The results in this subsection imply that the lobbying equilibria will be given by maximizing

$$\max_{\tau} \ a\,(1-\delta)\left((1-\tau)y^p + \tau\bar{y} - C(\tau)\bar{y}\right) + (1+a)\delta\left((1-\tau)y^r + \tau\bar{y} - C(\tau)\bar{y}\right),$$

which has a first-order condition that can be written, again in the complementary slackness fashion, as

(12.15) $$\frac{a(1-\theta)+(1+a)\theta}{a(1-\delta)+(1+a)\delta} \leq 1 - C'(\tau) \text{ and } \tau \geq 0$$

As $a \to \infty$, we obtain the case of maximizing utilitarian social welfare function. As $a \to 0$, equilibrium policy simply maximizes the utility of the rich agents, who become much more influential in democratic politics because of their organized lobby. Interestingly, in this case, irrespective of the value of a, we have that $\tau = 0$, since even with utilitarian social welfare function, there should be no distortionary taxation, as we saw above.

More interestingly, it is possible to combine elements from the probabilistic voting model, where different groups have different amounts of political power, and the lobbying model. For example, we could have that equilibrium policy is given by:

$$q^* = \arg \max_q \left(\sum_{n=1}^{L} \lambda^n V^n(q) + a \sum_{n=1}^{N} \lambda^n \chi^n V^n(q) \right)$$

where χ^n's are political power parameters coming from electoral politics.

Let us apply this model to our two-class model of redistribution and suppose that the rich are organized as a lobby and the poor are not. We can see immediately that there will be redistributive taxation, i.e., $\tau > 0$, if the poor are sufficiently powerful in electoral politics, e.g., $\chi^p > \chi^r$, so as to offset the effects of the power of the rich which derive from their lobbying activities.

4. Partisan Politics and Political Capture

Another important approach to democratic politics incorporates the idea that political parties have broader objectives than simply winning power. First, political parties might also have ideologies, and these ideological biases may also have an effect on equilibrium policies. Second, an important question is whether certain groups will be able to capture the political agenda (for example via lobbying as in the last section), and how this could be influential in democratic politics. In this section, we will introduce ideological parties (partisan politics), and show how this affects the implications of the Downsian political competition model, and also use this model to discuss issues of political capture. We will see that as long as there are no issues of probabilistic voting (ideological considerations on the side of voters), the predictions of the model of Downsian political competition apply as before, and there are very strong forces towards convergence of policies to the preferences of the median voter. However, either when there are ideological considerations on the side of voters as well, or when there are problems of commitment on the side of parties, the ideological preferences of parties will also affect equilibrium policy. This will give us another channel through which the reduced-form model of the distribution of political power in democracy can arise, and also another reason why certain groups may influence equilibrium policy more than their voting numbers suggest (i.e., because they are able to capture the agendas of political parties).

4.1. Electoral Competition with Partisan Parties. In the basic Downsian model of political competition, the objective functions of the parties were given by (4.1), which only valued the rent from coming to power. By ideological or partisan parties, we mean parties that have preferences over policies as well as over whether they come to power.

To formalize these notions, imagine that there is a single dimension of policy, again denoted q from a convex and compact subset Q of $\mathbb{R}$, and let there be two parties A and B. We now replace the equation (4.1) by

$$(12.16) \qquad \text{Party } A \quad : \quad \max_{q_A \in Q} \; P(q_A, q_B)\left(R + W_A(q_A)\right) + (1 - P(q_A, q_B))W_A(q_B)$$

$$\text{Party } B \quad : \quad \max_{q_B \in Q} \; (1 - P(q_A, q_B))\left(R + W_B(q_B)\right) + P(q_A, q_B)W_B(q_A),$$

where $W_A(q)$ and $W_B(q)$ denote the 'utility functions' of parties A and B, and R is a rent from being in office, which is assumed to be non-negative. Parties now maximize their 'expected utility' taking into account the voting behavior of the citizens as summarized by the function $P(q_A, q_B)$. This expected utility consists of their ideological preferences over policies that are implemented, and the rent from coming to office.

To start with, we consider the case where $P(q_A, q_B)$ is given by (12.1), for example, because preferences are single peaked and there are no ideological considerations on the side of the voters (we shall later come to probabilistic voting and thus to more smooth versions of equation (12.1)).

Suppose that the utility functions of the parties are smooth and strictly quasi-concave (i.e., single peaked), with ideal policies q^A and q^B, i.e.,

$$q^A = \arg \max_{q_A \in Q} W_A(q_A) \;\; \text{and} \;\; q^B = \arg \max_{q_B \in Q} W_B(q_B).$$

In other words, $\partial W_A(q^A)/\partial q_A = 0$ and $\partial W_B(q^B)/\partial q_B = 0$.

A model of partisan politics along these lines was first formalized by Wittman (1983), who used it to argue that there may not be policy convergence when parties have ideological biases. We will also use this model to talk about issues of capture of the political agenda by one of the groups.

Finally, we assume that both parties choose their policies (policy platforms) simultaneously. Therefore, the predictions of this model can be summarized by the corresponding Nash Equilibrium, where each party chooses the policy which maximizes its utility given the policy of the other party. Nash Equilibrium policy platforms, (q_A^*, q_B^*), will satisfy the following conditions:

$$q_A^* = \arg \max_{q_A \in Q} \; P(q_A, q_B^*)\left(R + W_A(q_A)\right) + (1 - P(q_A, q_B^*))W_A(q_B^*),$$

and, simultaneously,

$$q_B^* = \arg \max_{q_B \in Q} \; (1 - P(q_A^*, q_B))\left(R + W_B(q_B)\right) + P(q_A^*, q_B)W_B(q_A^*).$$

Intuitively these conditions state that in a Nash Equilibrium, taking q_B^* as given, q_A^* should maximize party A's expected utility. At the same time it must be true that, taking q_A^* as given, q_B^* should maximize B's expected utility.

The problem in characterizing this Nash equilibrium is that the function $P(q_A, q_B)$, as shown by (12.1), is not differentiable. Nevertheless, it is possible to establish the following proposition, which was first proved by Calvert (1985), and shows that even with partisan politics, there will be policy convergence, and this convergence will typically be to the most preferred point of the median voter.

Proposition A.4: (Policy Convergence with Partisan Politics) Consider the partisan politics model described above, with ideal points of the two parties q^A and q^B, and the ideal point of the median voter corresponding to q^M. Suppose also that the probability of party A winning the election is given by $P(q_A, q_B)$, as in (12.1).

- If $R > 0$, or if $q^A \geq q^M \geq q^B$, or if $q^B \geq q^M \geq q^A$, then the unique equilibrium involves convergence of both parties to the median, i.e., $q_A = q_B = q^M$, and each party wins the election with probability one half.
- If, on the other hand, $R = 0$ *and* q^A and q^B are both to the left or to the right of q^M, then there is no convergence to the median. In particular, when $V^M(q^A) > V^M(q^B)$, the equilibrium policy is q^A and when $V^M(q^A) < V^M(q^B)$, the equilibrium policy is q^B.

Therefore, the basic result is that although there can be exceptions when there are no rents from coming to office and both parties have the same type of ideological bias, there are very strong forces towards policy convergence. As the discussion will illustrate, the source of these powerful forces is equation (12.1), which implies that the policy that comes closer to the median voter's preferences will win relative to another policy.

Proposition A.4 is relatively straightforward to prove, and here we simply give an outline and the basic intuition. Start with the first case where the preferences of the median voter are intermediate with respect to the ideal points of the two parties. Consider first the situation in which $q_A = q^M \neq q_B$. Then, we have that $P(q_A, q_B) = 1$, and party A is winning for sure. The utility of party B is given by: $W_B(q^M)$. Now imagine a deviation by party B to $q_B = q^M$. We will have that $P(q_A, q_B) = 1/2$, so the utility of party B changes to $R/2 + W_B(q^M) > W_B(q^M)$, hence the deviation is profitable, and $q_A = q^M \neq q_B$ cannot be an equilibrium (in the case where $R = 0$, the argument is a little different, and now party A can change its policy to something slightly away from q^M towards its ideal point q^A and still win the election and now implement a policy closer to its preferences.)

Similarly, consider a situation where $q_A \neq q^M \neq q_B$, and suppose without loss of any generality that $q^A > q^M > q^B$ and $V^M(q_A) > V^M(q_B)$, so that we again have $P(q_A, q_B) = 1$. It is clear that we must have $q_A \geq q^M$, otherwise, party A could find a policy q'_A such that $V^M(q'_A) > V^M(q_B)$ and $q'_A \geq q^M$ preferable to any $q_A \in (q^M, q_B)$. But then party B is obtaining utility $W_B(q_A)$, and by changing its policy to $q_B = q^M$ it will obtain utility $R + W_B(q^M)$ if $q_A > q^M$ and $R/2 + W_B(q^M)$ if $q_A = q^M$. By the fact that $q_A \geq q^M$ both of these are greater than its initial utility, $W_B(q_A)$, hence, no policy announcements with $q_A \neq q^M \neq q_B$ can be an equilibrium. Therefore, the equilibrium must have $q_A = q_B = q^M$, i.e., convergence to the

median. Intuitively, the median voter's ideal point is preferable to each party relative to the other party's ideal point, and moreover increases their likelihood of coming to power. Therefore, no policy other than the median voter's ideal point can ever be implemented in equilibrium.

Next let us consider the case where $q^B > q^A > q^M$ (other configurations give analogous results) Now, suppose that we have $q_A = q^A$. What should party B do? Clearly, any policy $q_B > q^A$ will lose the election. On the other hand, $q_B = q^A$ will win the election with probability $1/2$ and is preferable. But in fact party B can do better. It can set $q_B = q^A - \varepsilon$ which is closer to the median voter's preferences, and by the fact that voters' preferences are single peaked, this is preferable to q^A, and therefore will win the election for party B. Although this policy is worse for party B than q^A (since $q^B > q^A$), for ε small enough, the difference is minuscule, whereas the gain in terms of the rent from coming to power is first-order. This argument only breaks down when $R = 0$, and in this case, the best thing that party B can do is to offer $q_B = q^A$ (or any other policy $q_B > q^A$ for that matter, since it does not care about coming to power, and in either case, q^A will be the equilibrium policy).

We therefore see that policy convergence to the median is a rather strong force which demonstrates that the assumption about the objectives of parties in the Downsian model is not as restrictive as it might first appear. However, there can be exceptions especially when rents from coming to power are nonexistent.

4.2. Electoral Competition with Partisan Parties and Probabilistic Voting. Nevertheless, the above results depend crucially on the form of the $P(q_A, q_B)$ function, which created very strong returns to being closer to the most preferred point of the median voter. We saw above how, in the presence of ideological considerations on the side of the voters, $P(q_A, q_B)$ can become a continuous function. If that's the case, then policy convergence will break down. To see this, suppose that $P(q_A, q_B)$ is a continuous and differentiable function, and suppose that it reaches its maximum for each party at q^M (i.e., being closer to the median voter's preferences is still beneficial in terms of the probability of being elected—that we make this point which maximizes winning probabilities the median voter's ideal point is simply a normalization without any consequences). In that case, the Nash equilibrium of the policy competition game between the two parties will be a pair of policies (q_A^*, q_B^*) such that the following first-order conditions hold:

$$(12.17) \qquad \frac{\partial P(q_A^*, q_B^*)}{\partial q_A} \left(W_A(q_A^*) + R - W_A(q_B^*) \right) + P(q_A^*, q_B^*) \frac{\partial W_A(q_A^*)}{\partial q_A} \;=\; 0, \text{ and}$$

$$-\frac{\partial P(q_A^*, q_B^*)}{\partial q_B} \left(W_B(q_B^*) + R - W_B(q_A^*) \right) - P(q_A^*, q_B^*) \frac{\partial W_B(q_B^*)}{\partial q_B} \;=\; 0.$$

The first term on both lines is the gain in terms of the utility of winning times the change in the probability of winning in response to a policy change, and the second term is the product of the current probability of winning times the gain in terms of improvements in the party's utility because of the policy change. When these two marginal effects are equal to each other, each

party is playing its best response. When both parties are playing their best responses, we have a Nash equilibrium.

Although (12.17) characterizes the Nash equilibrium implicitly for any function $P(q_A, q_B)$, it is not very informative unless we put more structure on this function. To do this, let us follow the analysis in the probabilistic voting section, 2.1, and assume that parties maximize their vote shares given by (12.6), $\pi_A = \sum_{n=1}^{N} \lambda^n F^n(V^n(q_A) - V^n(q_B))$. In that case, the equilibrium condition for party A in (12.17) can be written as:

$$(12.18) \qquad \sum_{n=1}^{N} \lambda^n f^n(V^n(q_A^*) - V^n(q_B^*)) \frac{\partial V^n(q_A^*)}{\partial q_A} (W_A(q_A^*) + R - W_A(q_B^*))$$

$$+ \quad \sum_{n=1}^{N} \lambda^n F^n(V^n(q_A^*) - V^n(q_B^*)) \frac{\partial W_A(q_A^*)}{\partial q_A} = 0,$$

with a similar condition for party B.

The interest of the partisan politics model for us is that, under some circumstances, it will also lead to the reduced-form model of the distribution of political power in democracy used in Chapter 4, potentially giving more power to the rich than the MVT. To highlight this possibility in the simplest possible way, let us next assume that both parties have preferences that are aligned with those of one of the social groups (in terms of our two-class model, the rich). Let us denote this group that has captured the platforms of both parties by '1'. Then, we have that

$$W_A(q) = W_B(q) = V^1(q).$$

In that case, the equilibrium will again be symmetric, and using (12.18), we obtain the equilibrium policy in this case denoted q^* satisfying:

$$\sum_{n=1}^{N} \lambda^n f^n(0) R \frac{\partial V^n(q^*)}{\partial q} + \frac{\partial V^1(q^*)}{\partial q} \sum_{n=1}^{N} \lambda^n F^n(0) \quad = \quad 0, \text{ implying}$$

$$\sum_{n=1}^{N} \lambda^n f^n(0) R \frac{\partial V^n(q^*)}{\partial q} + \frac{1}{2} \frac{\partial V^1(q^*)}{\partial q} \quad = \quad 0,$$

where the second line uses the fact that in equilibrium each party comes to power with probability 1/2, thus $\sum_{n=1}^{N} \lambda^n F^n(0) = 1/2$.

This analysis immediately implies that the equilibrium policy is the solution to maximizing the weighted utilitarian social welfare maximization:

$$(12.19) \qquad \sum_{n=1}^{N} \chi^n \lambda^n V^n(q),$$

where

$$\chi^1 = f^1(0) R + \frac{1}{2}, \text{ and } \chi^n = f^n(0) R \text{ for } n \geq 2.$$

In other words, the group whose preferences are represented by the party platforms will have a greater weight in politics. The model also highlights that this effect is more likely to be pronounced when parties do not value coming to power much, i.e., R is small, whereas when coming

to office matters a lot to the parties, the results are very similar to the baseline probabilistic voting model.

This gives another potential interpretation for the reduced-form model of democratic politics in Chapter 4, where the equilibrium policy was the solution to a weighted utilitarian social welfare maximization problem. We summarize this result as:

Proposition A.5: (Policy Non-Convergence with Partisan Politics and Probabilistic Voting) Suppose that $P(q_A, q_B)$ is a continuous function because of probabilistic voting, and political parties represent the preferences of one of the groups. Then the political equilibrium is given by maximizing the weighted utilitarian social welfare function (12.19) which places greater weight on the social group whose preferences are reflected in the party platforms.

The reason why this proposition is important for us is that it suggests that certain groups can be quite powerful in democratic politics if they can manage to control the ideological leanings of the parties. In terms of our two-class model, we can think of democratic politics sometimes as captured by the rich, for example because they control the political parties.

4.3. Commitment and Convergence. An important assumption so far is that parties announce policy platforms and then they can commit to the policies that they have announced in those platforms. This way, parties could basically compete by varying the policies that they will implement when in office. However, as emphasized by Alesina (1988), Osborne and Slivinski (1996) and Besley and Coate (1997), the assumption of commitment is not necessarily plausible. In these one-shot models, what is there to stop the politicians from changing policies to their ideal point once they come the power? Nothing. There is no potential punishment (there would have been some punishment if we were in the world with repeated elections, but this is beyond the scope of our treatment here).

Therefore, it is important to see what happens when we remove this commitment assumption. So consider the model of the last section, but assume that parties can choose whichever policy they like when they come to office. Suppose also that $P(q_A, q_B)$ is given by (12.1). Announcements before the election are nothing other than cheap talk, and in a subgame perfect equilibrium, voters will realize that once they come to power, parties will implement their ideal points. Therefore, they will simply compare $V^n(q^A)$ and $V^n(q^B)$, and vote for whichever party has an ideal point closer to their ideal point. The result will be that the party with an ideal point closer to that of the median voter will win. We therefore have that

Proposition A.6: (Policy Non-Convergence With Partisan Politics and No Commitment) Suppose that there is no commitment to policy platforms in the above model of partisan politics. Then in the unique equilibrium, we have that: if $V^M(q^A) > V^M(q^B)$ party A comes to power with probability 1 and the equilibrium policy is q^A; if $V^M(q^B) > V^M(q^A)$ party B comes to power with probability 1 and the equilibrium policy is q^B; and if $V^M(q^A) = V^M(q^B)$ each party comes the power with probability 1/2 and the equilibrium policy is q^A with probability 1/2 and q^B with probability 1/2.

Consequently, in this model of partisan politics without commitment, we see that parties' policy preferences matter even more. This implies that the control of the political agenda and parties' internal structures will become more important in determining equilibrium policies, and thus more valuable, when parties cannot perfectly commit to policies at the election stage. In this case, if both parties platforms are totally captured by a social group, equilibrium policies will always be at the ideal point of one of these social groups. Take for example a situation where the poor control one political party and the rich the other. If the ideal point of the rich is closer to the ideal point of the median voter the equilibrium democratic policy will always be the ideal point of the rich.

In summary, the models discussed in this appendix provide a microfoundations for the reduced form model of political power used at the end of Chapter 4, and suggest that the rich may have more power in some democracies either because they are less ideological in their voting than the poor, or because they have been able to form effective lobbies for their interests, or because they are able to capture or influence party platforms.

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Figure 2.1 Democratization
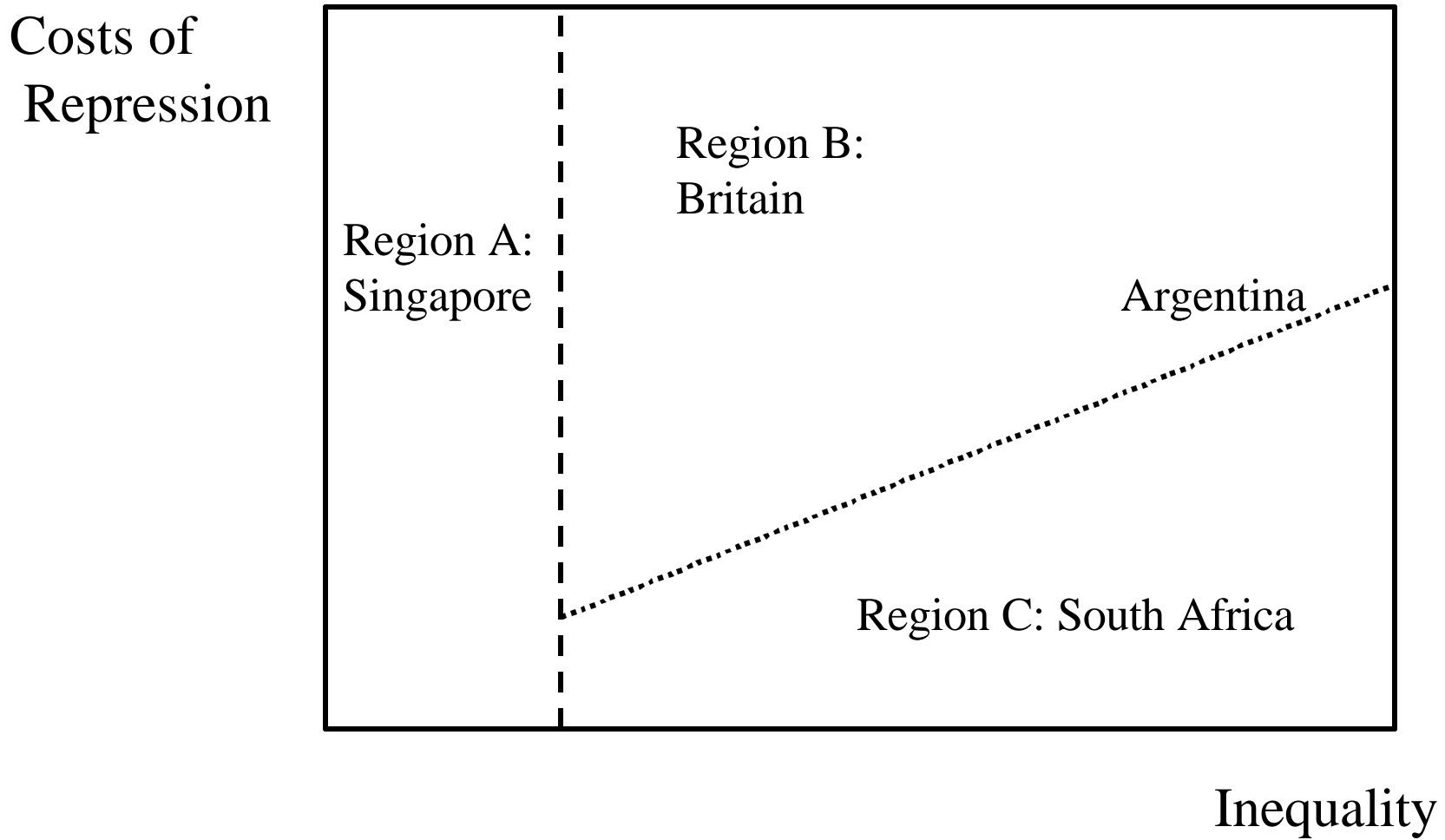
Figure 2.2 Democratic Consolidation

