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In Praise of Rebellion?

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There seems to be a consensus that an era ended in 2008, when the frothy insanity and outright corruption of the American financial system collapsed into a miserable heap taking with it the world economy. Ever since then we have been struggling to replace the discredited ideas that gave rise to that era. We have not, yet, succeeded. This is in part due to the natural longevity of folly as a generation of people whose reputations depend upon their excellence of grasp of that folly linger in power. An era's worth of "Nobel Prize" winners has to leave us before we can fully repair the damage they did. New ideas are in the air. They have not yet coalesced into the underpinning of a new era. So we live in an interregnum fraught with contradictions, uncertainties, and peril. Gramsci's pithy summary echoes well: "The old world is dying, the new is struggling to be born. In this interregnum a great variety of morbid symptoms appear."

One such symptom is the ongoing need to justify that which needs no justification. Or ought not. Surely rampant inequality, both of status and wealth, ought stand as obviously a danger to democracy. And yet we are constantly having to explain why that is true. Why? Albert Camus, as only he could, summed it up well: "On the day when crime puts on the apparel of innocence, through a curious reversal peculiar to our age, it is innocence that is called to justify itself".

That is where we are.

Not in the sense of crime or innocence, but in the sense that the ideas that provided the foundation of the dying era are the ones that need justification. Not the emerging ideas that support the construction of a new era. The lingering concepts, now exposed as hollow failures, force us to expend energy on the past rather than the future. We are required to explain the twist in history that inverted, or rather simply ended, much of the postwar triumph. It was a great error that we must undo.

So what happened?

There was a revolution. An intellectual earthquake that facilitated a silent political coup. Economists were at the heart of it. But most turned a blind eye to the damage as it accumulated.

At the time, it all appeared so sensible. So logical. So inevitable. The shift in emphasis was not supposed to produce the outcome it did. We were told that there was no choice. That 'there is no alternative' became the rallying cry of the radicals. Even though it felt unnerving, our leadership assured us that to continue as things were would undermine the continued accumulation or postwar prosperity. Change was necessary. Or else.

That the change has engendered the very disease, and worse, it was supposed to cure is what we now need to discuss. How we begin that discussion, how we get our voices heard, and how we correct the error of the 1980s, is our most urgent task.

We must undo Camus' reversal. We must recognize that innocence need not justify itself. That onus falls on those who led us astray. It falls on those who argued that the rupture and reconstruction of society was benign — that it would produce more than it consumed. And it falls most particularly on those whose cynical embrace of the radical allowed them to enrich themselves beyond their contribution.

We must tell the truth.

In so doing we must heed the words of Gramsci who told us that to tell the truth is to rebel. We must rebel against failure and the self-aggrandizement of our elite. Those latter day notables, those who led us astray, are culpable for the decline in fortune of the majority. Whether in their corporate offices, in their ivory towers, or in their gated communities, they must be called to account. Their radical vision and their co-option of power produced what we are living through. It produced the listlessness, the lack of empathy, the precarious lives we lead, and the deep divisions that prevent us from progressing in harmony. We live, after all, in the midst of the most prosperous era in human history, and yet it doesn't feel that way for most of us. Why not? What happened to that prosperity? Where is it?

So we begin with understanding the trajectory. How did we arrive here?

Looking back over our small slice of history is to understand its exception. What we refer to as economic growth seems to have exploded into its current form around 1870. That's a mere one hundred and fifty years ago. By any credible measure a totally new trend was established back then. The preceding decades had certainly set the scene. Industrialization was well underway. The social upheaval wrought by the appearance of industry in its modern form altered the rules of life that had evolved only slowly before. Now the pace accelerated. Traditions were torn down relentlessly to open up space for progress. Society and politics were both reconstructed. Privilege was torn from its previous resting place and secured by a new group of notables.

Once unleashed, growth became an end in itself. Gradually its perpetuation took over as the driving force underlying social construction. Politics, international relations, and governance all became more commercial in their orientation. Growth became inevitable. It became normal. Even though a longer view of history suggests otherwise, we expected this new normal to continue. That it is an anomaly is hardly ever seriously suggested. The imperative of growth — of the ever accumulating more — is the defining feature of the era that took off in earnest in 1870.