Costs of
Coups

Region A:
Britain

Argentina
Region B:
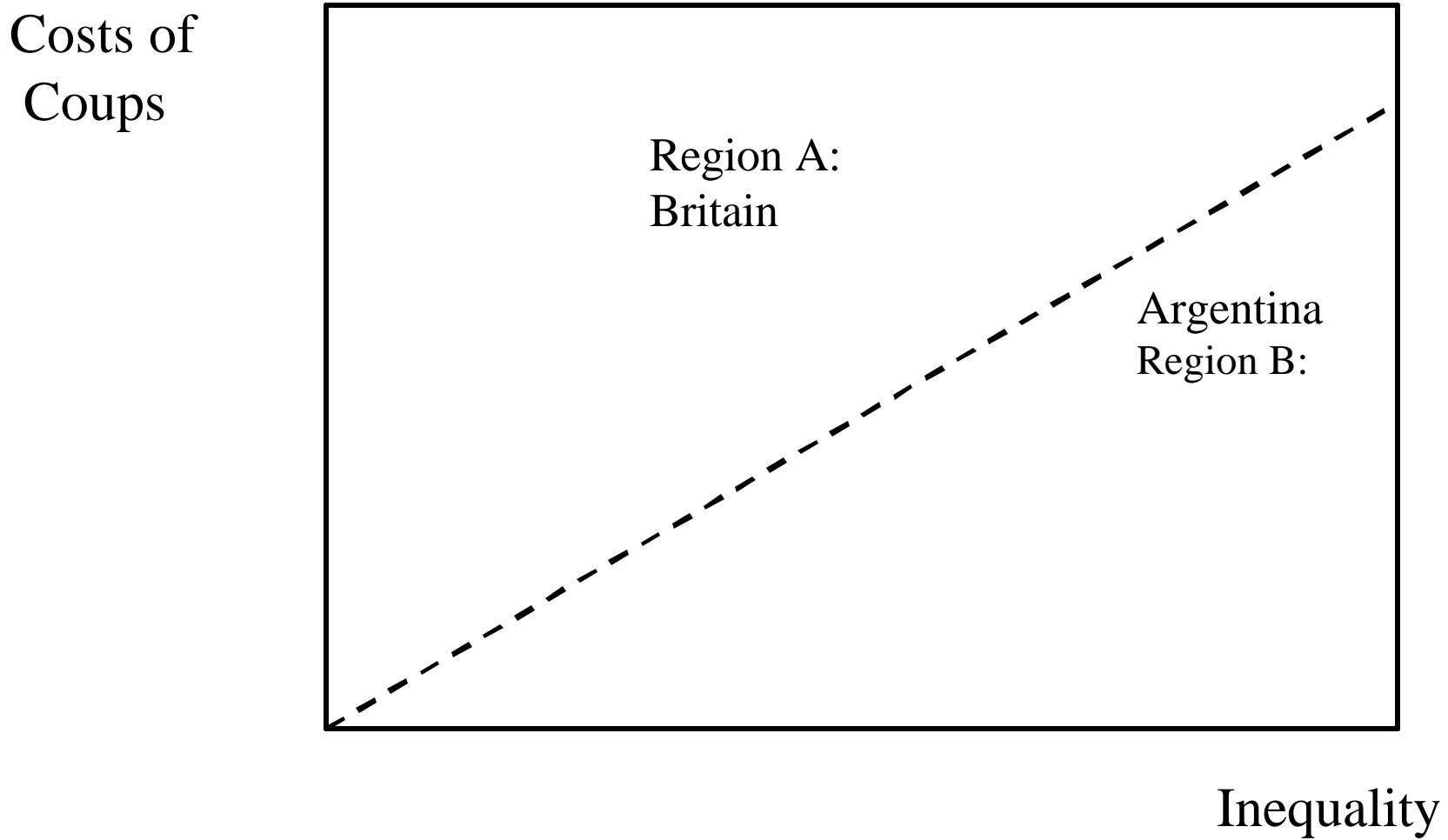
Inequality

Figure 2.3 Democratization in South Africa
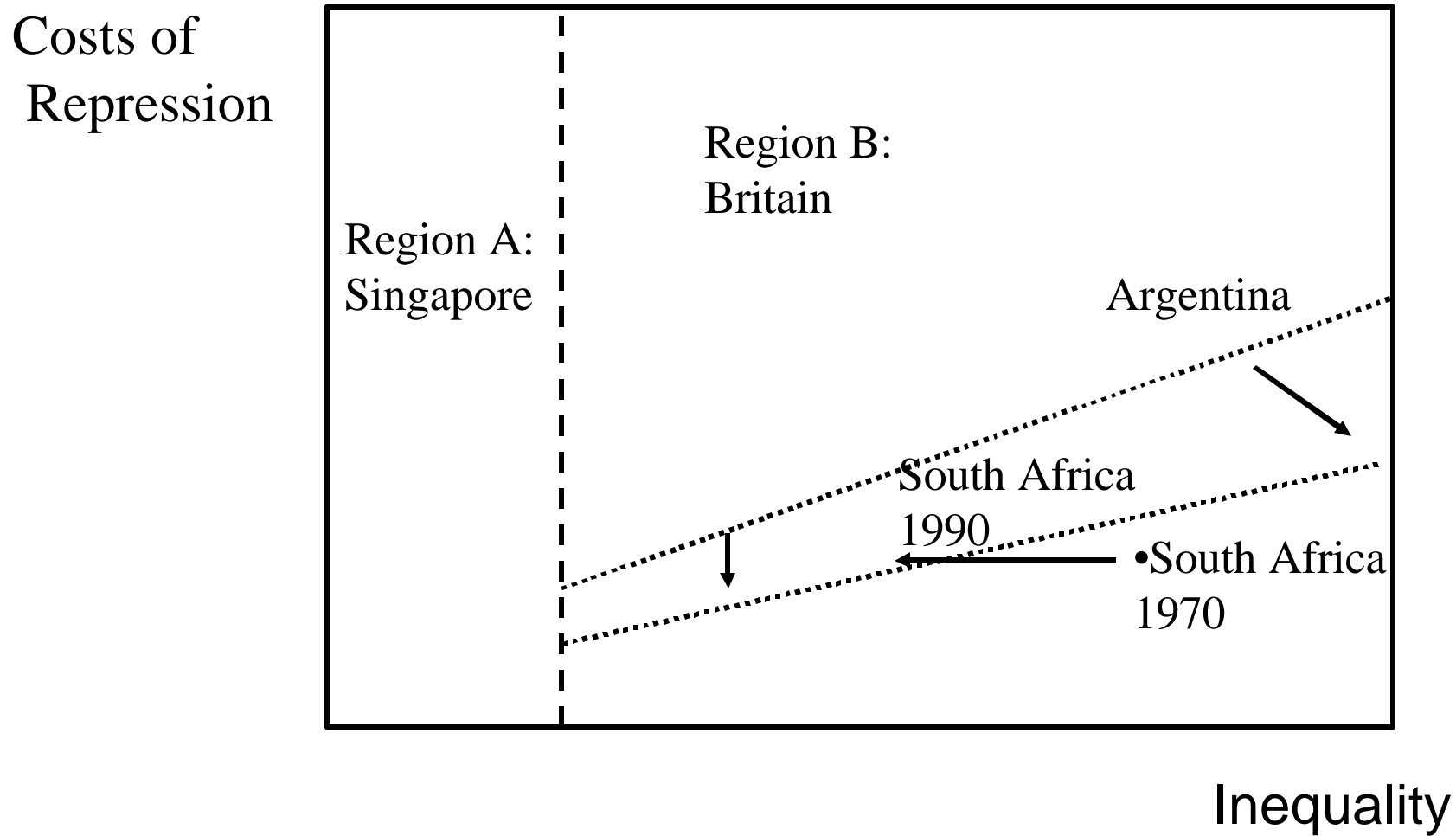
Figure 2.4 Democratic Consolidation in South Africa?

Costs of
Coups

Region A:
Britain
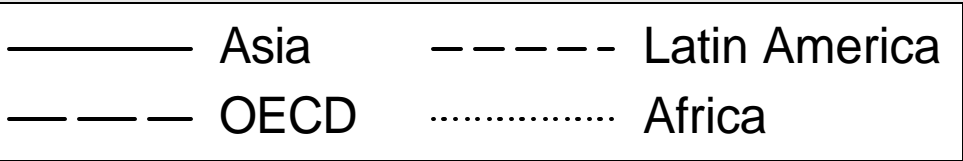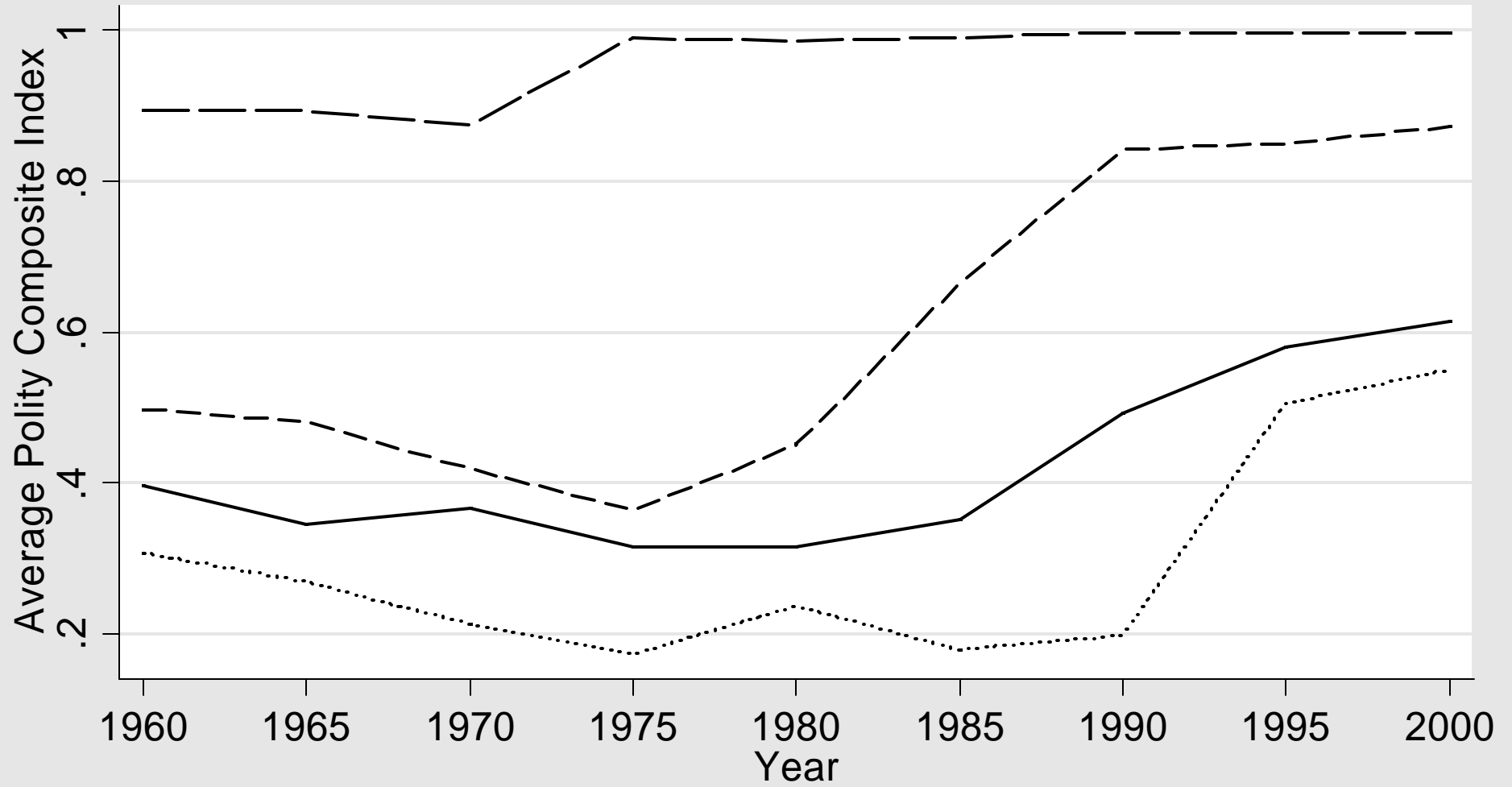
Region B:
Argentina

South Africa
2003?
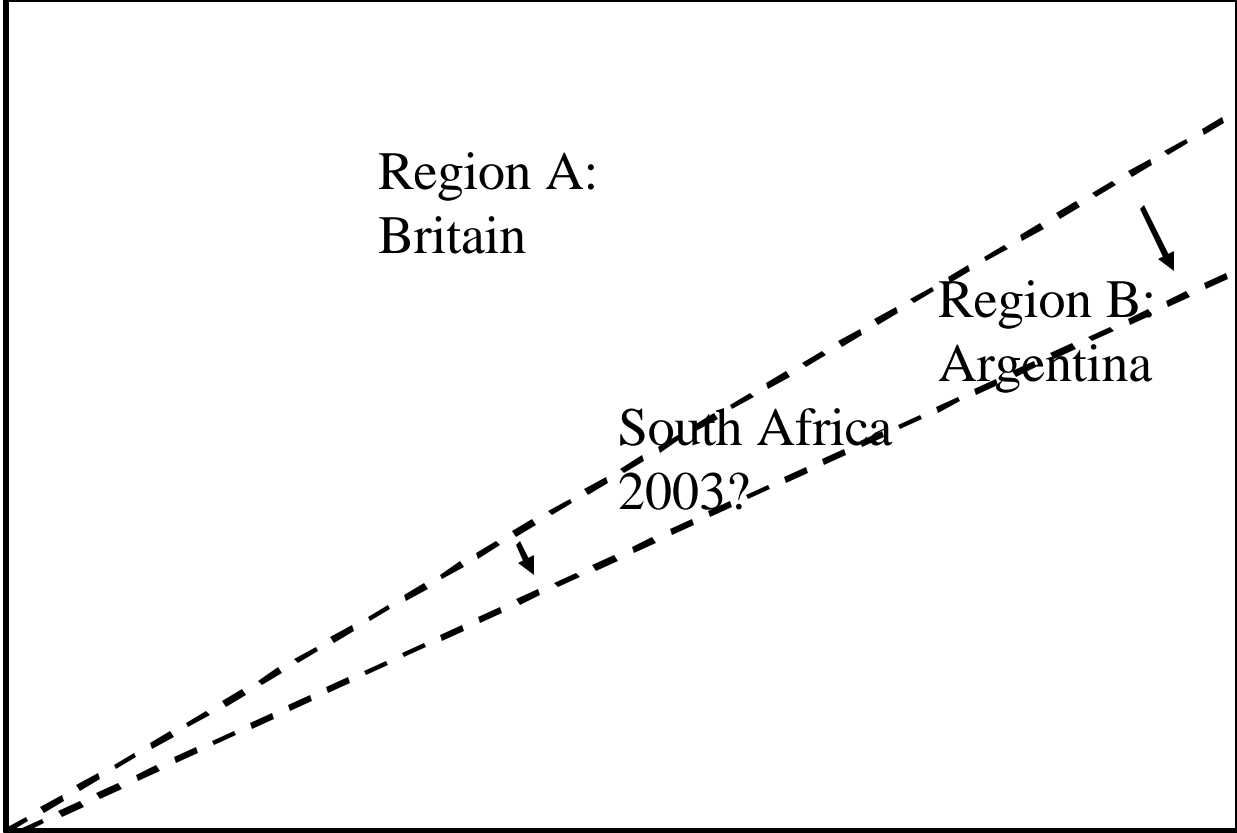
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Figure 3.1
Evolution of Democracy 1960-2000
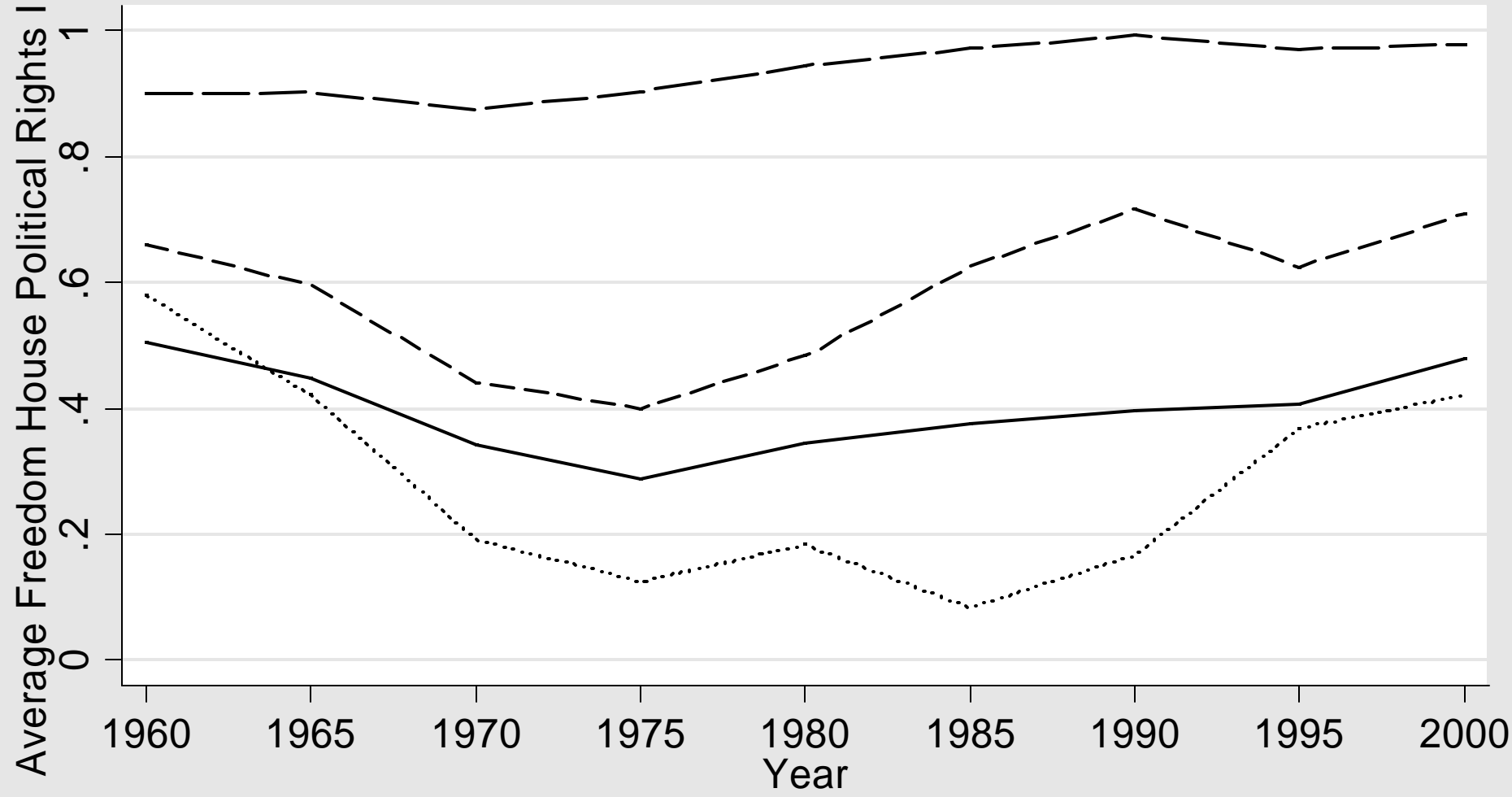
Figure 3.2
Evolution of Democracy 1960-2000

Figure 3.3
Evolution of Democracy 1960-1995
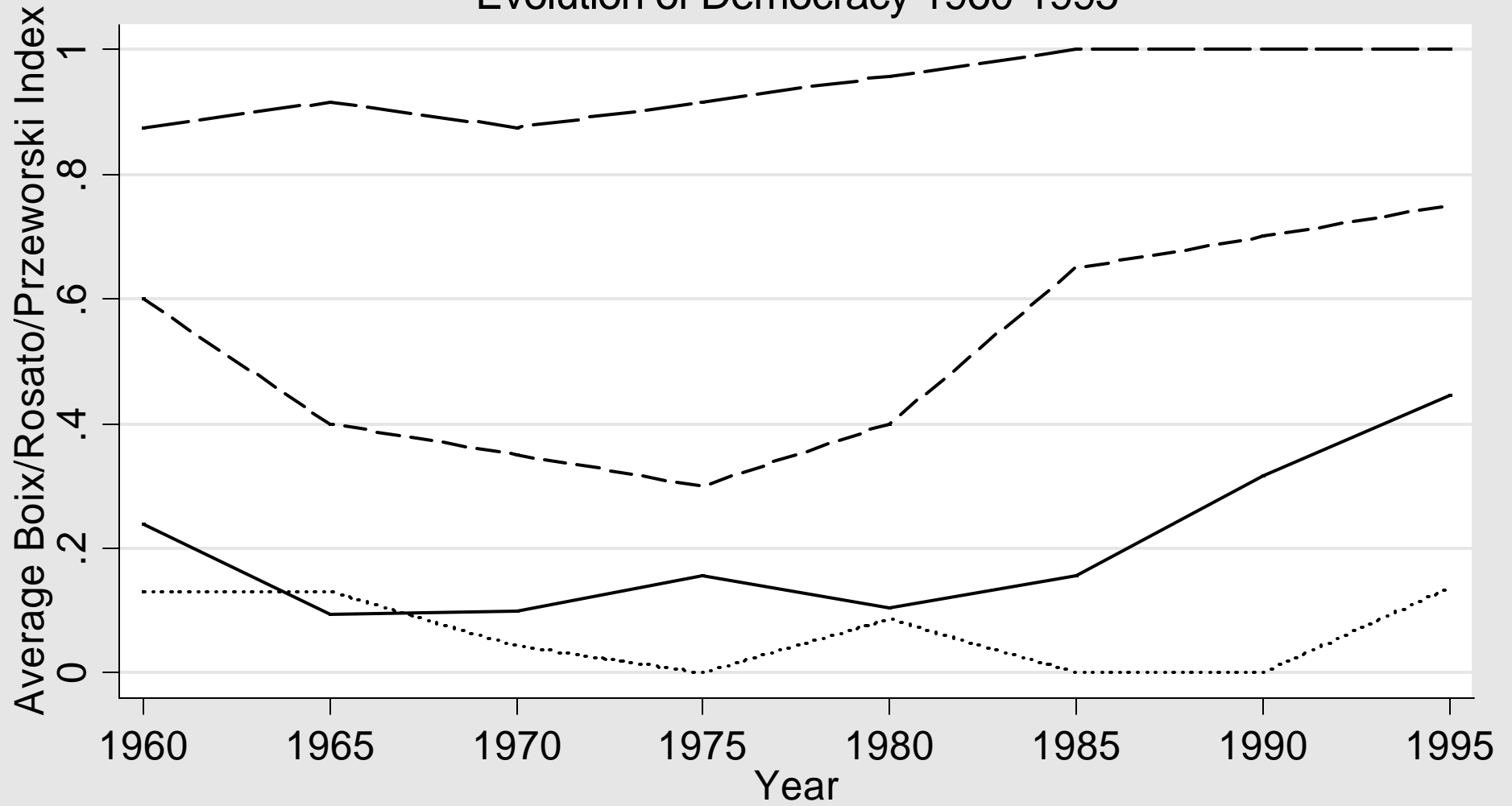
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Evolution of Democracy 1840-2000
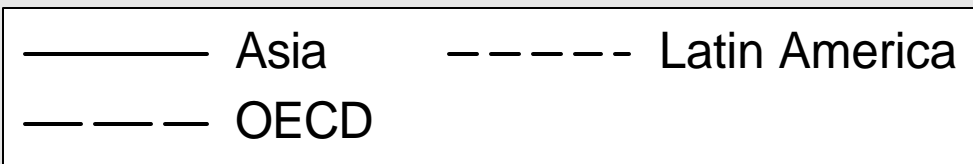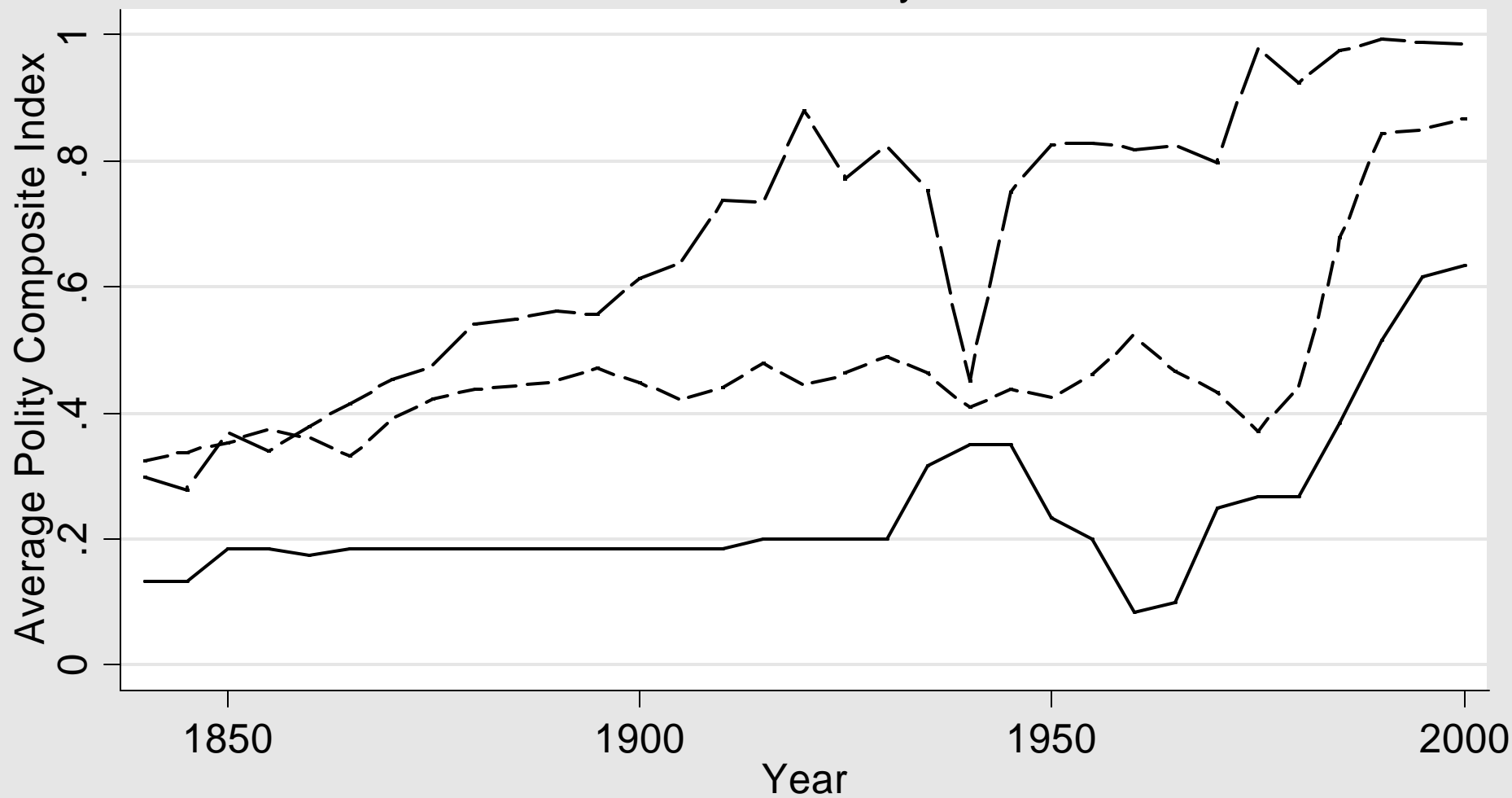
Figure 3.5

Democracy and Income 1990s
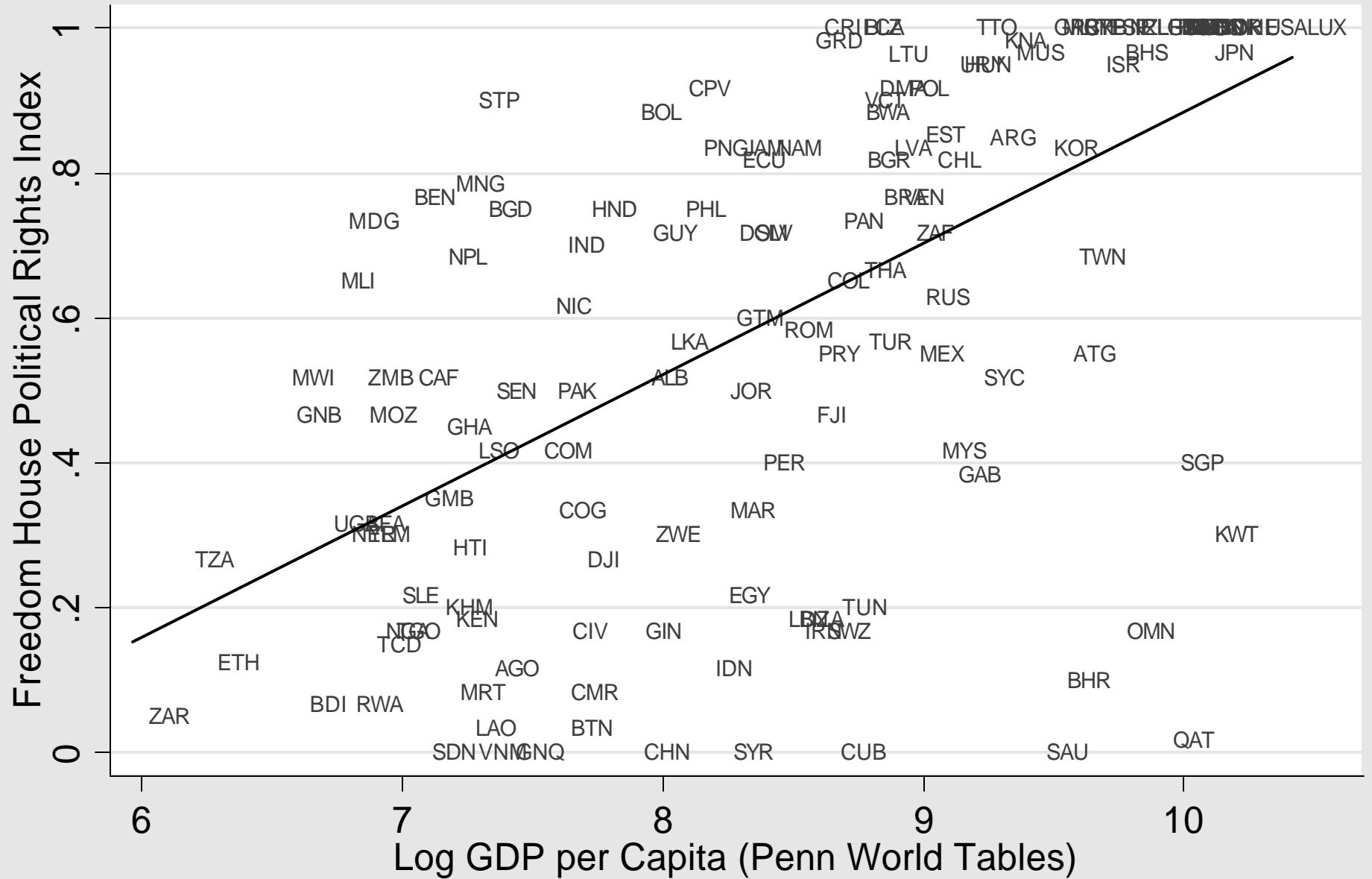
Figure 3.6
Democracy and Income 1990s
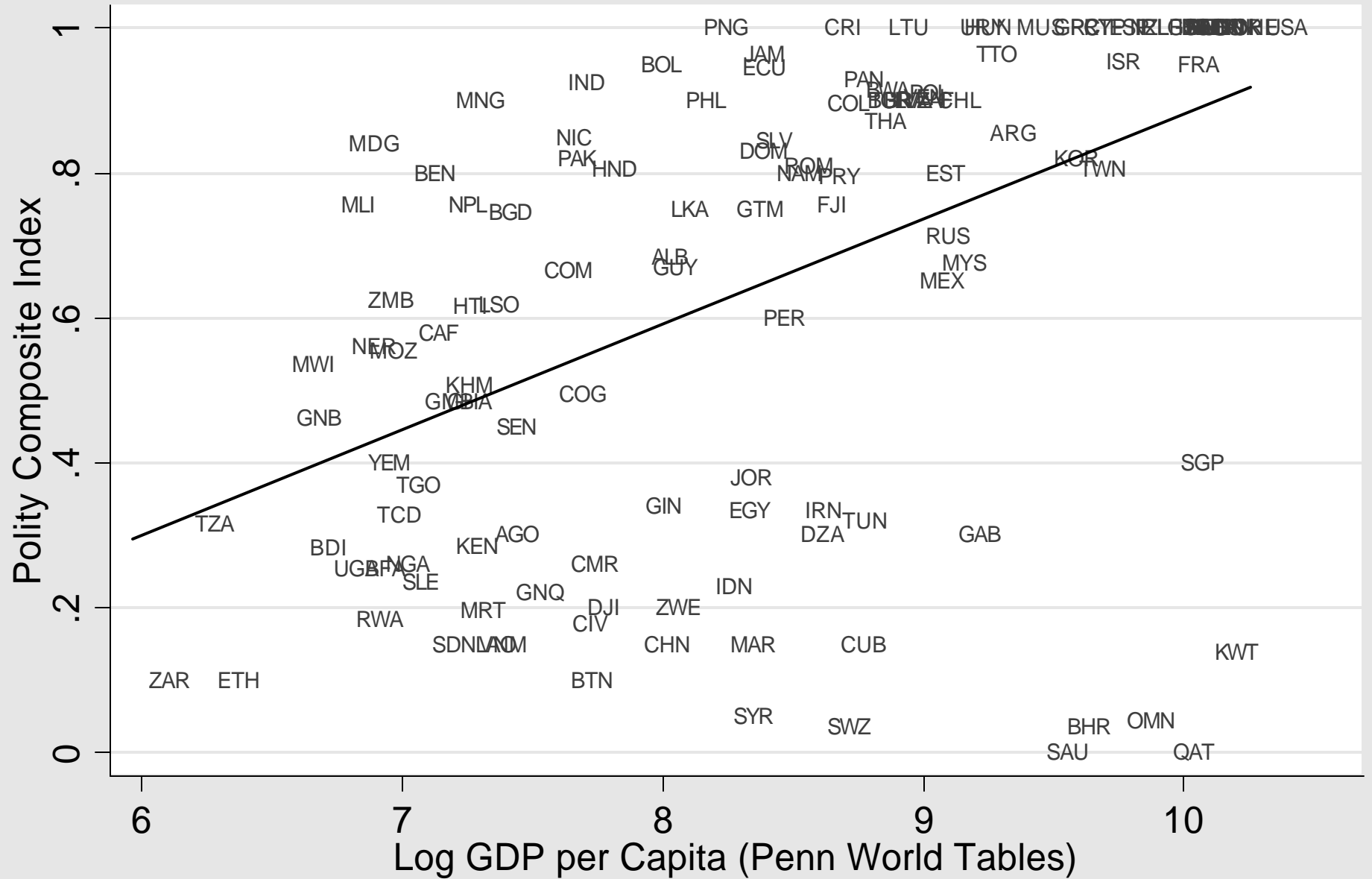
Figure 3.7
Democracy and Education 1990s
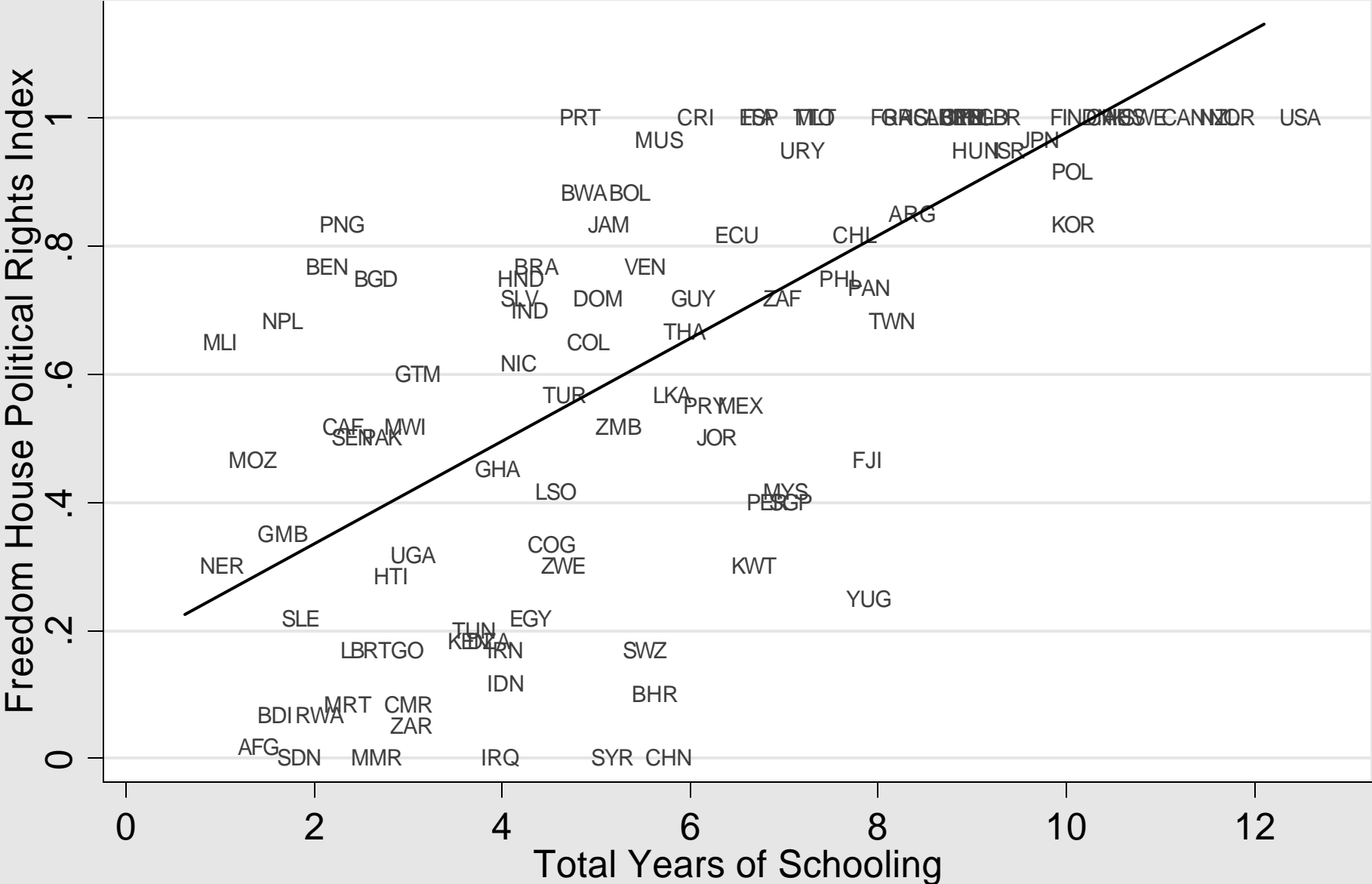
Figure 3.8

Democracy and Education 1990s
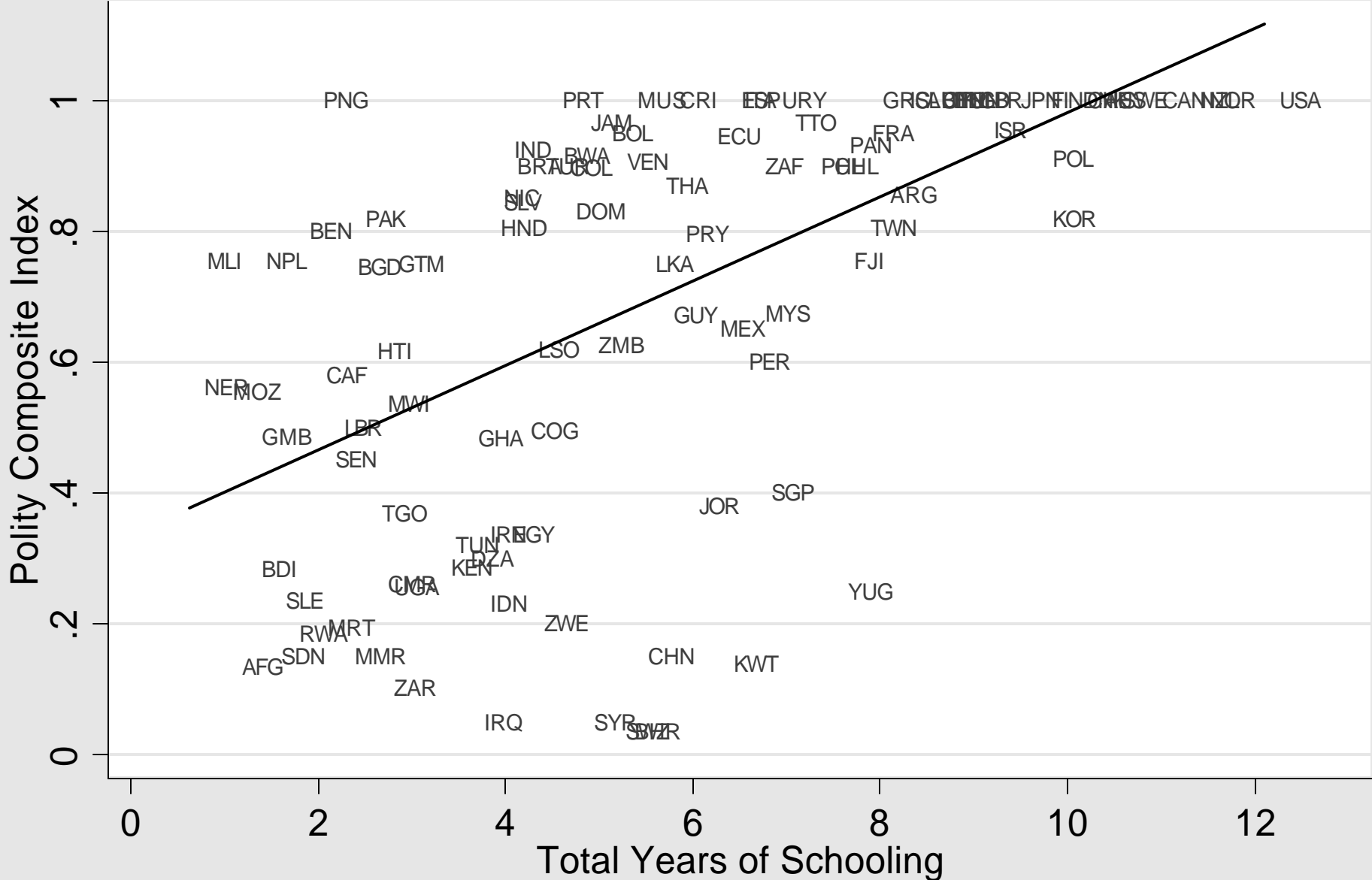
Figure 3.9

Transitions to Democracy and Income 1970-1995
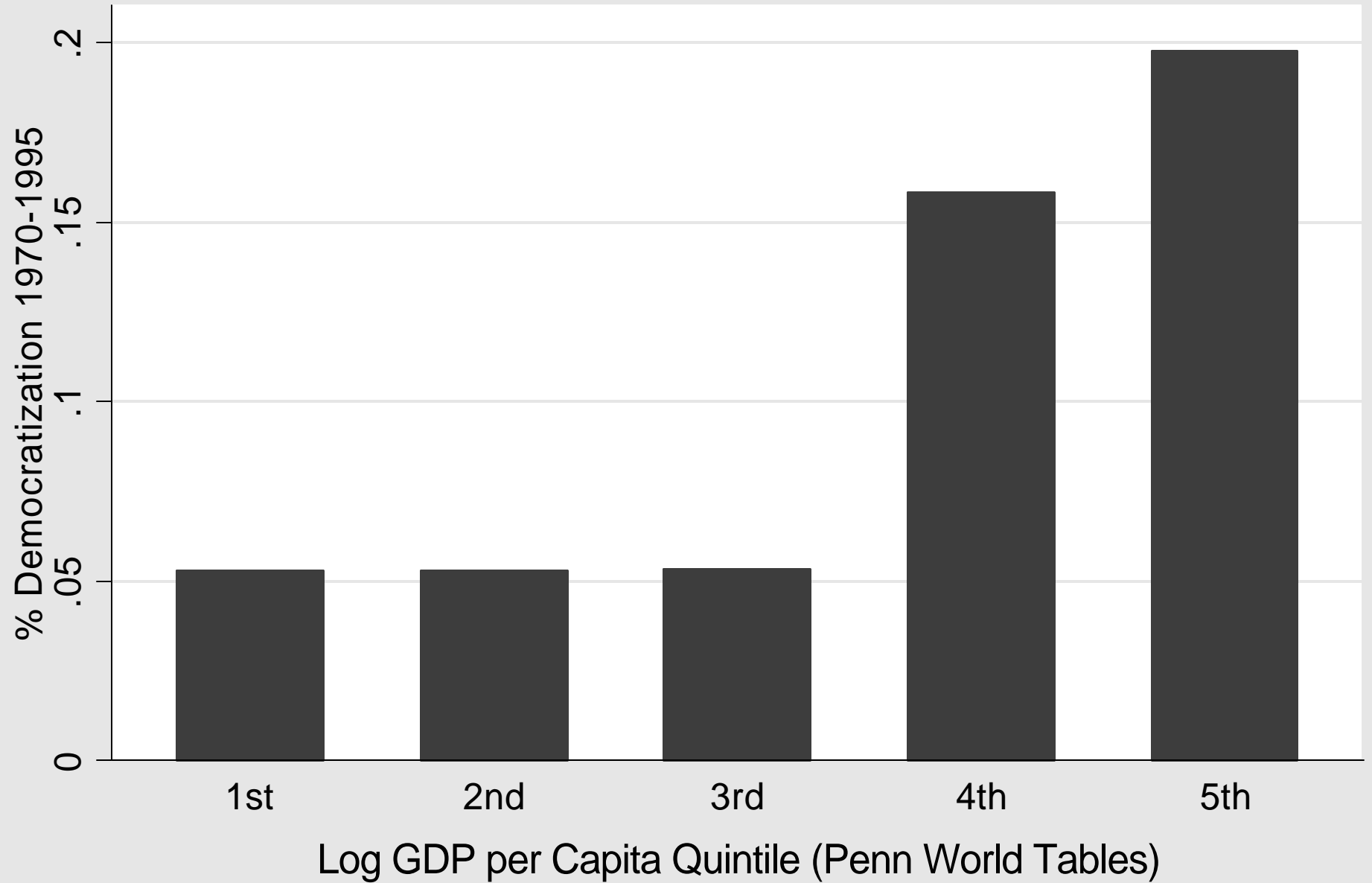
Figure 3.10
Transitions to Non-Democracy and Income 1970-1995