This rapid growth — usually expressed in the terms economists have persuaded us to use — is the foundation upon which *all* modernity now rests. This growth is itself underwritten by constant discovery and application of technologies that did not exist before. Innovation became our watchword. We take it for granted that our era can be defined as an era of innovation, and that such innovation produces, albeit at the cost of disruption, everything we now enjoy — better health, longer lives, broader cultural exposure, and better day-to-day security of existence. Even our most recent ancestors would not recognize our everyday wellbeing. It is a thing of envy. It is a thing to cherish.

This centrality of continued rapid growth to our modern lives is at the core of our current concern. It has brought with it the great downside of environmental degradation and a future cost that might well offset much of the gain since 1870.

And yet we continue unabated. We are forced to — not to grow threatens modernity in its entirety. The self-perpetuation of the capitalist machinery that produced the cornucopia cannot stop. Else the entire edifice collapses. Economists, by and large, accept this inevitability.

Everything, it seems, sits on this economic foundation. In turn, this has projected economic thought into the center of our discussions. "Economism" to use Kwan's word has taken over.

How we explain the pivot back in the 1800s, how it gathered pace, how it emerged, and why it ebbs and flows, are all central questions that require technocratic explanation. We have to understand more exactly the elements contributing to modern growth. Unfortunately, we do not. Perhaps the problem is too intractable within the context of current economic thought. Perhaps the toolkit is inadequate. Perhaps the ideology of inevitable growth clouds our judgement and prevents us from seeing. Perhaps all these things. What we know is that our ignorance of the details still bedevils us. That ignorance can be approximated using our modern ideas. But taking the error and turning it into a virtue is hardly a long term strategy for knowledge creation. We need to be served better by our economists.

Why? Because this moment in history, as many have observed, ought to be propelling us towards a future very different from the abject nature of all previous human history. We have, it seems, broken free of what became known as the Malthusian trap. Years of relative prosperity are not, as before, followed by a reversal and return to poverty. Growth is more secure. It is uplifting us towards that fabled Utopia which eluded endless generations before us. It feels within our grasp. We fantasize about the end of work and the possibilities of luxuriating in endless cultural and spiritual improvement. And we long for the permanent security of existence that was denied all our ancestors.

What we sometimes forget as we entertain this moment is the struggle that this short era produced. Growth has allowed us the elbow room to reshape our societies in ways that the constraints of the past disallowed. Most of all, we have created what we call democracies that include even the least privileged people — albeit haltingly and inadequately at times — in the political decision making framework.

As economic growth enabled certain people to rise rapidly in wealth and status it distorted prior social and political equilibrium. Things needed rearranging. In particular, questions of distribution forced their way into debate where previously millennia of tradition had kept them firmly on the sidelines. Traditional elites — aristocratic, monarchic, religious, military, and landed — suddenly had both the incentive and the space to share their privileges. Including the masses became both necessary, as motivation, and wise, as reward, in order to maintain elite benefits from modern growth. This self-serving impulse of the emerging notable class is reflected in the turbulence and reaction to the years after 1789.

They shared. They did not want to. But they did. That sharing reduced, it did not eliminate, the threat of the sort of dire social transformation predicted by the more radical critics of the mid-1800s.

However, the acceleration in growth gave little time for much reflection on the pressing need for a solution to wealth sharing. Whereas traditional societies had set patterns of distribution based upon time honored social structures, modernity had to invent its own distributional values. The battle to reach a so-called fair distribution has ebbed and flowed largely swept along by shifts in technology and the ownership and use of that technology. The machinery question — who owns and benefits from the machines — has dominated discourse since industrialization burst upon the scene. It remains unresolved. It has re-surfaced recently as artificial intelligence threatens to upend the currently settled arrangement of power.

Distributional conflict led, inevitably, to a period of intense ideological creativity and argument. With tradition swept from view, politics was refashioned. Both ends of the political spectrum produced new ideas. Indeed, the existence of a political spectrum in its modern form, was a product of the argument

taking place as growth took its modern form. Fascism, Communism, and classic liberalism all emerged to compete as frameworks to establish and divide power, wealth, and status.