Figure 3.11
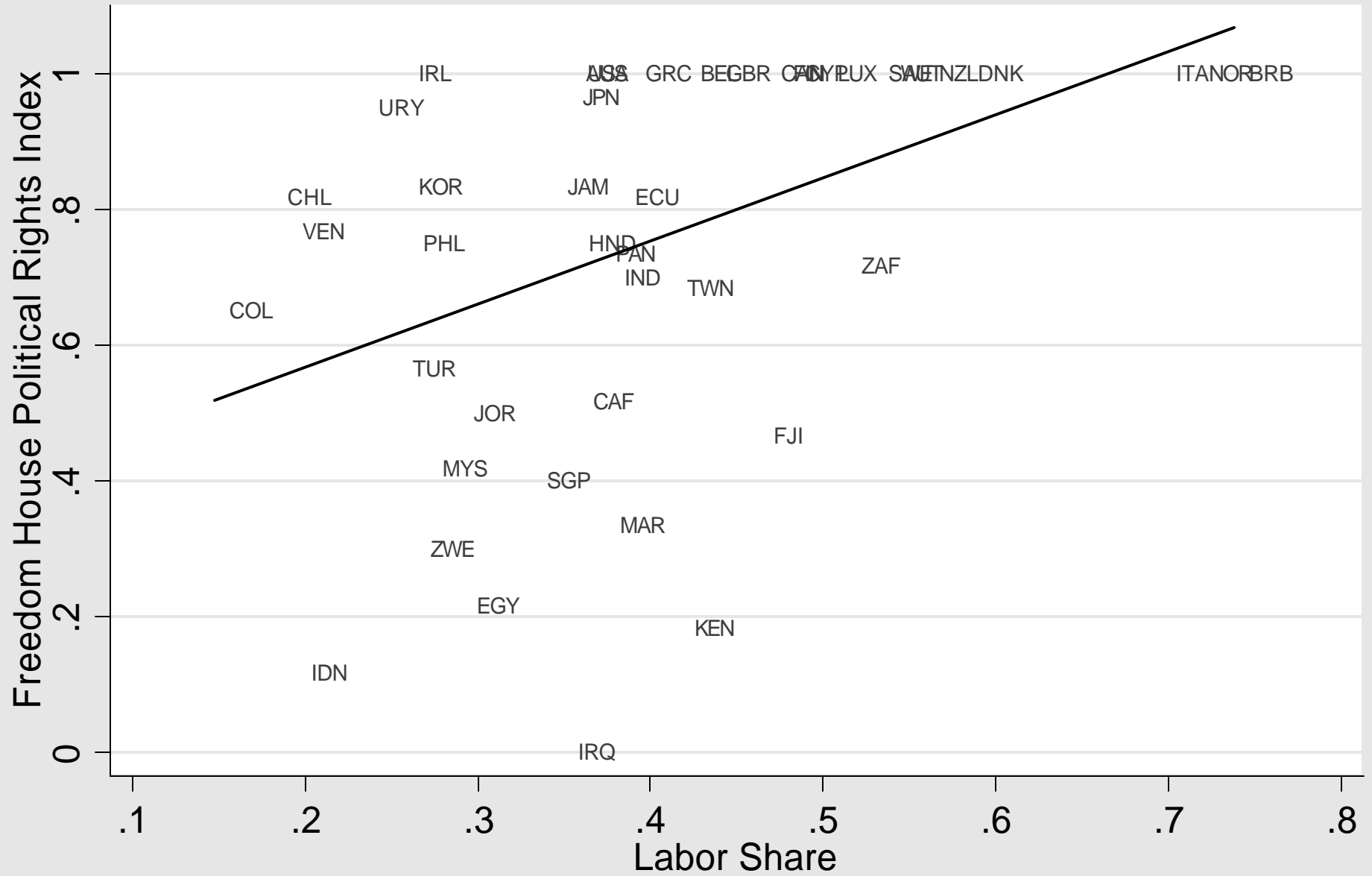## Democracy Growth and Income Growth 1970-1995
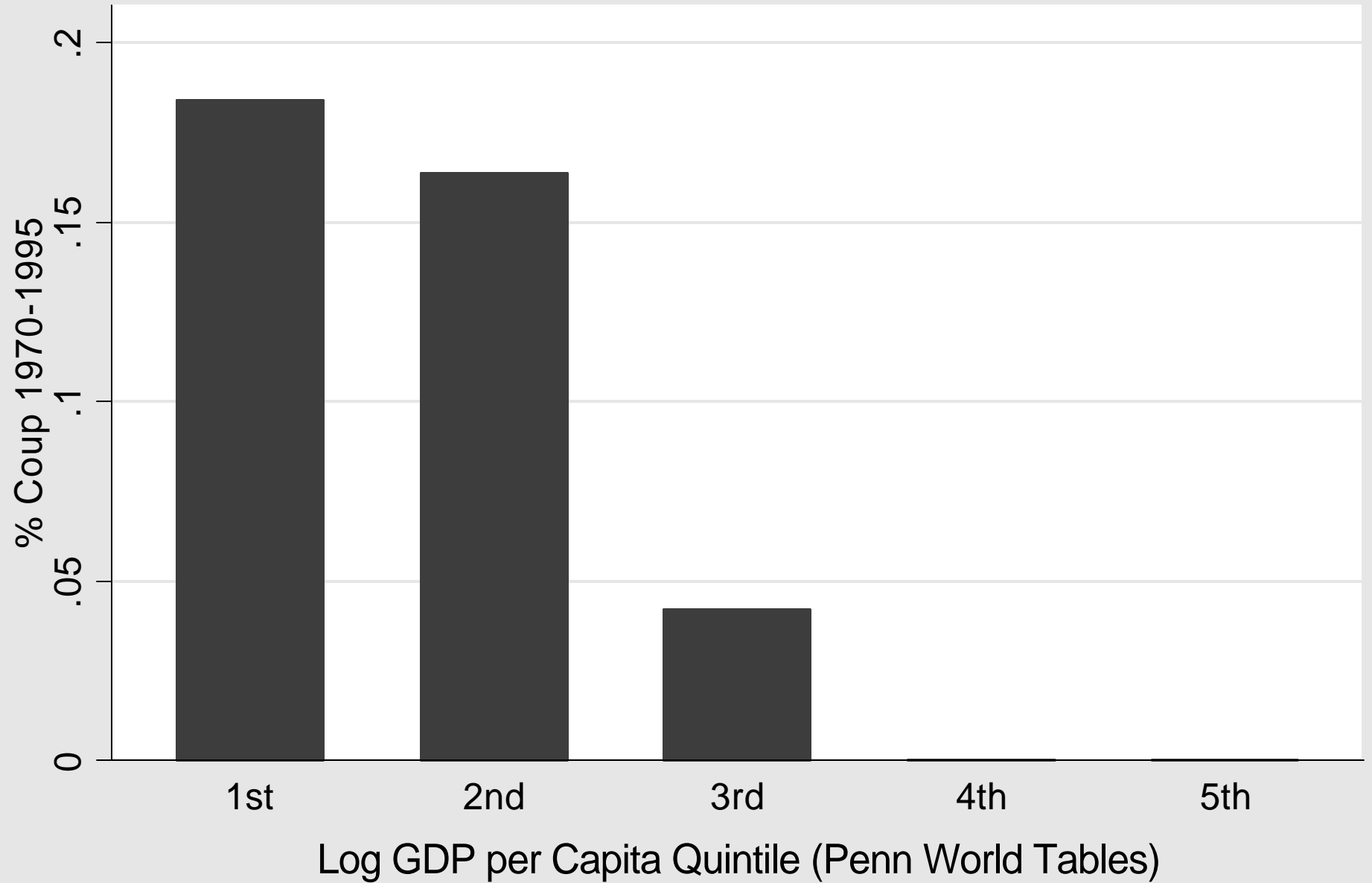
Figure 3.12

Democracy Growth and Income Growth 1970-1995
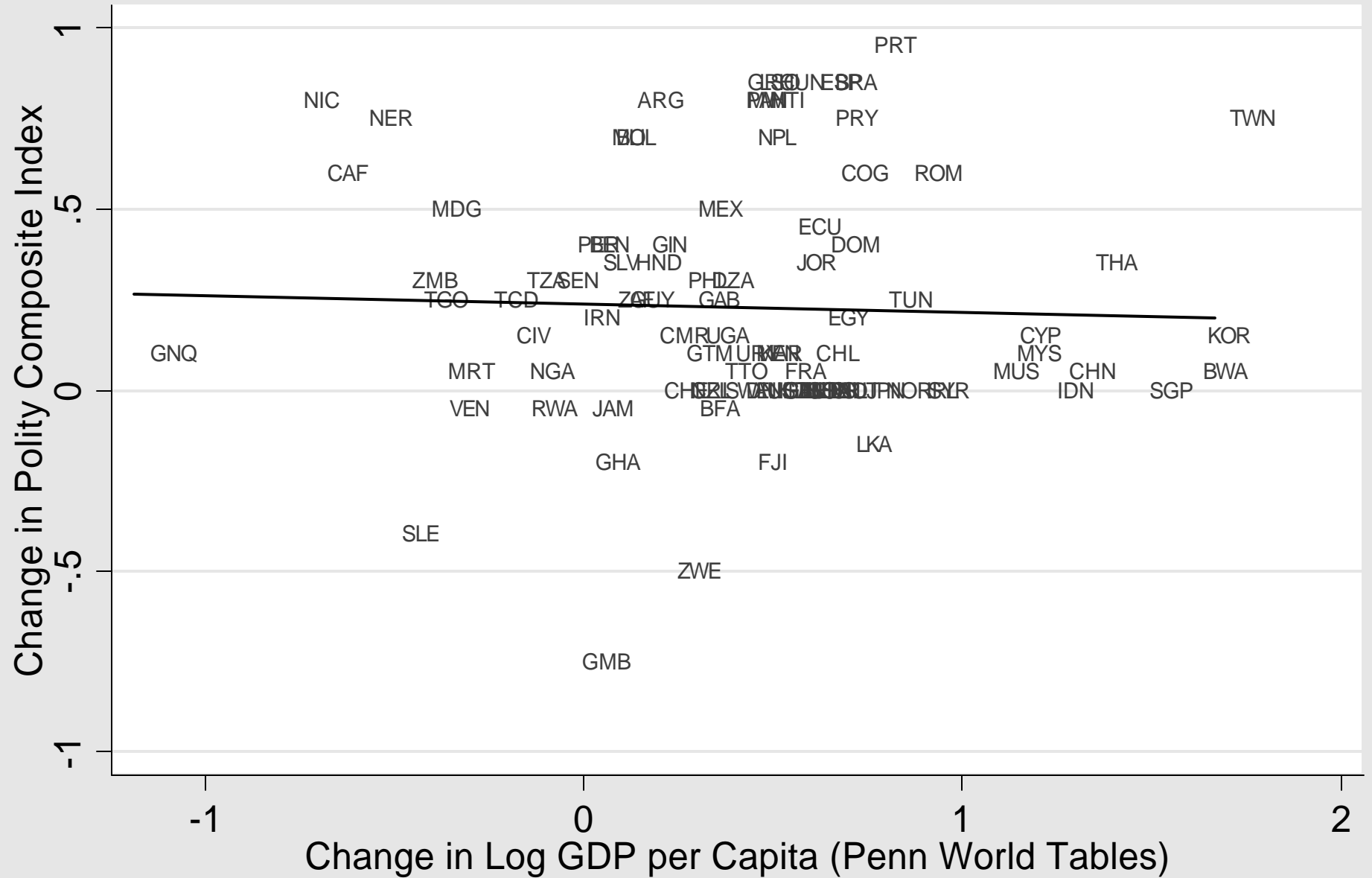
Figure 3.13
Democracy and Inequality 1990s
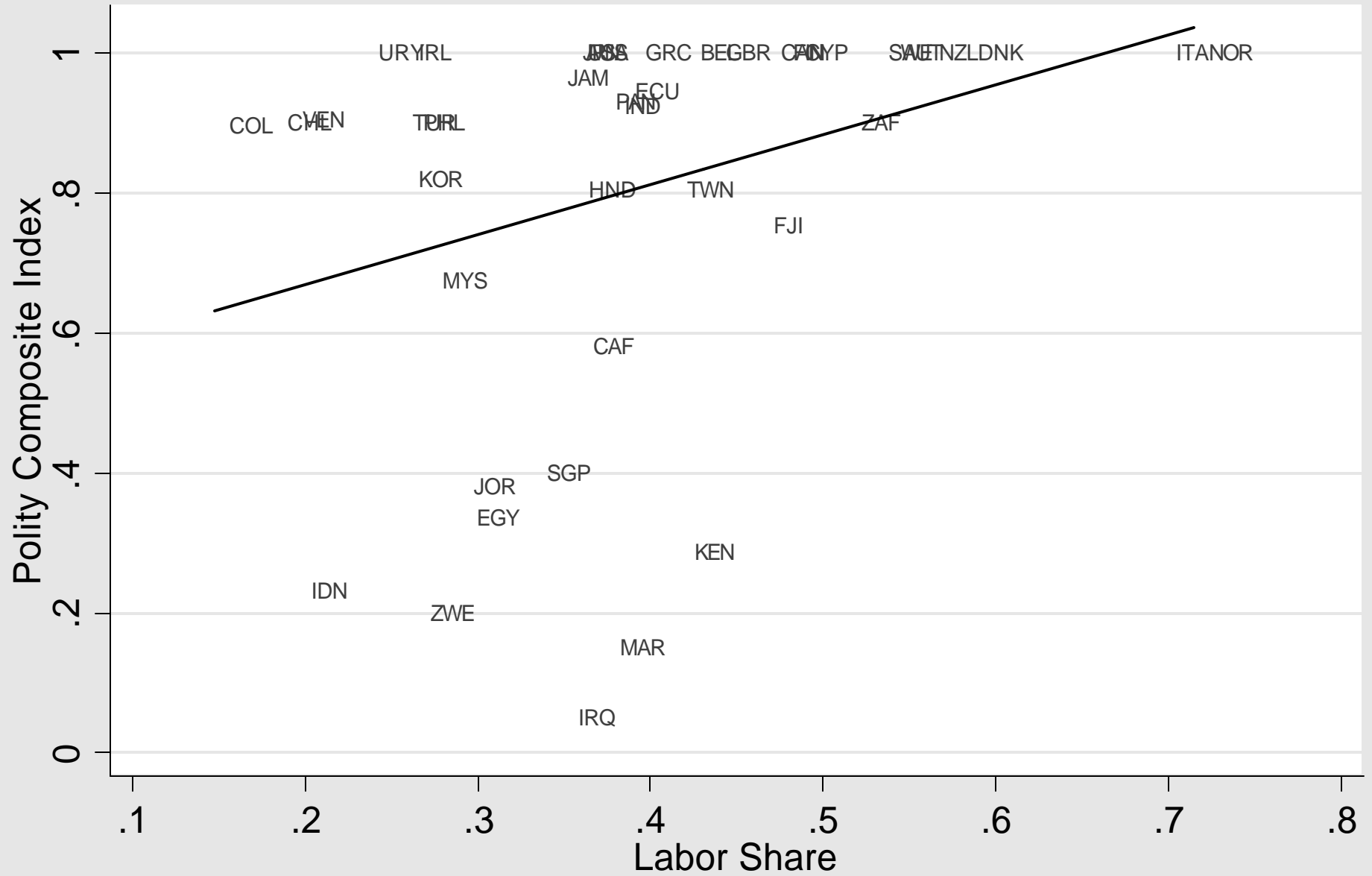
Figure 3.14
Democracy and Inequality 1990s
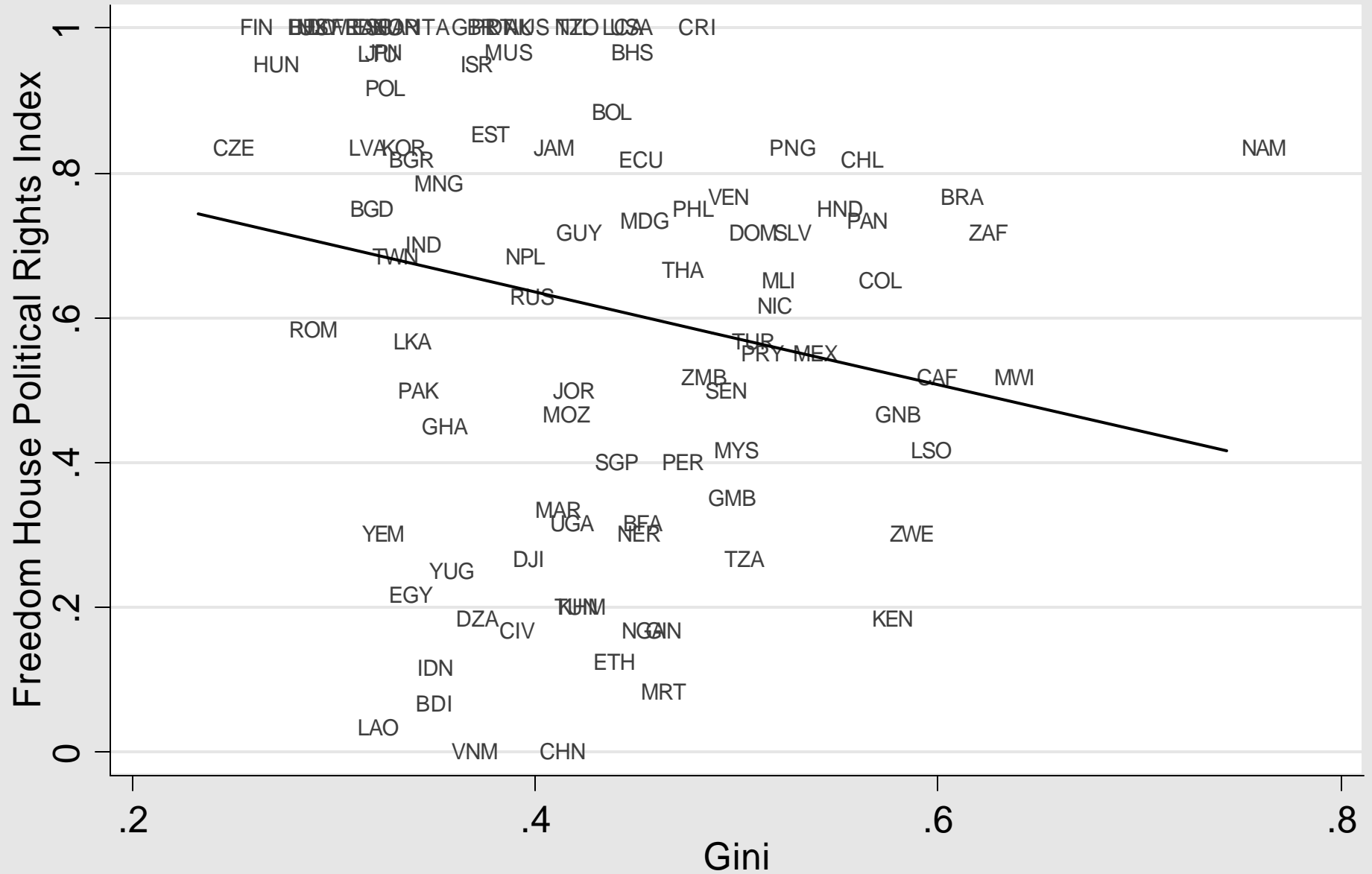
Figure 3.15
Democracy and Inequality 1990s
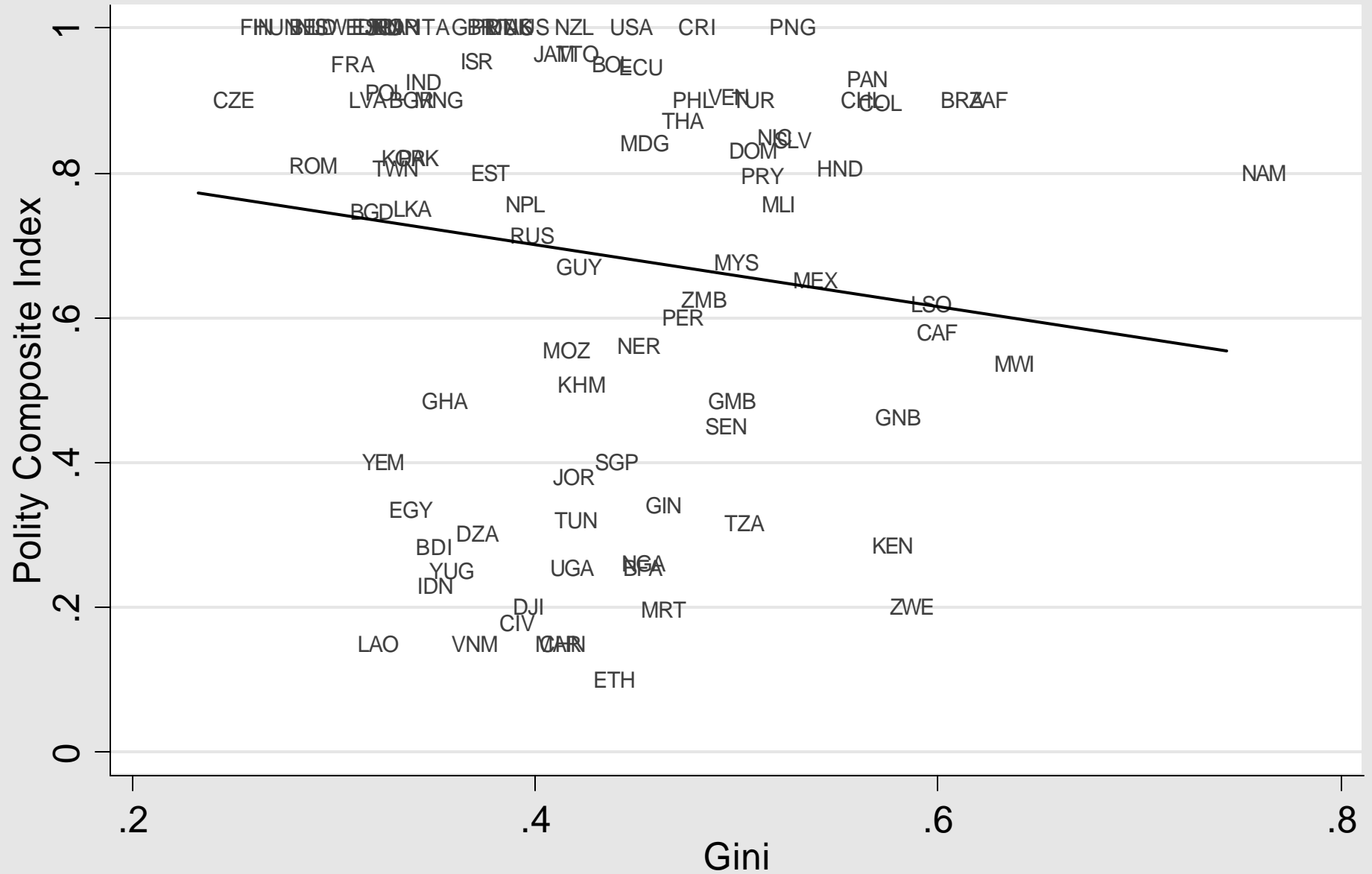
Figure 3.16
Democracy and Inequality 1990s

Scatter plot with Gini on the x-axis (ranging from .2 to .8) and Polity Composite Index on the y-axis (ranging from 0 to 1). Data points are labeled with country codes including: FIN, NLD, SWE, ESP, NOR, ITA, GBR, AUS, DEU, NZL, USA, CRI, PNG, FRA, ISR, JAM, TTO, BOL, ECU, CZE, POL, IND, LVA, BGR, HUN, PHL, VEN, TUR, PAN, CHL, COL, BRA, ZAF, THA, MDG, NIC, SLV, DOM, ROM, KOR, PRK, TWN, EST, PRY, HND, NAM, BGD, LKA, NPL, MLI, RUS, GUY, MYS, MEX, ZMB, LSO, PER, CAF, MOZ, NER, MWI, KHM, GHA, GMB, GNB, SEN, YEM, SGP, JOR, GIN, EGY, TUN, TZA, BDI, DZA, KEN, YUG, UGA, NGA, BFA, IDN, MRT, ZWE, DJI, CIV, CMR, TCD, LAO, VNM, ETH. A downward-sloping regression line runs from upper-left to lower-right.

Figure 3.17
Democracy and Tax Revenue 1990s

Tax Revenue as % of GDP (WDI)
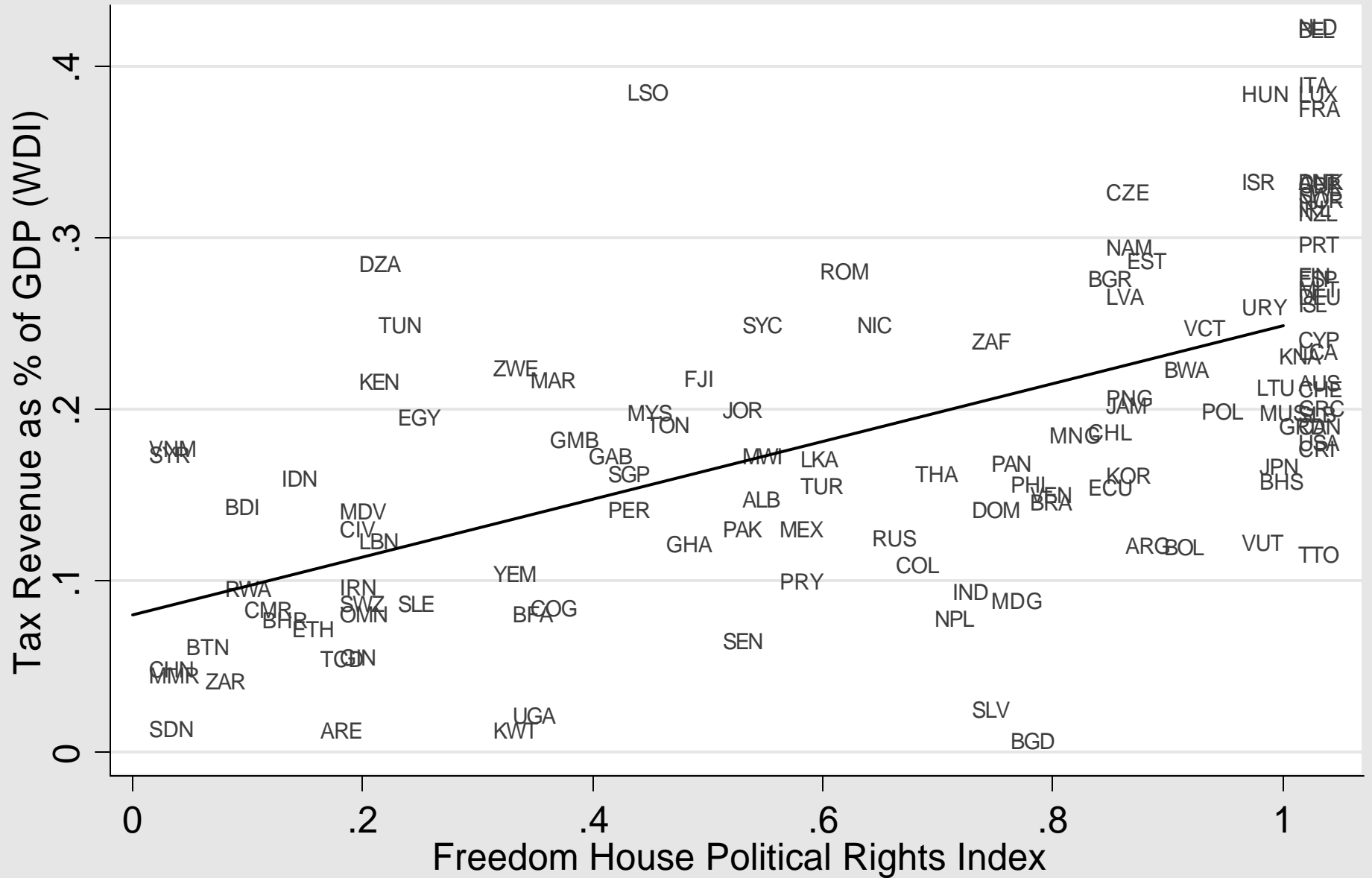
Freedom House Political Rights Index

Figure 3.18

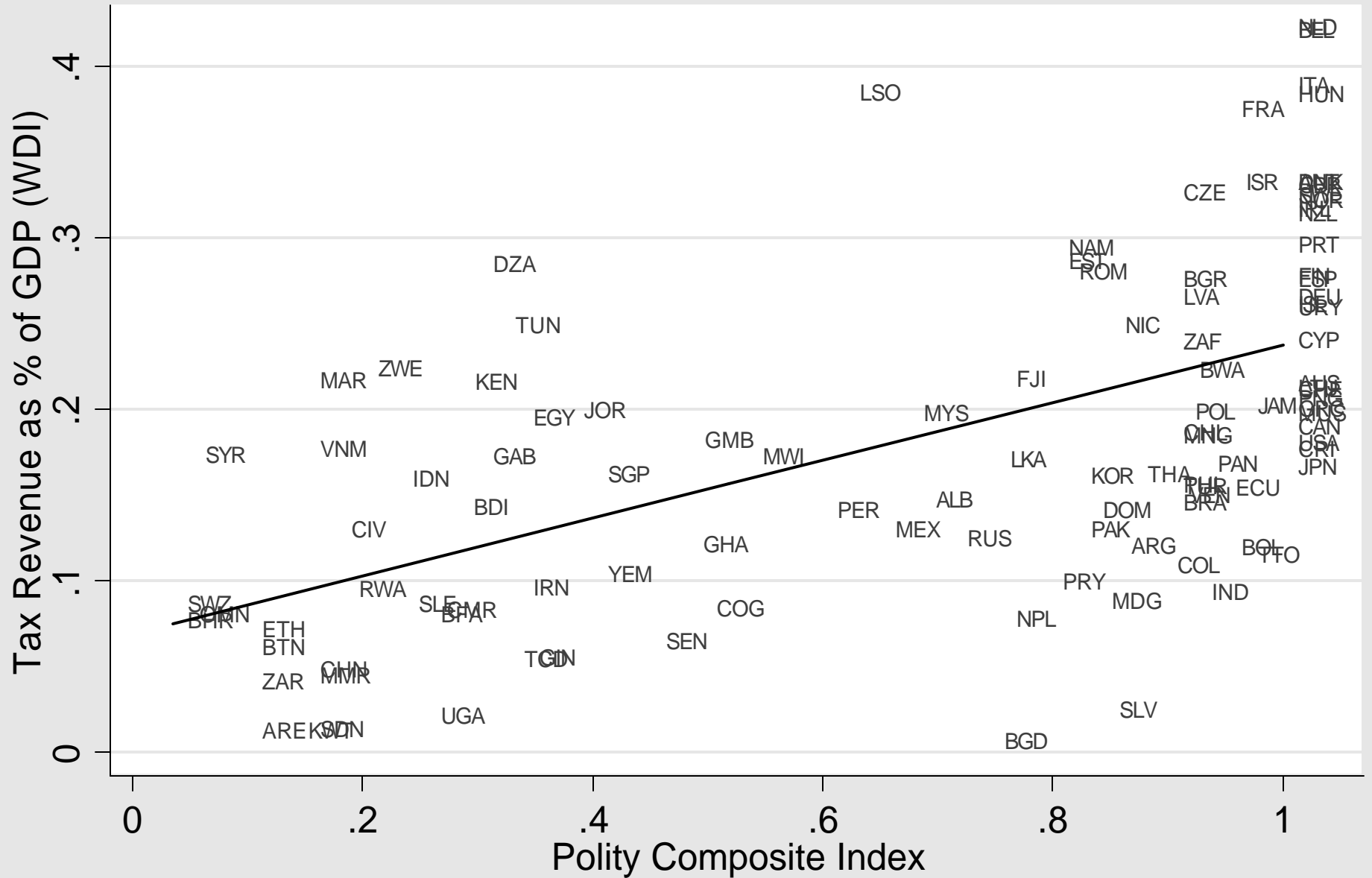Democracy and Tax Revenue 1990s

Figure 3.19

Transitions to Democracy and Crises 1970-1995
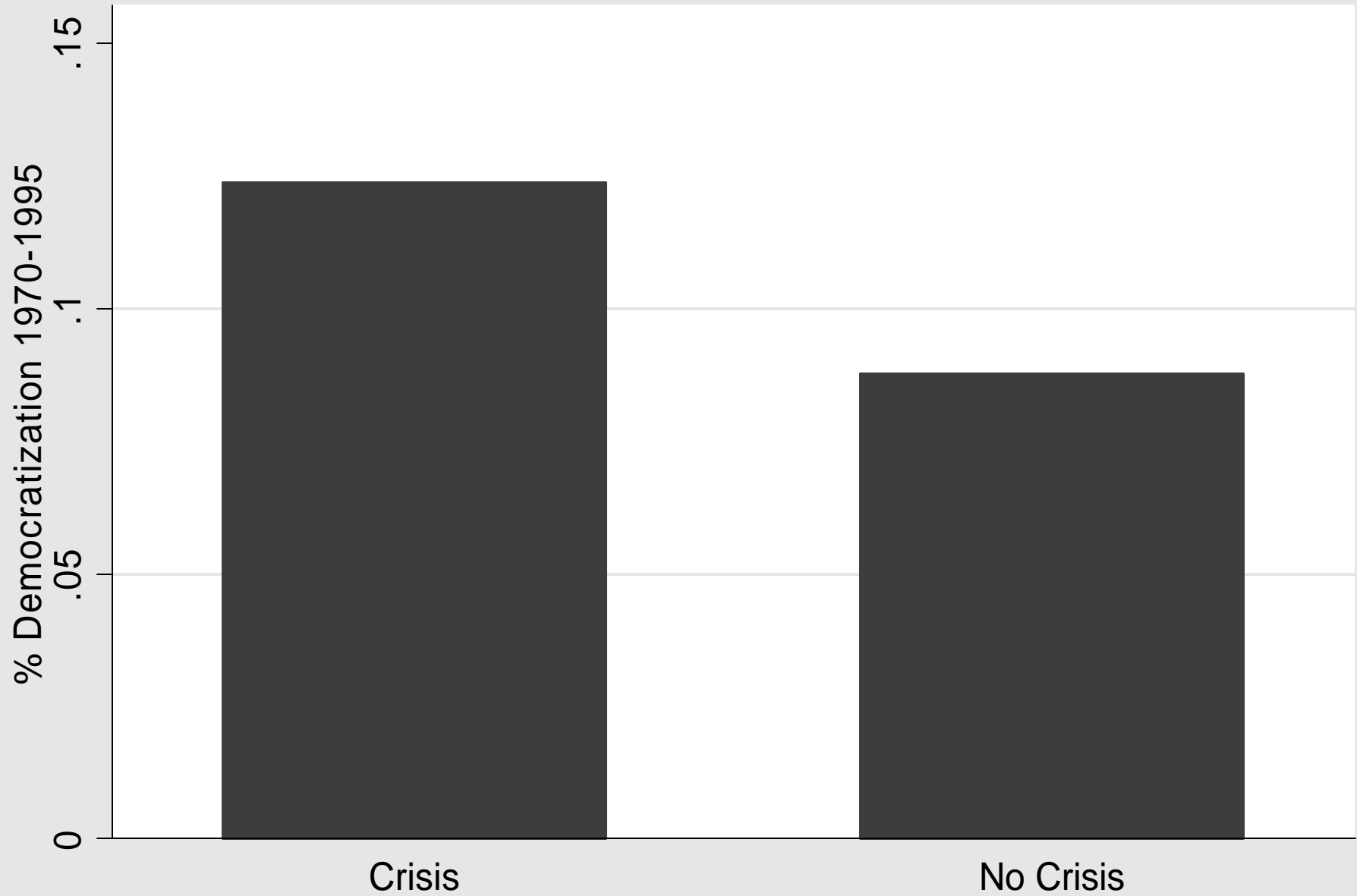
Figure 3.20

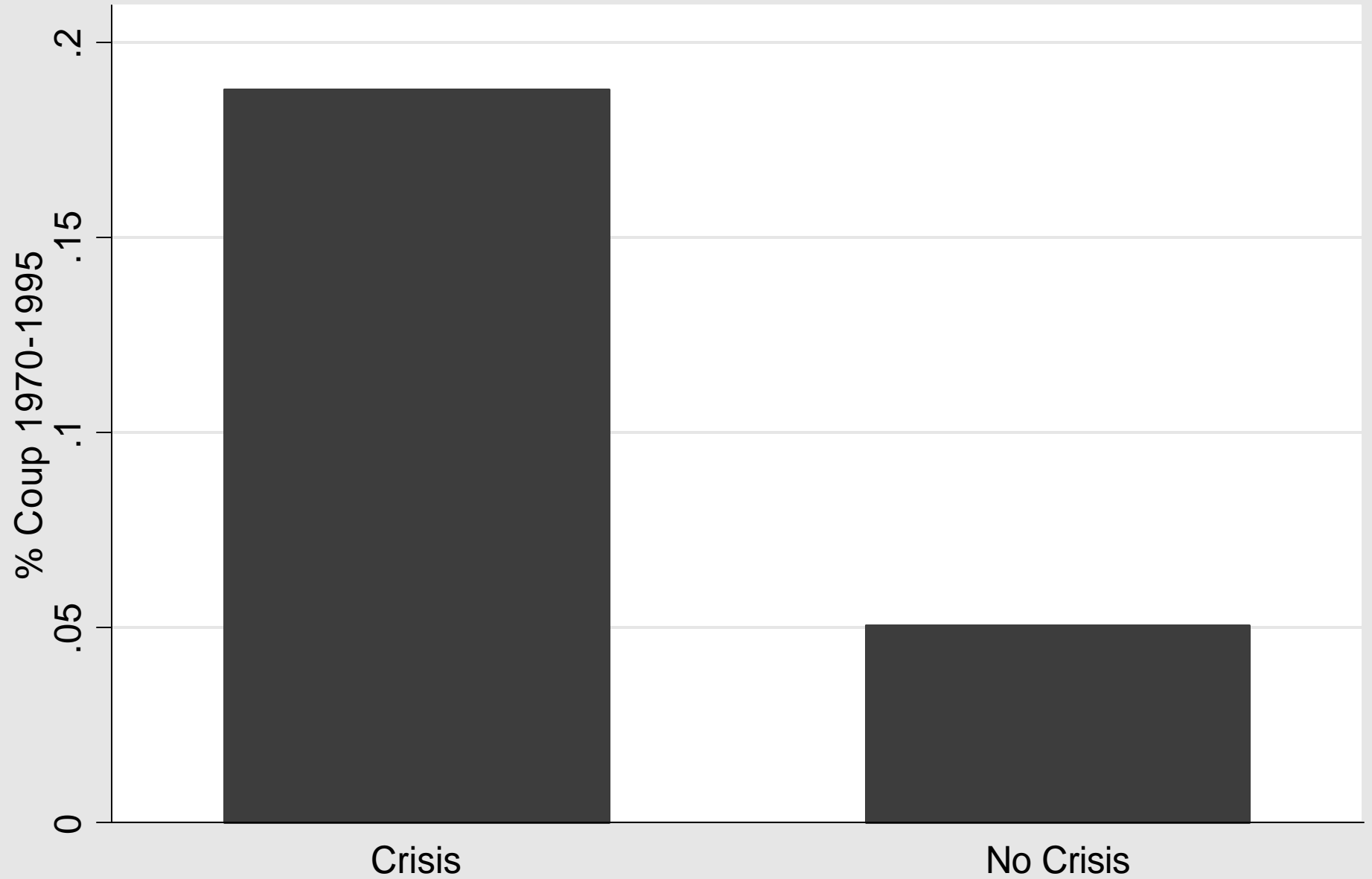Transitions to Non-Democracy and Crises 1970-1995

Figure 3.21

Gini Coefficient
(United Kingdom)

Lindert and Williamson (1982, 1983)

Williamson (1985)
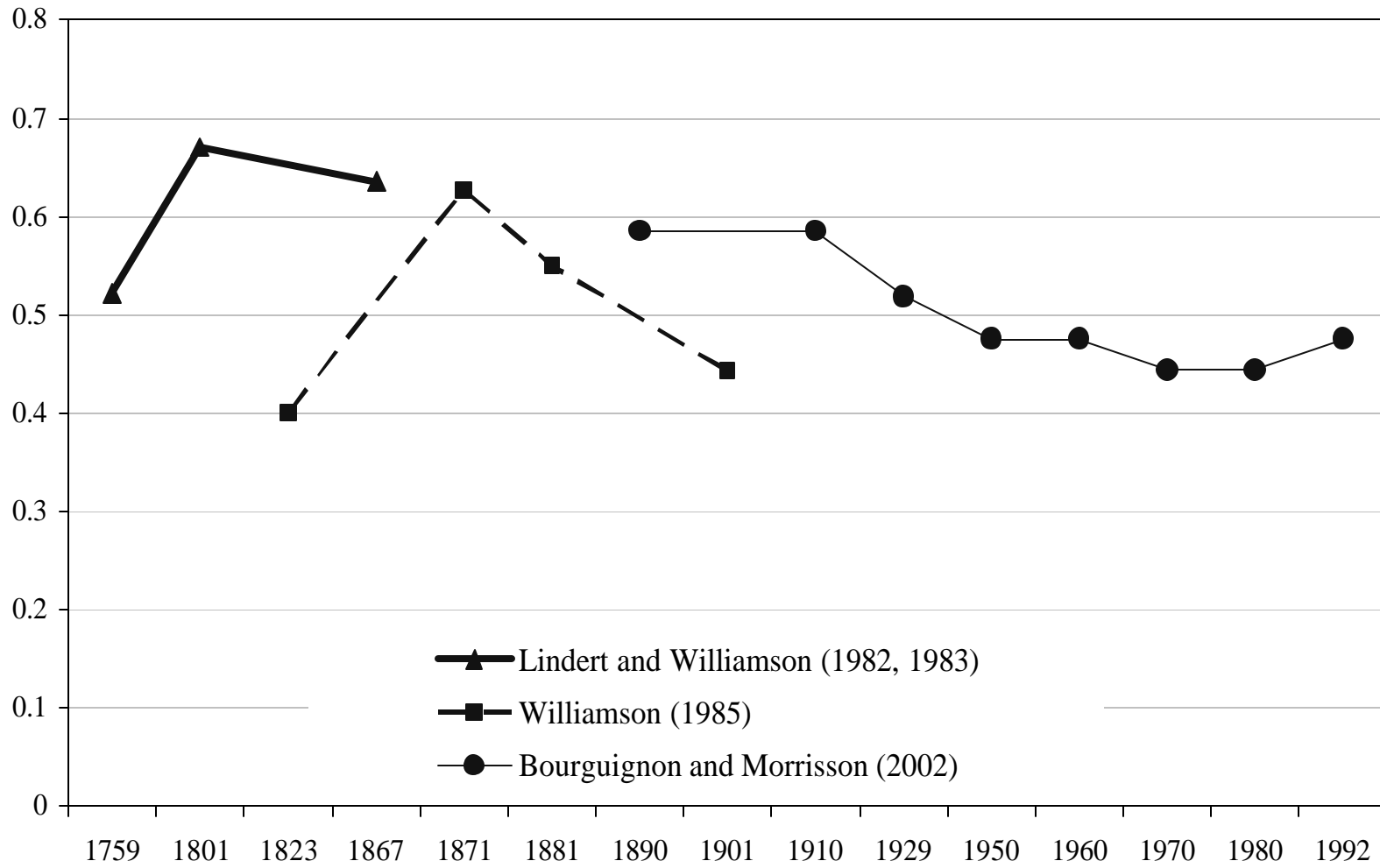
Bourguignon and Morrisson (2002)