Wallerstein's explanation of the emergence of modern liberalism as the victor seems most apposite. It absorbed just enough from its competitors to soften the retention of power by the notables. Furet, though, might have had more foresight when he said: "For Fascists, Bolshevism is the future of liberal democracy, because Fascists see liberal democracy as the breeding ground of Bolshevism. For Bolsheviks, to the contrary, liberal democracy is the breeding ground of Fascism, because they believe liberal democracy is bound to become Fascist. Consequently, there are three camps, and the one in the middle is merely a passage leading to the two others."

The oscillation between those three camps, but always passing through and periodically settling, for a time, in the middle, defines modern political history. And always, in the background, the debate over distribution provides the energy for argument.

The acceleration of time that rapid growth has produced has also compressed history. Ideological arguments take place within generations and not across them. Eras that used to be timed in terms of centuries are now timed in decades. Couple this with multiple generations co-existing simultaneously — a novelty created by our success in improving our health — and the traditional cohesion of memory and experience has been overturned. We live with multiple generational histories and cultures competing for pre-eminence within each society at once. This complicates politics — inter-generational conflicts muddle the class conflicts modern ideologies sought to resolve.

Nonetheless, some in the early 1980s felt this was all resolved. Or at least settled into a more anodyne acceptance. Liberalism prevailed. Some even imagined that history itself had ended because ideological conflict had abated. Growth, such people argued, was best provided by setting what we call the private sector free with minimal interference from what was perceived as the heavy and incompetent hand of the state. This attitude represented the end of a policy debate that had raged throughout the early 1900s. The rapid rise of state involvement in the economy as a consequence of the failure of laissez-faire during the Great Depression, along with the continued rise in aspiration of the middling strata of society, forced into being a series of interventions in the ways the private sector conducted itself.

This intrusion was deeply resented by the notables whose power rested on their prominence in, and control over, that private sector. An alliance of plutocrats and business leaders emerged determined to undo the policies of redistribution embedded in the reaction to the Great Depression. They rallied behind the ideas of the likes of Hayek and poured funding into scholastic efforts at places such as the University of Chicago to produce an intellectual justification for their rebellion against the state.

The scholars might simply have been purveyors of new ideas, but they were the facilitators of the silent coup that gave the recently ended era its most pronounced character. It was an era of rising plutocracy enabled by the willing architects of modern economics.

In the geopolitical context of the time the battle of ideas was unevenly fought. Especially in America, Furet's insight played out perfectly. Any effort to protect the state's activity was viewed through the lens of it being incipient Marxism. Any effort to bolster social protection against the predations of business was seen as opening the road to serfdom.

Liberalism was recast as neoliberalism, shedding some of those features it had acquired to protect itself from the attacks from more extreme ideologies. Instead, from its origins in Paris during 1938 until its

political breakthrough in the early 1980s, neoliberalism was steadily shorn of concern for the social consequences of undoing the state protections put in place to mitigate the damage done by the Great Depression. Originally conceived by the likes of Walter Lippmann as an effort to soften laissez-faire, it became a full throated advocacy of free markets. Heavily funded by private wealth, neoliberalism was re-purposed as a vehicle for the seizure of power by the emerging alliance of old money whose fortunes had been so damaged by state concern for the middling people, and the new money being generated by corporate pre-eminence in the economy. In Furet's framing, the middle ground, in order to prevent it from being a mere passage towards the left, was shifted radically to the right.

So the end of history in the 1980s was simply the emergence of a radicalization of erstwhile centrism. It was a perversion of the sensibility that had produced the compromises accumulated through the conflicts from 1789 forward through the early 1900s. The triumph of liberalism-as-neoliberalism was the undoing of those compromises. It was the seizure of power by our modern notables in the name of liberty. That is liberty from the state, which hitherto had been the protector of liberty and the focal point of modern democracy. Such an inversion as this is certainly worthy of Camus' scorn.

"Society, there is no such thing" sums up the contradiction that now took the place of the earlier twentieth century compromises. This abolition of society was the simultaneous abolition of citizenry. For without a society there is nothing to be a citizen of. The convenience of this abolition was to become evident only later.