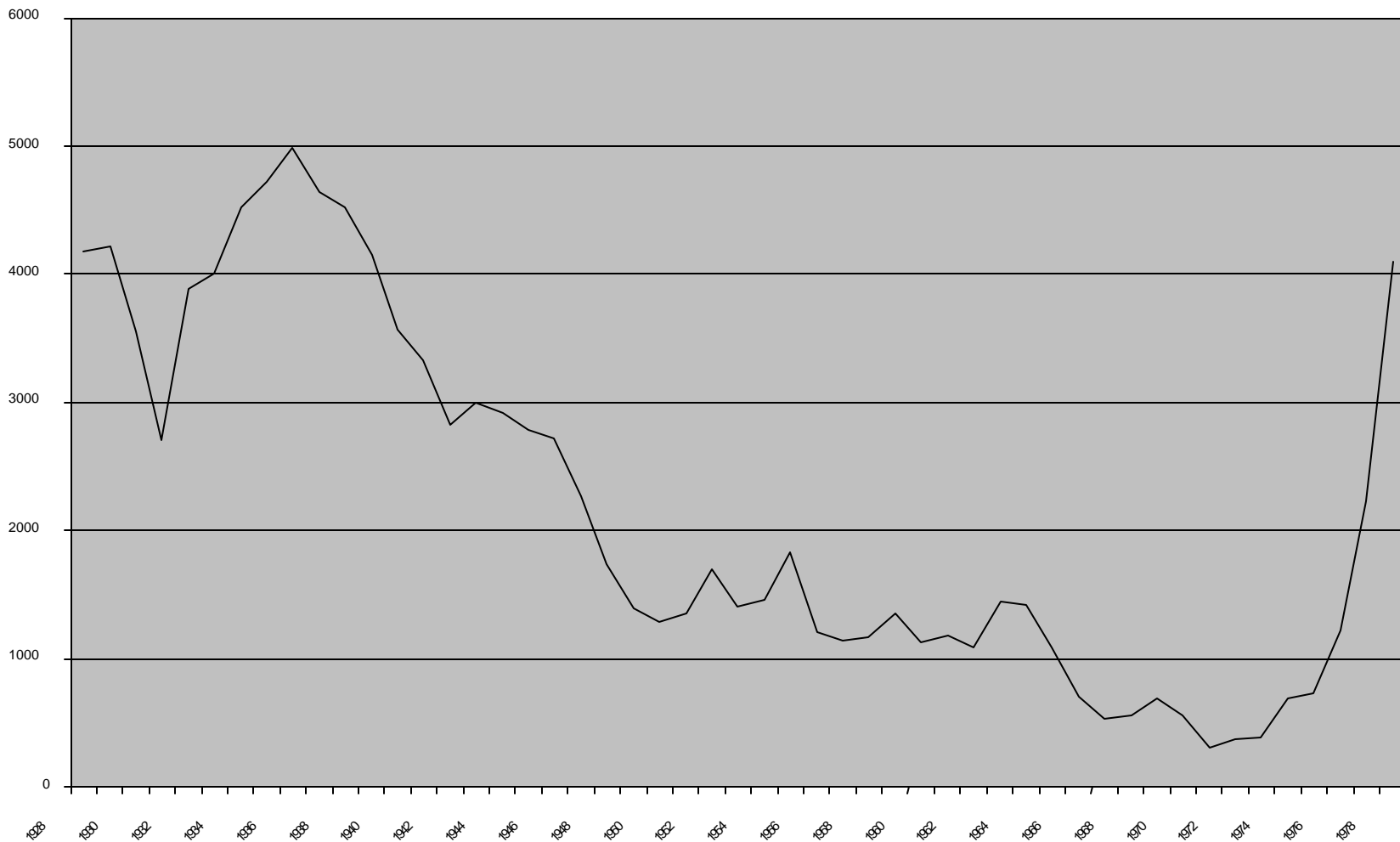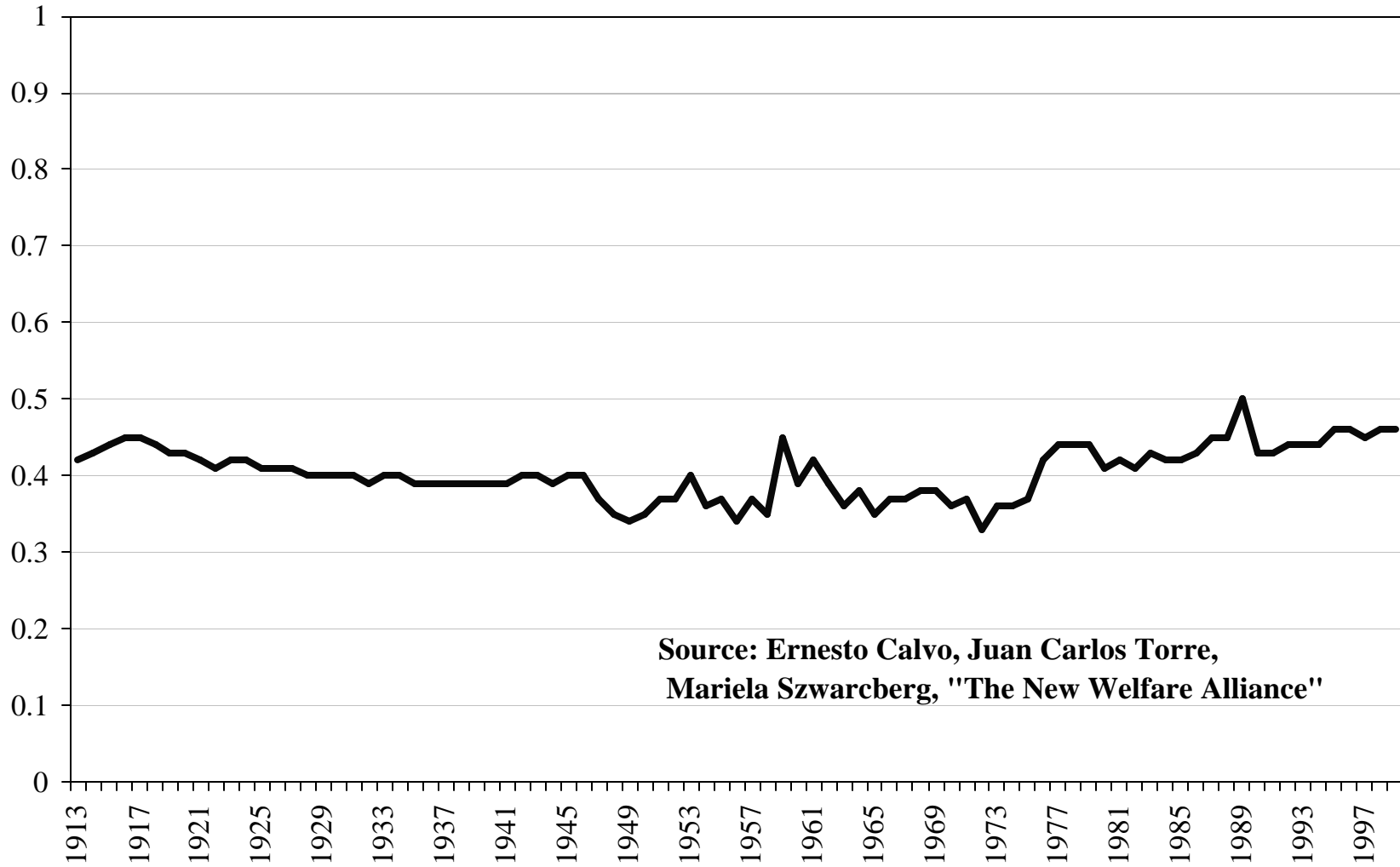# Figure 3.22: Chilean Real Stock Market Index, 1928-1978

Figure 3.23

Gini Coefficient
(Argentina)

Source: Ernesto Calvo, Juan Carlos Torre,
Mariela Szwarcberg, "The New Welfare Alliance"

Figure 5.1. Constraints in Nondemocracy

Rich

Set Tax Rate $\hat{\tau}$

Poor

Revolution   No Revolution

$(V^p(R,\mu), V^r(R,\mu))$ $(V^p(y|\hat{t}), V^r(y|\hat{t}))$
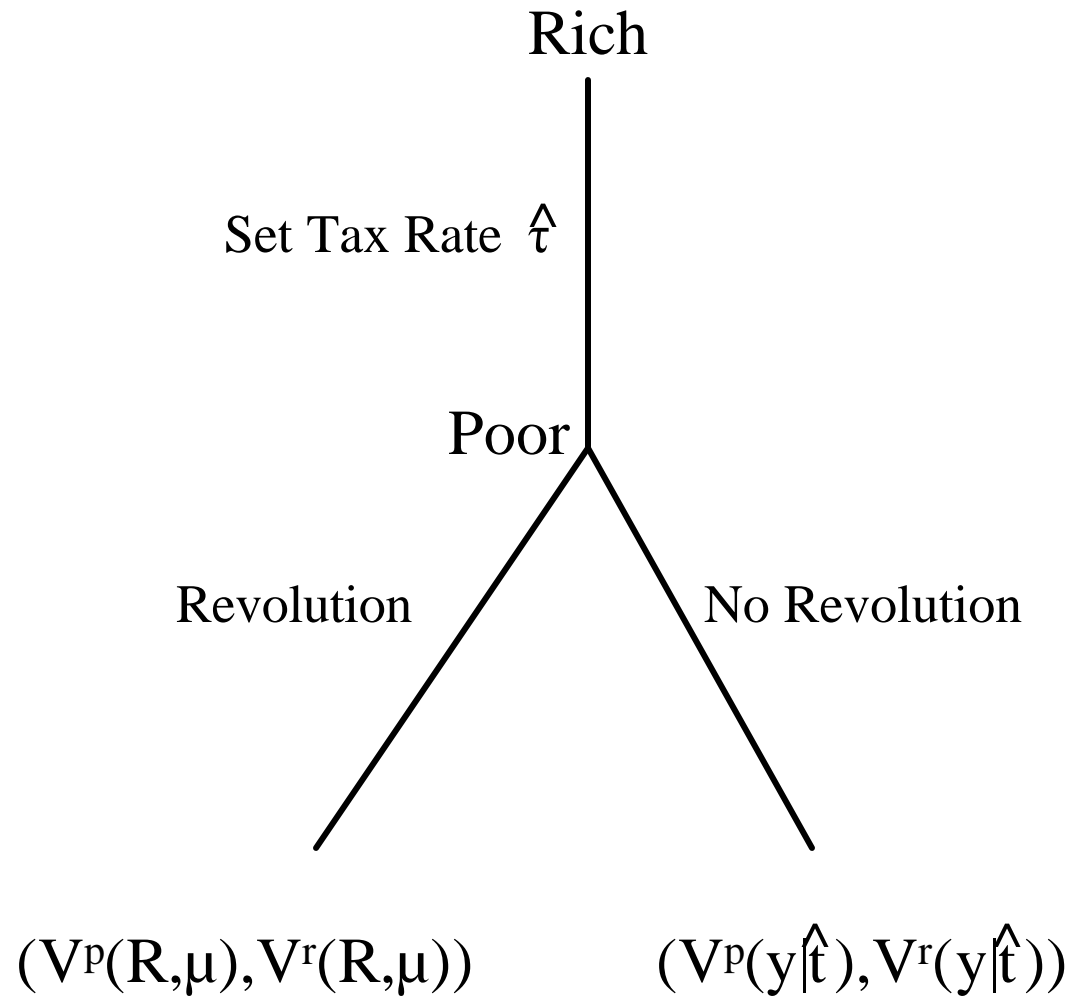
Figure 5.2. The Commitment Problem in Nondemocracy

Poor

Revolution — No Revolution

$(V^p(R,\mu), V^r(R,\mu))$

Rich

Set Tax Rate $\hat{\tau}$

$(V^p(N), V^r(N))$
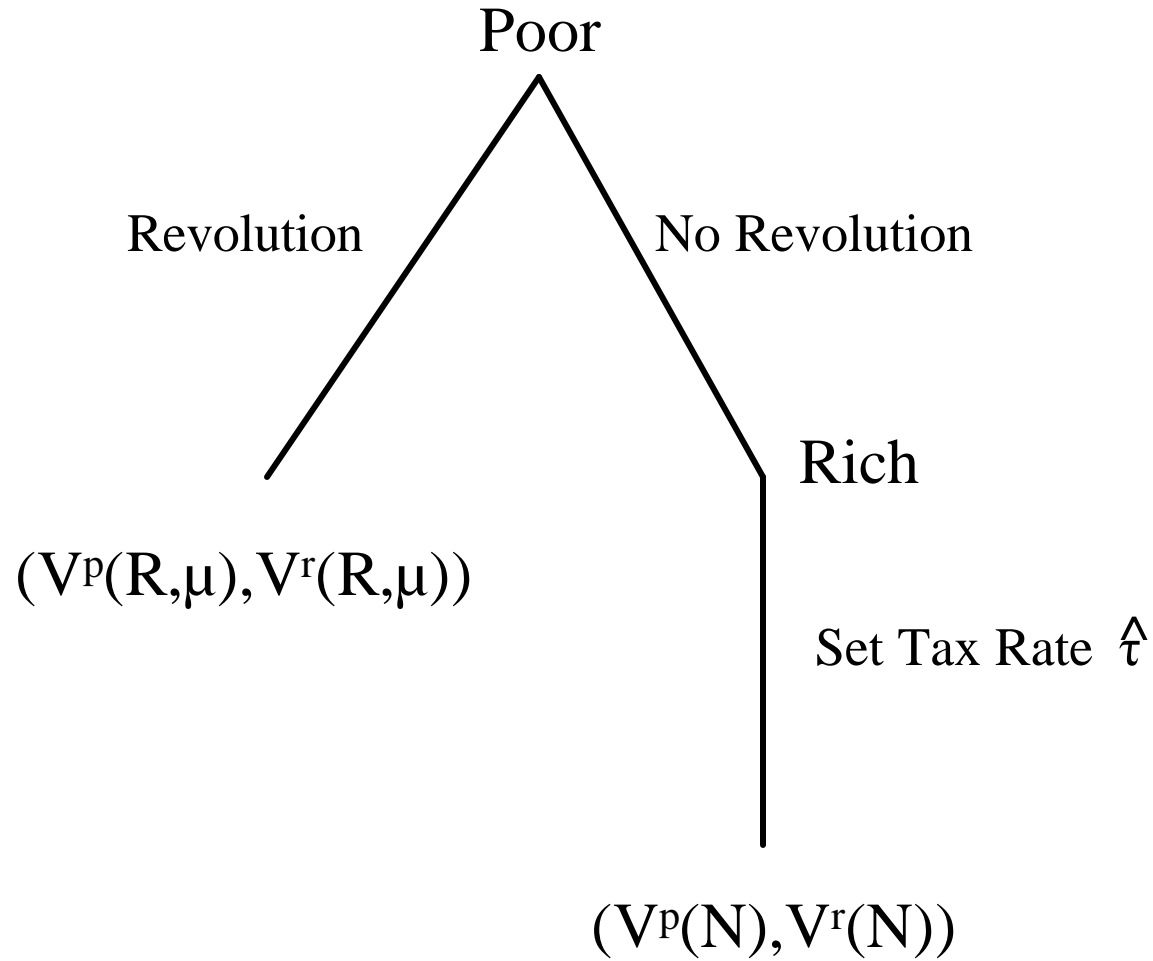
Figure 5.3: A Game of Promises

Nature

L   H

Rich   Rich

Set Tax Rate $\hat{\tau}$ Set Tax Rate $\hat{\tau}$

Poor   Poor

R   NR   R   NR

Nature   Nature

$(V^p(R,\mu^L), V^r(R,\mu^L))$ $(V^p(R,\mu^H), V^r(R,\mu^H))$

p $1\text{-}p$ p $1\text{-}p$

Rich   Rich

Re-set Tax   Re-set Tax

$(V^p(y|\hat{t}), V^r(y|\hat{t}))$ $(V^p(N), V^r(N))$ $(V^p(y|\hat{t}), V^r(y|\hat{t}))$ $(V^p(N), V^r(N))$
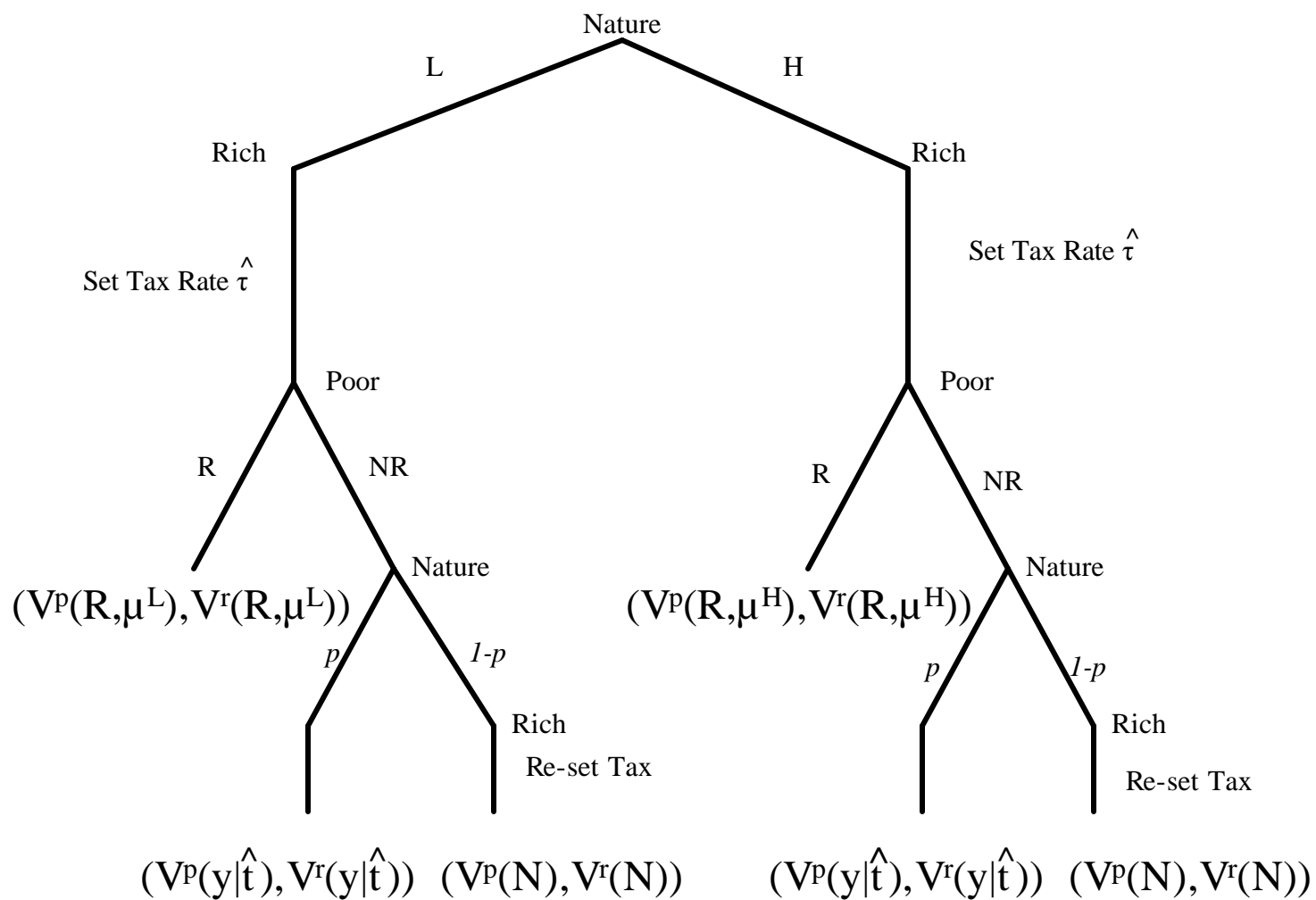
Figure 6.1: The Democratization Game