Meanwhile, the end of history was only its abeyance. A new history had begun.

And it is against that history that we must rebel.

Nothing that has happened was unforeseen. We have simply ignored the voices that articulated the likely course we have followed.

Back in 1941 James Burnham published a short book with the title "What Is Happening in the World — The Managerial Revolution". In it he described the demise of capitalism and its replacement, not by socialism which was the great fear in the western world at the time, but by what he called managerialism. He predicted that the economy and society at large would fall into the hands of a class of managers who would administer it in their own interests. They would subject both the old ruling capitalist class and the recently empowered working class. Administration and those who did the administering were to dominate.

In 1946 George Orwell wrote a lengthy critical essay in which he both acknowledged Burnham's courage in articulating his vision and what Orwell perceived as his many errors of judgement. What catches our eye today, though, is Orwell's summary of Burnham's insight. Burnham is suggesting, according to Orwell, that: "What is now arising is a new kind of planned, centralized society which will be neither capitalist nor, in any accepted sense of the word, democratic. The rulers of this new society will be the people who effectively control the means of production: that is the business executives, technicians, bureaucrats and soldiers, lumped together by Burnham under the name of 'managers'. These people will eliminate the old capitalist class, crush the working class, and so organize society that all power and economic privilege remain in their own hands."

We can quibble over the details — the middle class gets scant reference by Burnham because it was triumph of postwar growth and thus postdates his analysis; and the elimination of the capitalist class, like that of Keynes' rentiers is an incomplete project — but the rise of managerialism and the power of corporations is undeniable. The postwar prominence of technocracy, including the economics

profession, is also a truth foretold by Burnham. The subsequent substitution of metrics of cost/benefit and profit for the more balanced inclusion of morality as the driver of decision making in both the public and private sectors fits neatly within Burnham's narrative.

The managerial takeover of power after the neoliberal revolution, along with its technocratic capture of policy making, marks the transition from one part of our era of growth to another.

History was given a new direction. Words like 'liberty' that had played such a prominent role in the early battles over distribution were repurposed to invert their meaning. The abolition of citizenry as a framework for policy making and its replacement by a specialized conception of the 'individual' is an instance of such an inversion. This new individual was set free from the state's heavy hand and allowed to express its freedom within the open marketplace. That was the sales pitch. The reality was that, thus tossed into the market and shorn of protection, each individual was a hapless target for those with the power to shape events.

Nor was this new individualism accompanied by any compensation for the loss of protection. In Jacob Hacker's evocative phrase a great risk shift took place. The risk landed on the shoulders of newly 'empowered' individuals who, at no time, were given the requisite resources to endure that risk. So they sank. Steadily. Slowly. They were engulfed by, or trapped within, their new liberty. Their lives became ever more shrunken as the costs of operating in the marketplace were dictated and established by those with the resources to offset the risk.

An easily understood example of this shift is the stagnation in the average person's wages throughout the extent of the neoliberal era. Costs rose. Wages didn't. Living standards either froze or declined.

While we might be disappointed by this turn of events, we ought not be surprised.

The extraction of rents by elites is an historic norm. Every time an elite ability to protect its privileged access to rents is threatened, by war, by disease, by arbitrary rule, or by, in our age, democracy, it finds a way to reconstitute itself. Our notables — Burnham's managers and technocrats — having established their intellectual and social authority, steadily extracted disproportionate portions of the wealth being created by growth. But the machinery of wealth creation started to feel the burden of the resultant growing inequality as resources piled up unused and misallocated to excess saving by the new rentier class. In one of histories regular ironies, the search by an elite for ever more suffocated the engine that produces it.

Rent extraction on the scale of the past few decades reduces productivity growth by suppressing demand and consequently investment. That, in turn, reduces the degrees of freedom our elite has for the continuance of power sharing, so it tightens its grip on the state to protect its rents. The illusion of democracy was a victim of this shrinkage. Pre-modern social structures emerged even within what appeared to be a modern social setting. For instance, plutocrats became more overt in their purchase of power. The postwar years of rapid growth and upward mobility were replaced by a reversion to what are recognizably more traditional and static social arrangements. Inequality, both vertical in the sense of wealth and income distribution, and horizontal in the sense of great differences in social status, emerged to undermine social cohesion.

For the majority the march towards Utopia stalled.

The cultural shift in the 1980s from a broadly shared and morally determined outlook to a narrowly focused and technocratically articulated one is the underlying reason we currently wallow in so much unease.

Of course, there were elements of the radical shift before the final neoliberal takeover. The rising armory of method and theories in both economics and management science in recent decades have their roots in the early postwar years. They share both hubris and origins. The emergence of organizational theories during the effort to win World War Two served as a basis for their peacetime repurposing into social experimentation. Economics became performative — it sought not just to understand but to construct economies. Management became scientific rather than administrative. Concepts like efficiency and maximization crept into everyday thought. This cult of efficiency flourished despite an obvious flaw: nothing as open as a dynamic economy or business can ever be considered efficient. The flux destroys the data necessary for measurement. We can never pin down the efficient state. Indeed the entire premiss of growth sits upon the persistence of change, uncertainty, and, ultimately, ignorance of the details necessary for the calculation of efficiency. Alternatively put: efficiency demands stasis, which in turn ends growth, and encourages weakness in the face of endemic environmental uncertainty. Yet efficiency remains at the heart of both economic and business theory and practice.

The capture of business thought by the same neoliberal tendencies that undid economics is one of the greatest errors of our time. It is also one of the most ironic. On the one hand students of business are taught the intricacies of markets and price theory. And on the other, perhaps in the very next class, they are taught how to defeat the market by executing strategies that build moats around potential sources of rents. No one seems to notice the contradiction. Perhaps it doesn't matter, after all our notables adhere to free markets in name only. Free markets are places to consign the fates of the weak. Those with power are able to avoid, or perhaps void, the economics textbook.

The one truly big idea that conjoins economics with business theory is the notion of shareholder value. Built on the same foundation as modern economics and advocated by the more ideologically inclined amongst the early proselytizer's of antistate economics — Milton Friedman being the most obvious example — shareholder value has been the cause of most of the damage done to the middle class during the neoliberal era.

It spawned a whole array of associated management techniques all targeted to give management methods of extracting so-called efficiency from otherwise presumably inefficient processes. The notion of core competency is a prime example. As articulated by Prahalad and Hamel it provided an intellectual underpinning for the elimination from within a business firm of activities deemed peripheral. It morphed into the foundation of all outsourcing. It provided the basis for the gig economy. There is a straight line connecting core competency with the precarious nature of a gig worker shorn of the retirement, healthcare, and other benefits afforded within the old corporate framework. The worker bears the cost, while the rentier reaps the reward. Hardly a modern notion but a reversion of the postwar experience also worthy of Camus' scorn.

Likewise agency theory became the method for 'aligning management and investor interests'. In reality it was the impetus behind the upsurge in compensation for executive management. The alignment of management and investors now manifests itself in the gigantic differential between the pay for executives and the pay for workers. That differential has exploded in recent decades and is hard to justify with respect to business performance. Its basis in classical incentive-theoretic economics is clear. Its impact on wage inequality is even more clear.

But that was the purpose. Burnham's managerial elite has developed, courtesy of economics, an array of ideas that are wheeled out to explain, if not fully justify, the absurdity of the inequalities business has imposed on society.

All this so-called advance in theory within both economics and management ought to have produced, surely, a sharpening of results. The annual flood of well-trained and highly educated graduates into the economy and into the academic ranks has not produced concomitant results. If anything, conditions are worse. We have a surfeit of talent that appears to have no impact on aggregate results. Are we over-educated or is our knowledge simply incorrect?

The structural transformation of the economy on the back of technological innovation and the globalization of capital certainly benefitted the managerial class. Our notables did well. Inequalities soared. Hacker's risk shift reduced the risk borne by business and placed it squarely on those least able to carry the load. Profits rose and wages fell as shares of national income.