Rich

D   N

Poor   Rich

Tax   Tax

Poor

R   NR   R   NR

$(V^p(R,\mu), V^r(R,\mu))$ $(V^p(D), V^r(D))$ $(V^p(R,\mu), V^r(R,\mu))$

Nature

p $1\text{-}p$

Rich

Tax

$(V^p(y^p|\hat{t}), V^r(y^r|\hat{t}))$ $(V^p(N), V^r(N))$
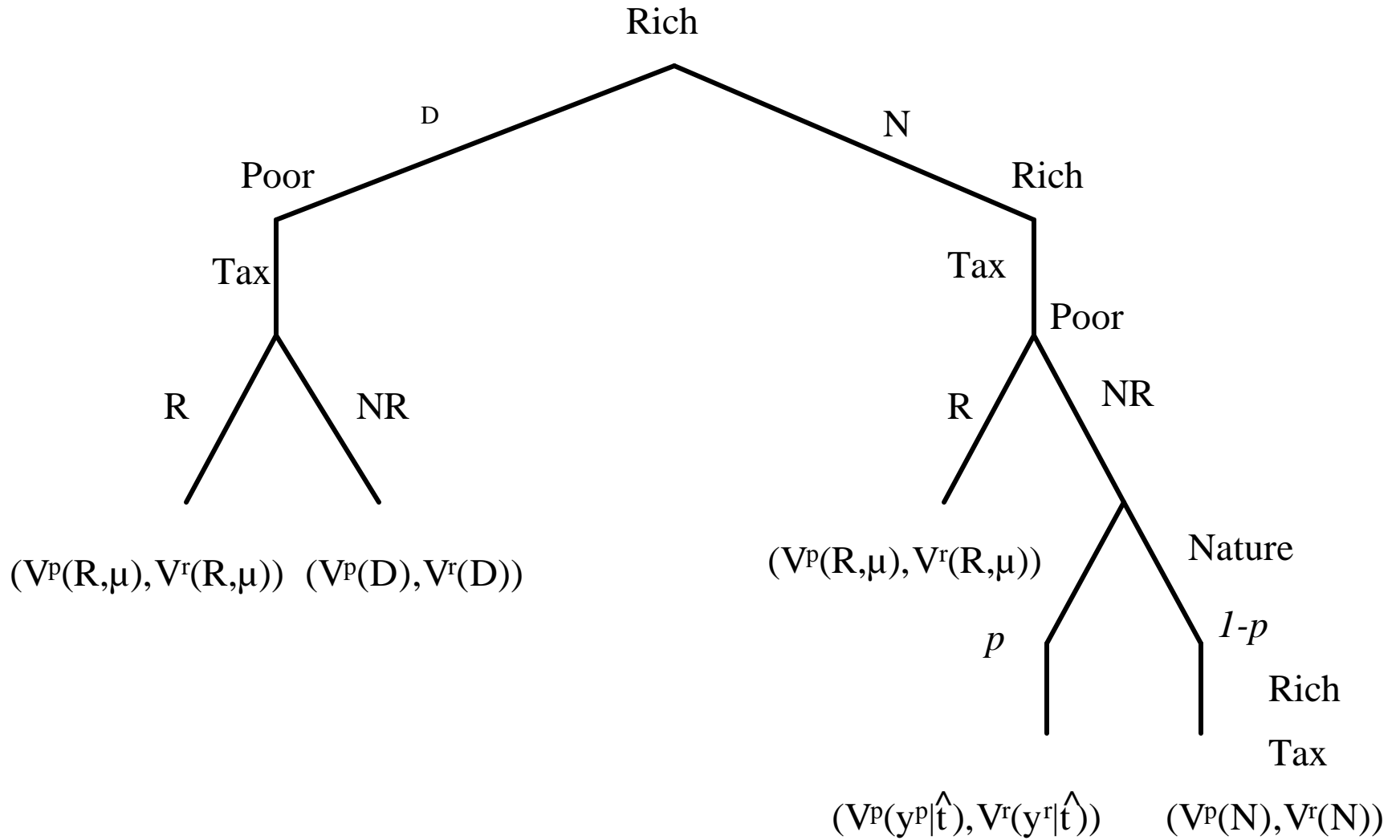
Figure 6.2: Democratization or Repression
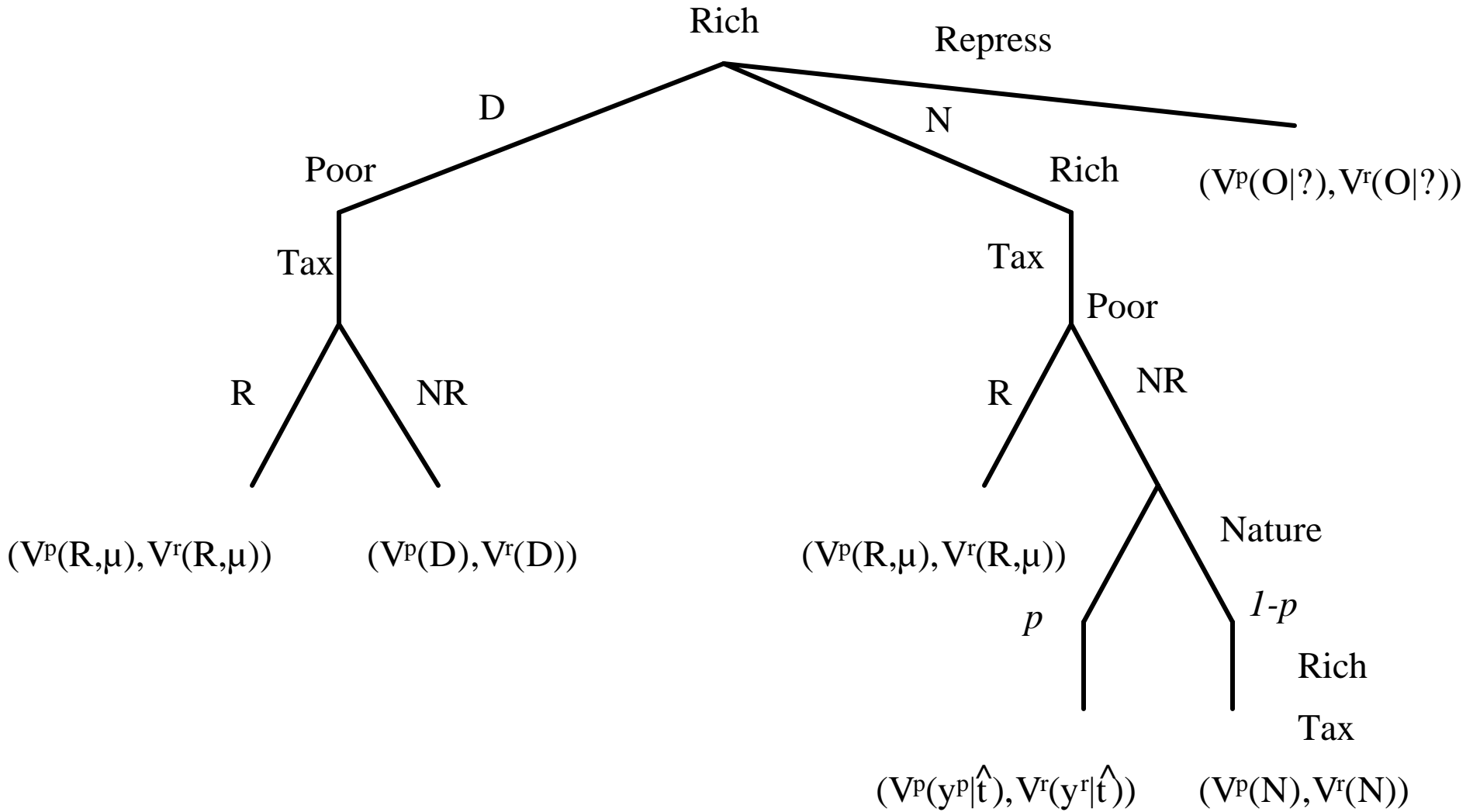
Figure 6.3

Gini Coefficient (Korea-Taiwan and Singapore)

Sources:
Singapore: Economic Growth Research, Deininger and Squire Data Set
Korea-Taiwan: Borguignon and Morrison (2002)
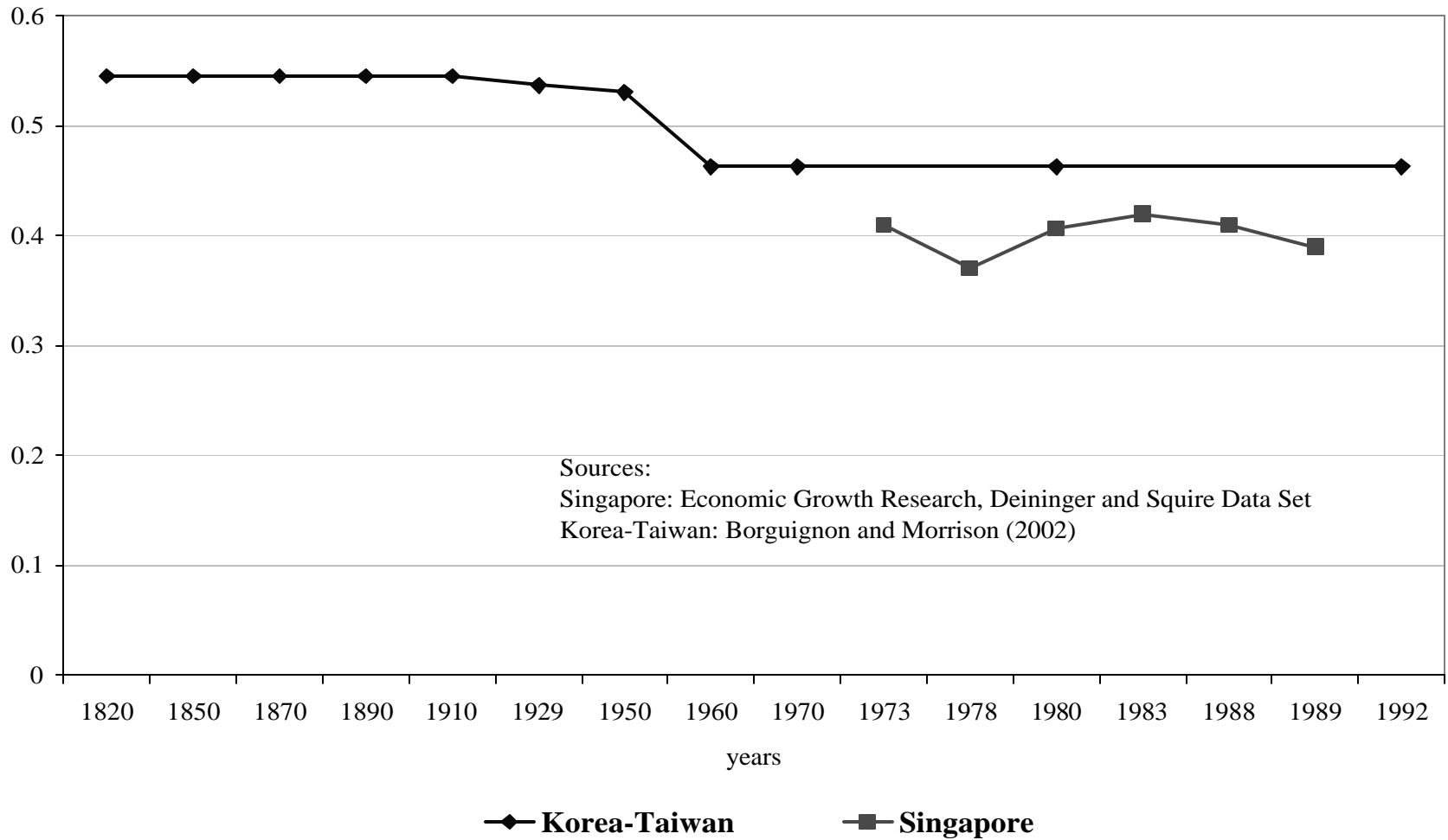
Figure 6.4 Concessions, Repression or Democracy?

Costs of
Repression
?

1

Political
Status quo
Concessions

Democracy

Political
Status quo
No
Concessions

Repression

0

d   μ   ?*   1

Inequality ?
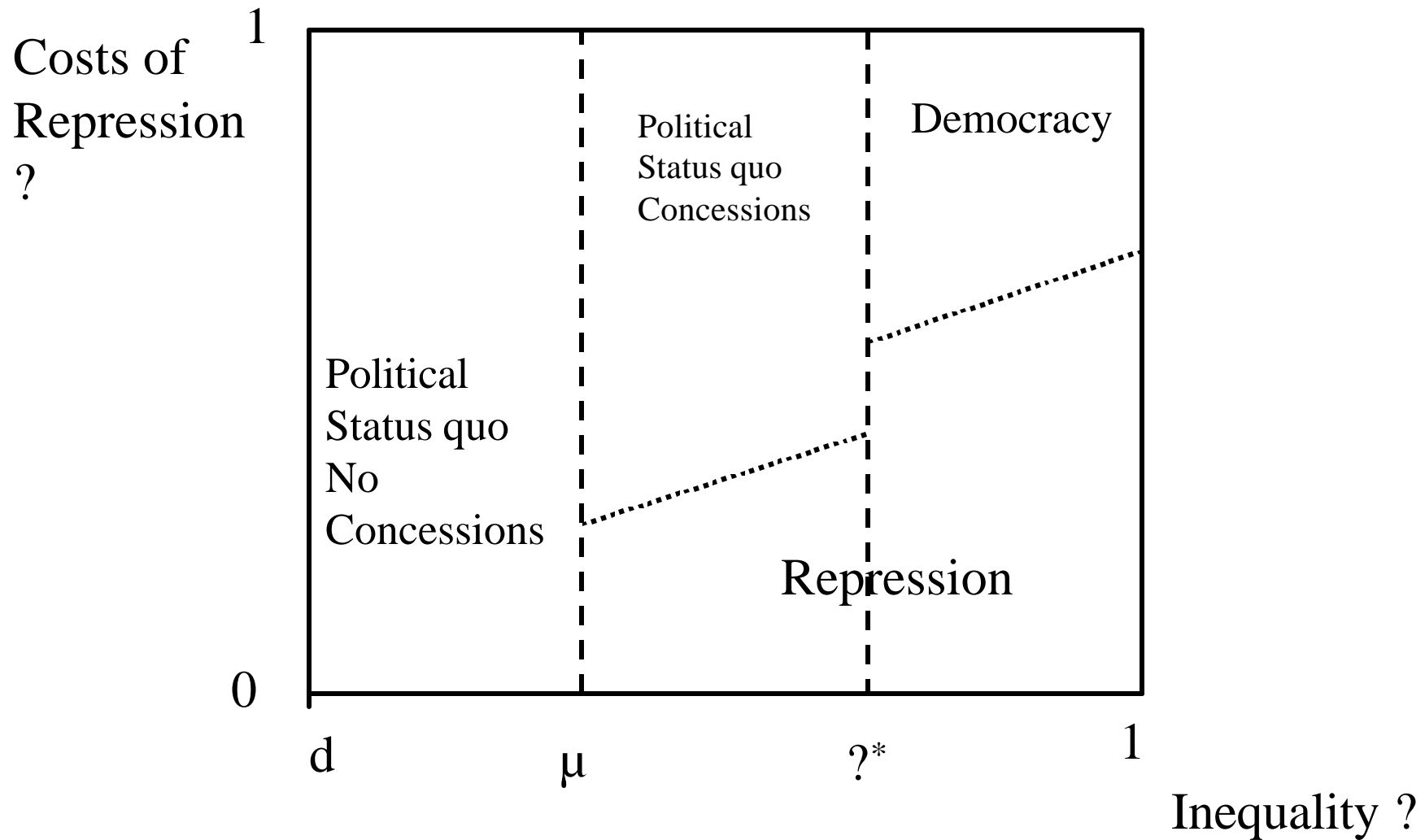
Figure 6.5 Manipulating Democracy

Costs of Repression ν

1

Political
Status quo
Concessions

Democracy

Political
Status quo
No
Concessions

Repression

Making Democracy
Less redistributive
Expands the Region
of Democratization

0

d μ ?*   1

Inequality ?
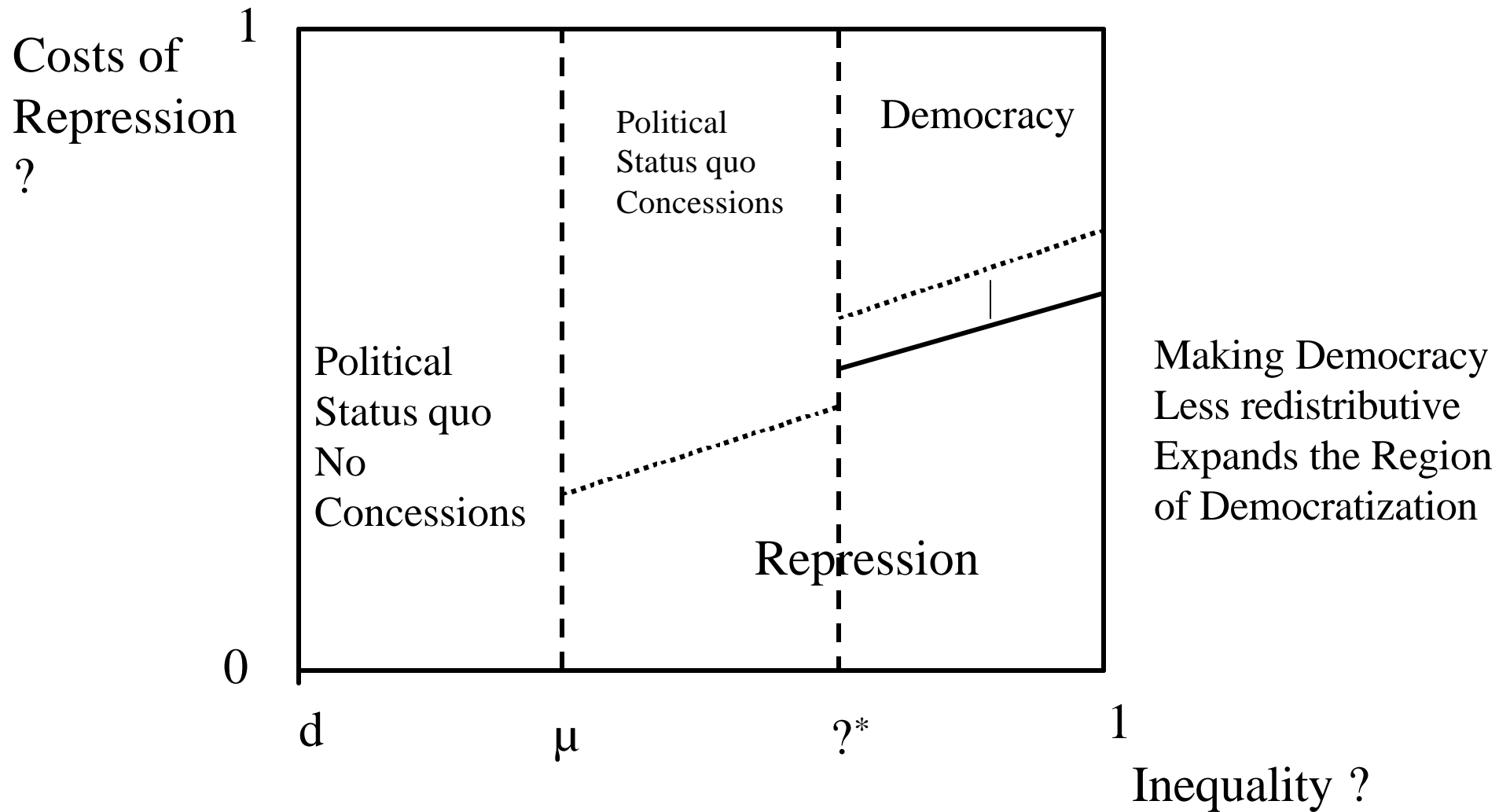
Figure 6.6 Democracy or Repression

Costs of
Repression
?

1

Democracy

Political
Status quo
No
Concessions

Repression

0

d

μ

1

Inequality ?
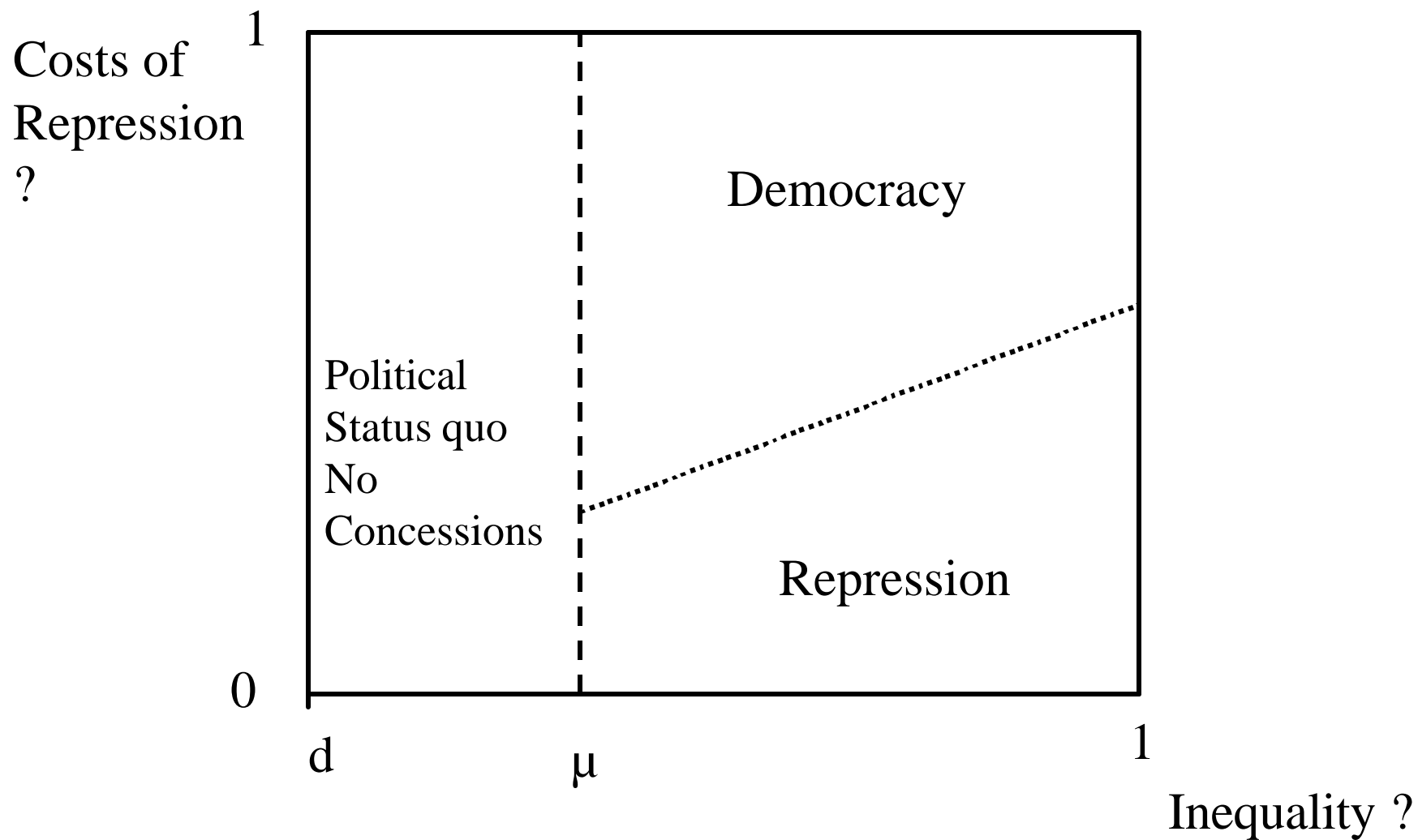
Figure 6.7: Democratization or Revolution