The outsized income flowing into the hands of our elite allowed it to purchase influence in the judiciary and media. The notables completed their takeover by dominating the framing of political discourse. They now ensure legislation benefits them. They rig the game to their own advantage. The best example of this is in the American tax code which is a classic example of bias. Taxes imposed on capital are less than those imposed on work. Why? Because, naturally, we need to encourage investment. So capital owners need special treatment. That it doesn't produce more investment is carefully ignored. Likewise, entitlement has become a word of a scorn typifying the dependency on state aid that the elite tells us is a demoralizing and enervating force that undermines economic energy.

It is here that the elimination of effective citizenry via the abolition of society has its greatest effect. Citizens are, indeed, entitled to the benefits of society. Take away citizenry as an effective concept and it becomes easy to eliminate its associated entitlement. This is why the flow of tax abatements and credits that pour into the pockets of the rentier class are classified as incentives rather than mere entitlements. Rentiers are adept at doublespeak.

Ultimately though, the regime our notables put in place subsequent to the neoliberal revolution failed itself. Its greed consumed the economy's ability to maintain the rate of growth needed to stem discontent. Worse, the myopic and arrogant self-indulgence of the managerial class, by shortening the horizon of focus, failed to adjust to the onrush of a variety of events each of which threatens the hold of the notables on society. At the very least such events as demographic mix and aging, climate change, and the transition into a predominantly service based economy all threaten to destabilize the status quo. These are issues that our elite has no answers to — it has too narrow and self-serving a perspective to create novel responses to systemic crises such as these. Having gutted state capacity in order to cripple it as a countervailing power it now needs to deploy it. In the aftermath of the Great Recession it became obvious that the elite was intellectually bankrupt. Instead, its self-justification and rent-seeking have been on naked display ever since.

The neoliberal era ended with a resounding thud back in 2008. The complete lack of accountability for the damage done to society as a whole sent an equally resounding message to the middling people who had been neglected by the notables — who, naturally, bailed themselves out nicely and justified their actions as necessary in the public interest.

But the public noticed that the public interest appeared not to include most of the public. It did, however, include the managers of the very banks whose incompetency created the disaster. This realization added to the indignity heaped upon the vast majority of people through the decades of corporate

domination. Populist politics started to destabilize what was left of the democratic institutions the plutocrats had not already dismantled. Voters started to express anger that the government had not been working in the interests off the average person for decades. Rebellion began. The radical center failed to deliver to the majority. It is questionable whether it ever intended to do as much. Nonetheless, it failed. Now there must be a reckoning and reconstruction of a true center. What that is remains to be seen.

It is a truism to assert that harmony within a society must be based upon a combination of both mutual respect and dignity of existence. Prosperity can underpin social cohesion too, but respect and dignity are essential. Growth, and our single minded pursuit of it, certainly provided prosperity. The abundance of modern societies is unquestioned. It is the attack on respect and dignity inherent in the blatant rent extraction and lack of empathy for the consequences for their actions that has led our elite to earn the antipathy of the majority of people.

The recent suspicion of technocracy — for instance resistance to measures to cope with the pandemic — by average voters is telling. Having built reputations on their technocratic skills it can hardly be a shock when, as now, people realize that the ship is not right. Those technocratic skills apparently were inadequate. Why believe in them? Did they deliver shared prosperity? Did they control healthcare or education costs? Did they provide an abundance of decent jobs? Did they support average families throughout the technological transitions that have become so normal?

Shareholder value lurks at the center of the web of deceit woven by the elite to protect and justify its privilege. It preaches one creed and lives another. It has divided society. It has produced enormous financial insecurity even in the heart of historic prosperity.

Brad DeLong argues that the modern corporation was an essential innovation in the march towards Utopia. Production, distribution, and invention all needed to be organized. The marketplace as theorized by economists cannot cope with the complexities of such organization. It can only handle the simplest of activities — transaction. Beyond that, as Coase hinted at decades ago, some other form of organization becomes necessary. So DeLong is correct. Corporations perform a socially vital activity. They are the channel through which the flood of prosperity is guided. That places them into the center of power. As Burnham recognized, that creates an incentive to accumulate and deploy that power for selfish reasons. The threat of the misuse of that power went unnoticed by the economists and management gurus of the mid twentieth century. They ignored the work of Galbraith and others who warned of the risks. They ignored Burnham too. Intent on formality and modeling, they dropped power as a skewing factor. They promoted calculation and method over morality and unity as bases of analysis. By so doing they contributed to the inversion wherein the innocent have to justify themselves and the guilty do not.