$(V^p(R,\mu), V^r(R,\mu))$

Rich

Repress

r

D

N

Poor

Rich

$1-r$

Tax

Tax

$(V^p(O|?), V^r(O|?))$

Poor

R

NR

R

NR

$(V^p(R,\mu), V^r(R,\mu))$

$(V^p(D), V^r(D))$

$(V^p(R,\mu), V^r(R,\mu))$

Nature

p

$1\text{-}p$

Rich

Tax

$(V^p(y^p|\hat{t}), V^r(y^r|\hat{t}))$

$(V^p(N), V^r(N))$

Figure 7.1 The Coup Game

Poor

Set Tax Rate

Coup

No Coup

$(V^p(C,f\,),V^r(C,f\,))$

Nature

p

$1\text{-}p$

$(V^p(y^p|\tilde{t}\,),V^r(y^r|\tilde{t}\,))$

$(V^p(D),V^r(D))$

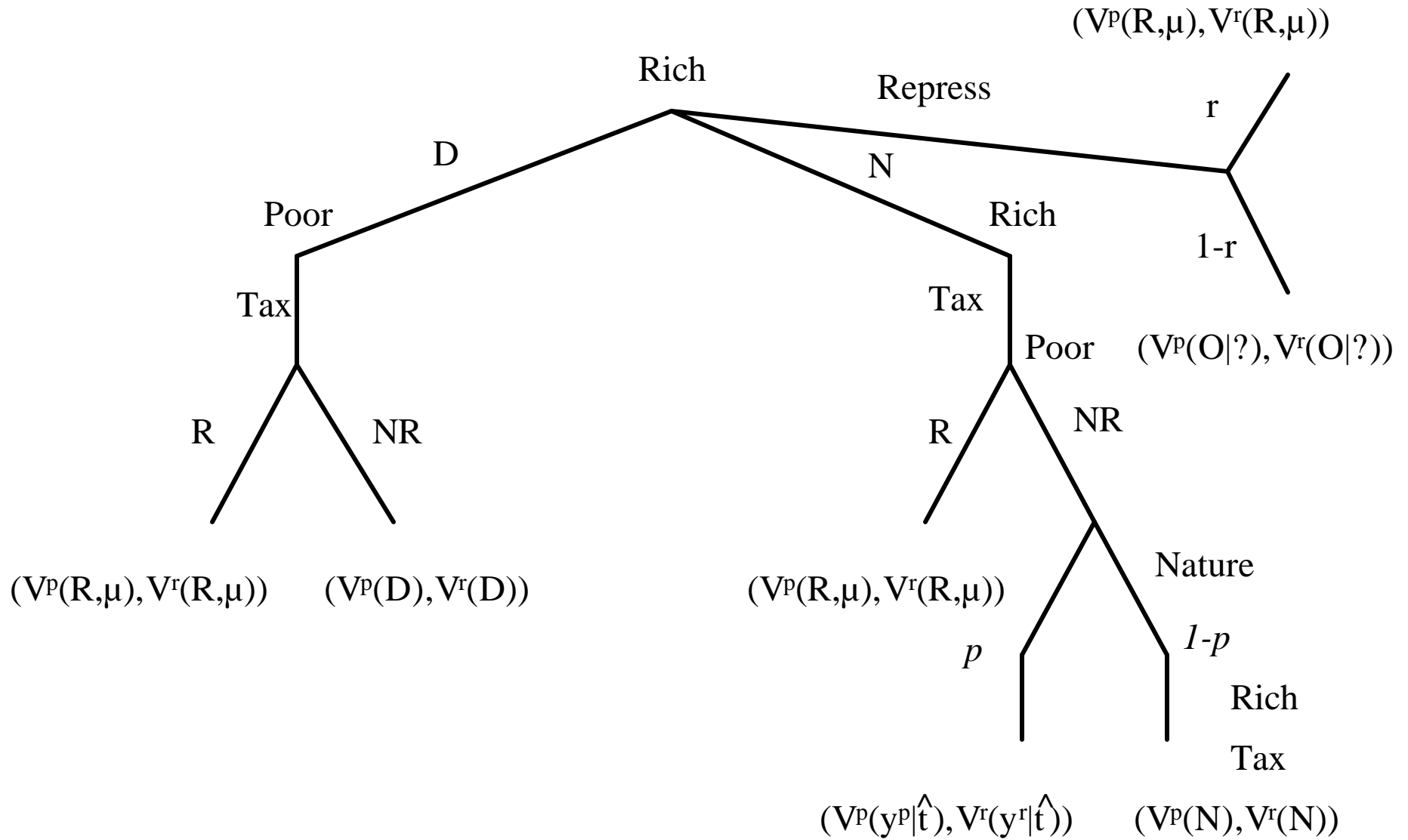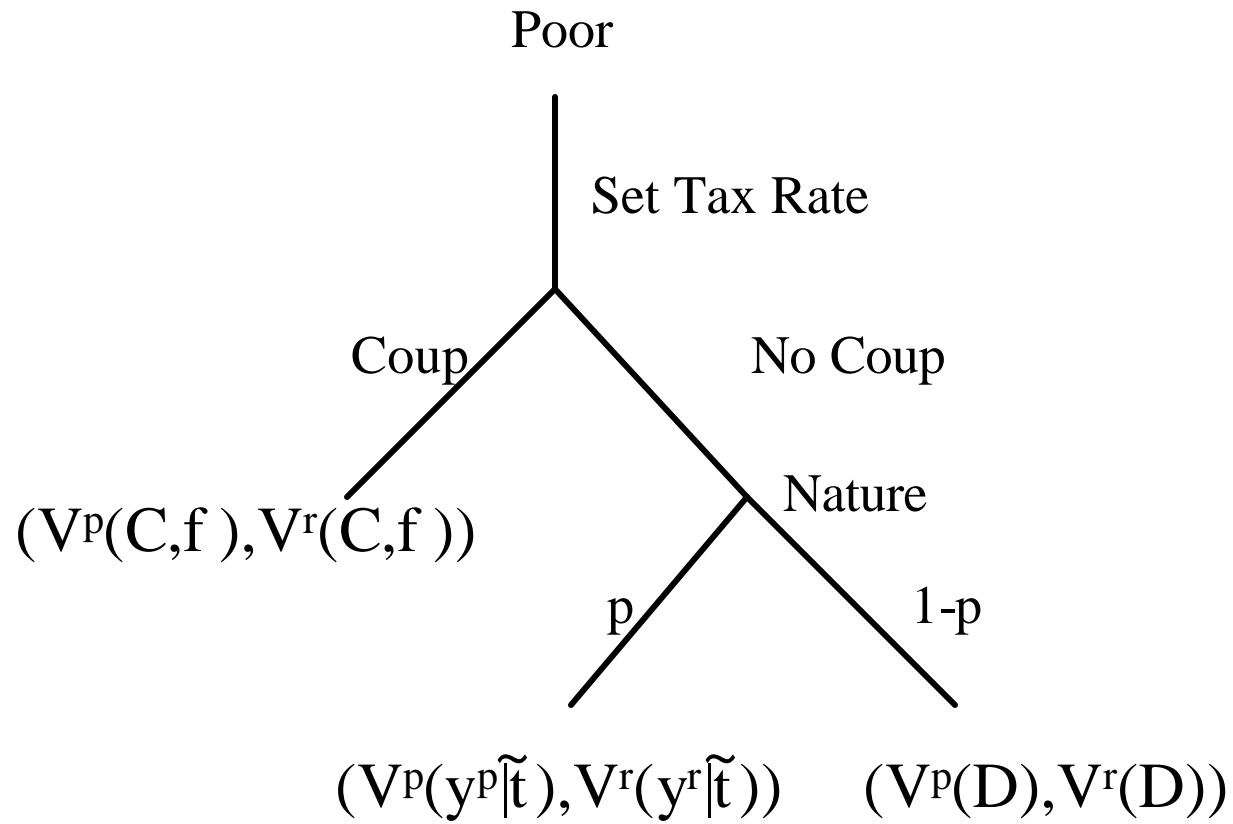**Figure 7.2 Consolidation or Coups?**
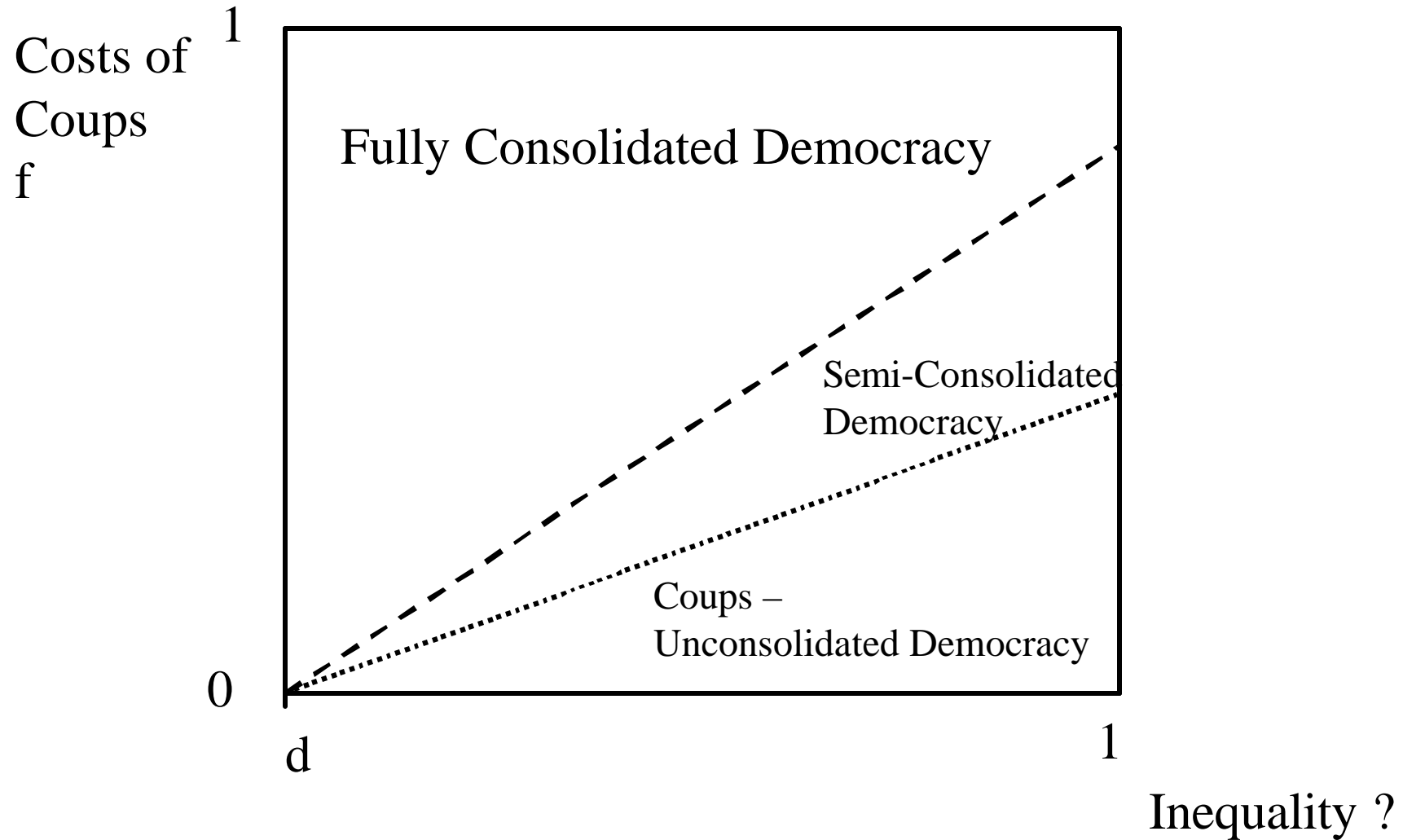
Figure 8.1: Partial Enfranchisement and the Middle-Class
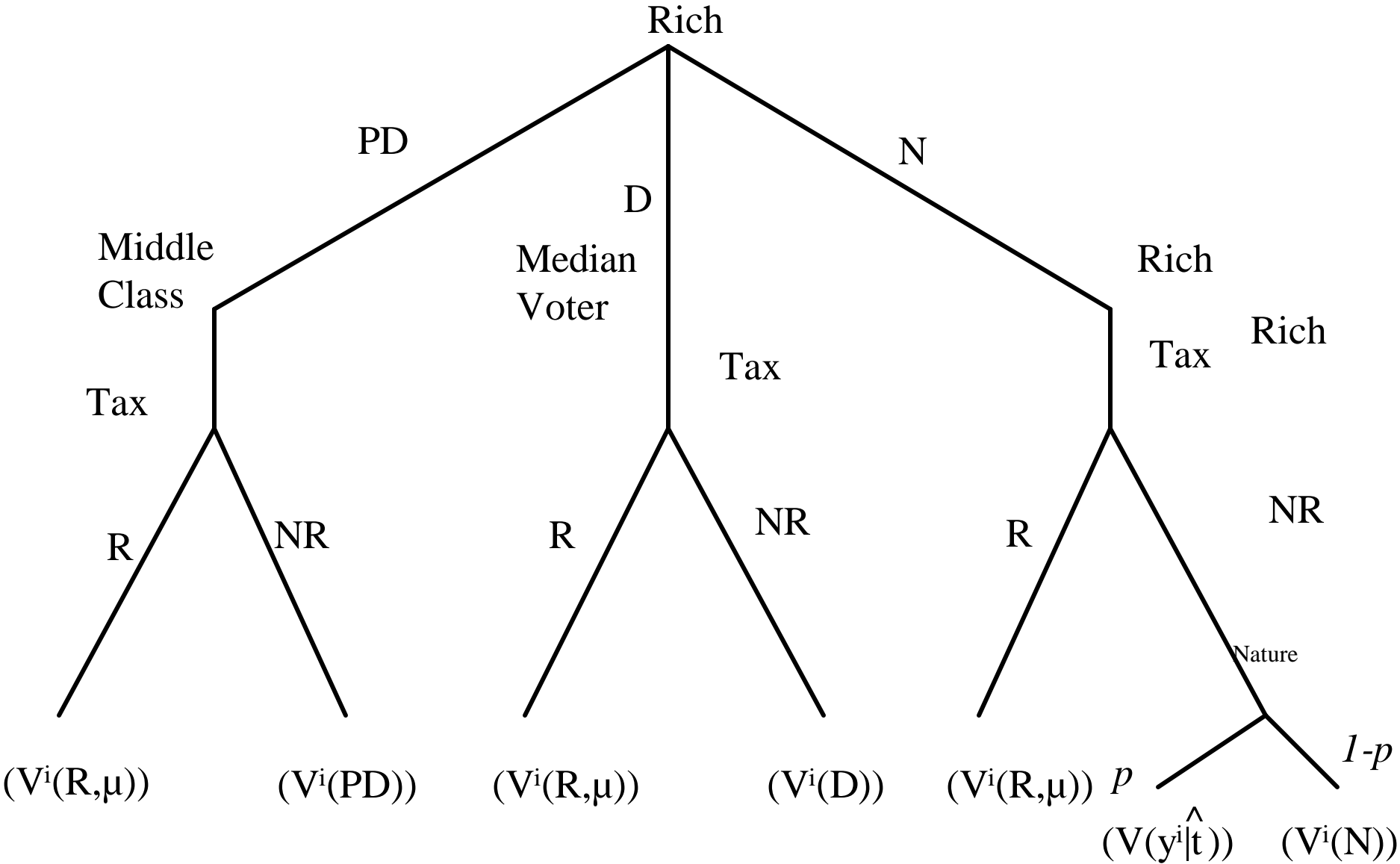
Figure 8.2. Disraeli vs. Gladstone

Middle-Class
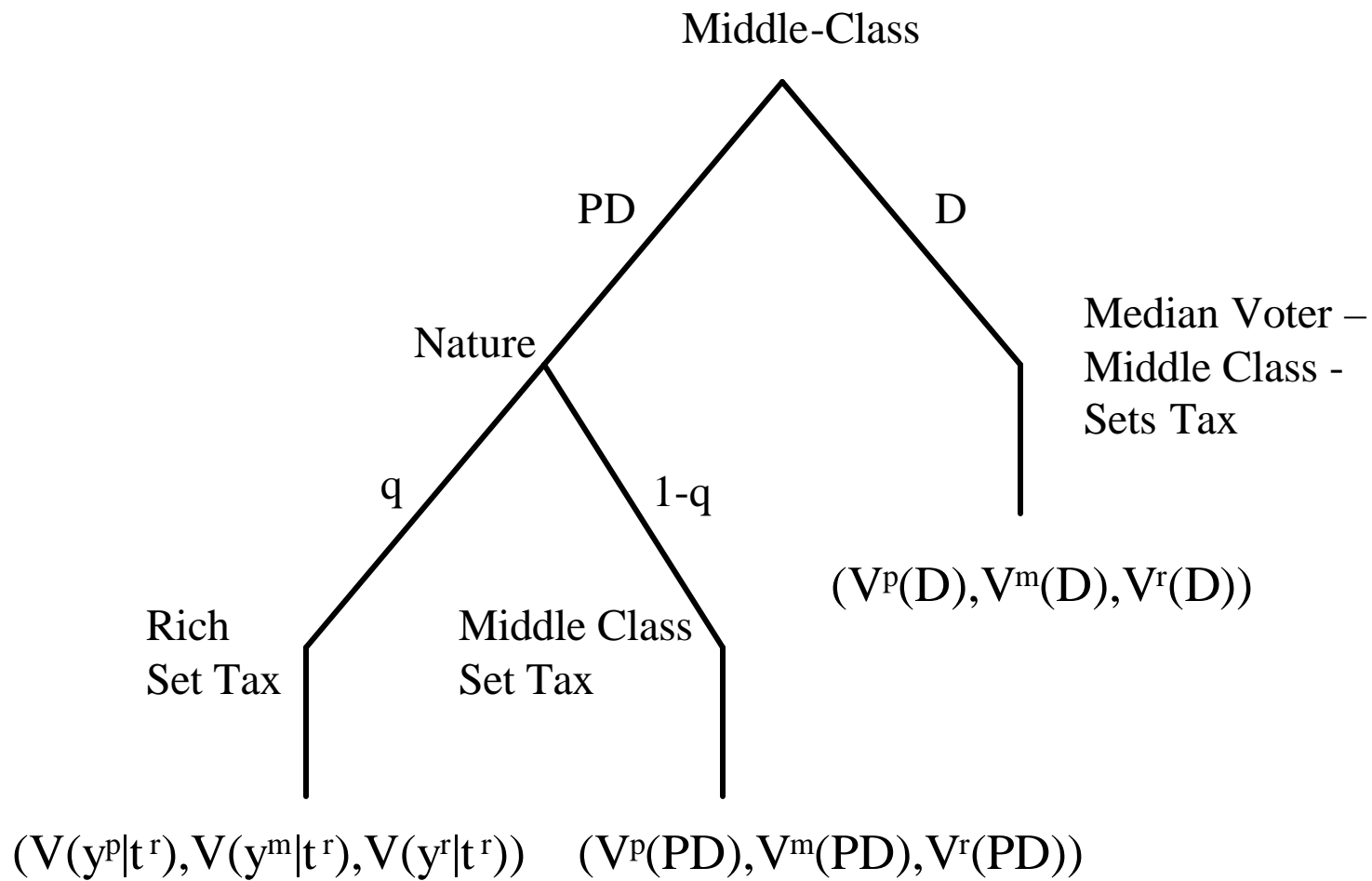
PD D

Median Voter –
Middle Class -
Sets Tax

Nature

q 1-q

$(V^p(D), V^m(D), V^r(D))$

Rich
Set Tax

Middle Class
Set Tax

$(V(y^p|t^r), V(y^m|t^r), V(y^r|t^r))$ $(V^p(PD), V^m(PD), V^r(PD))$

Figure 8.3: From Partial to Full Democracy

Middle
Class

D   PD

Poor   Middle
Class

Tax   Tax

Poor   Poor

R   NR   R   NR

$(V^i(R,\mu))$ $(V(y^i|t^p))$ $(V^i(R,\mu))$ Nature

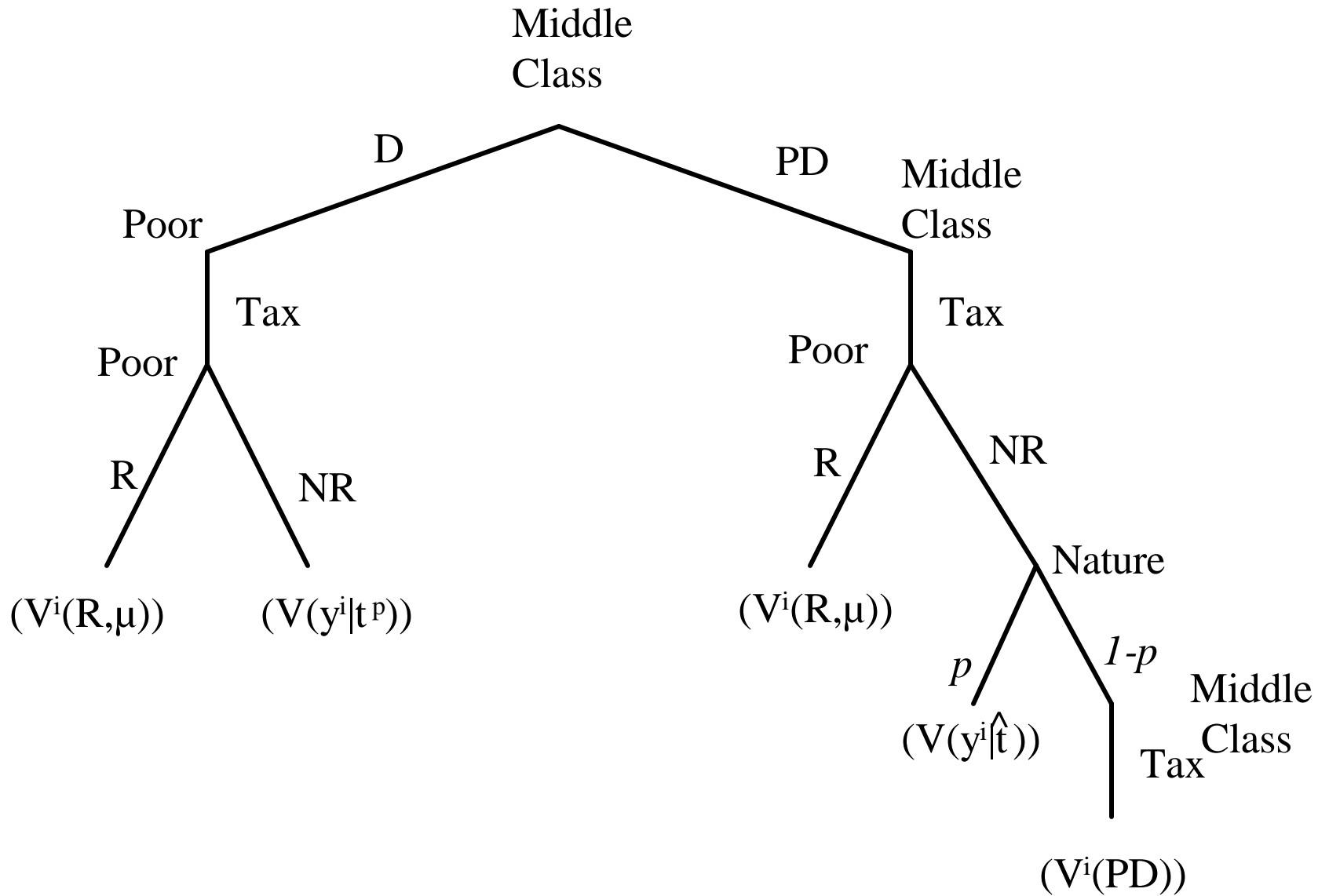p $1\text{-}p$

$(V(y^i|\hat{t}))$ Middle
Class

Tax

$(V^i(PD))$

Figure 8.4: The Middle-Class as a Buffer

Rich

PD   D   N

Middle Class   Median Voter   Rich

Tax   Poor   Tax   Poor   Tax   Poor

R   NR   R   NR   R   NR

Nature

p $1-p$

$V^i(R,\mu)$ $(V^i(PD))$ $V^i(R,\mu)$ $(V^i(D))$ $V^i(R,\mu)$ $(V^i(y^i|\hat{t}))$ $(V^i(N))$