Camus' disillusionment with what he saw as the nihilism of his era caused him to define and to encourage an act of rebellion articulated, ultimately, in an arrow surging high and hopeful as a defiant emblem of freedom untethered and restored.

That arrow now sits somewhere in a distant field ignored and hidden from common view. The hope it embodied dissipated as the corporate grip slowly stifled and reversed the gains most people had enjoyed during the immediate postwar years. Dissipated, yes, but not lost. We exist now in an interregnum. Voices as disparate as Metternich and Herzen have noted the disjunction that exists between the end of one era and the commencement of the next.

Returning to Gramsci: the morbidity we must reject is the deadweight of our notables and their technocratic enablers in academia, consulting, think tanks, and the so-called professions. They are too heavy a load to bear. To succeed we must all be truth tellers. We must acknowledge what is, not what we wish it is. To restore a semblance of democratic dignity we must first accept the reality of the struggle we must undertake. We must be relentless in exposing the hidden centers of power that distort the expression of the liberal ideal by couching it in an excessive and unrealistic individualism at the cost of collective solidarity.

Nothing as complex as the machinery of our modern economy can by viewed as a simple aggregation of individuals. Such a view is naive and dangerous. It is the emergence and nurturing of diverse and mutually reinforcing liberties that we must cherish the most, not the divisive version that opens us all up to exploitation by those with the power to do so. The sources and uses of power must be incorporated into our understanding of economies. Most of all it is the recognition that so-called economic liberty — the only concern of the neoliberals — cannot exist for the majority without the consideration of these other forms of liberty. We must rebalance society in order to return to the path towards Utopia. That implies confronting, somehow, our elite to undo its stranglehold.

We must assert our right to exist on our terms. We do exist. All of us. And by existing we rebel. The wrongdoers, not the innocent, must justify themselves. Camus' arrow must fly once more.

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Professor Stiglitz's Contributions to Debates on Intellectual Property

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Introduction

While much of Professor Stiglitz's work has involved showing us how markets don't work the way the standard textbook story tells us, his work on intellectual products has largely been about reminding us about the role of government in structuring markets. There is a tendency for many people involved in policy debates to think of patents, copyrights, and other forms of intellectual property as part of the natural order. Professor Stiglitz's work reminds us that these are government policies designed for the purpose of promoting innovation and creative work (ICW).

This is an essential, if simple, point. It is generally recognized that without some form of deliberate policy, the economy would underproduce research and development, as well as creative work. Intellectual property rights are one mechanism that we can use to deal with this market failure, however it is not the only one. Furthermore, while there is a strong argument for respecting intellectual property rights once they have been granted, going forward there are an infinite number of ways these rights can be structured, making them stronger or weaker, insofar as we choose to rely on them at all.

Stiglitz puts granting intellectual property into a larger framework of tools for promoting innovation and creative work (Stiglitz 2010, 2011, and Baker, Jayadev, and Stiglitz, 2017). In designing policy to promote ICW, we need to consider not only the optimal strength and length of intellectual property monopolies. We need to assess the circumstances under which these tools are desirable over other mechanisms.

Stiglitz's framework divides the type of mechanisms for supporting ICW into two general categories: push and pull mechanisms. Push mechanisms involve paying for work upfront with the hope that it will achieve a desired outcome. Pull mechanisms involve setting a target and then rewarding those who successfully reach the target.

Both push and pull and mechanisms can be structured to be either centralized or decentralized. A centralized structure would mean that the government or some central agency decides what to fund or what specific outcomes should be rewarded. Decentralized structures would leave these decisions to individuals or market outcomes. The next section outlines these categories in a bit more depth with examples for each category. The second section briefly assesses the relative merits of each type of mechanism, noting circumstances in which one may be preferable to other. The third section briefly discusses the importance of intellectual property both as a share of national income and as a major factor affecting distribution, both within and between countries.

Alternative Mechanisms for Supporting ICW

It is common to treat centralized push mechanisms and decentralized pull mechanisms as being the primary options for supporting ICW. Centralized push mechanisms include government funded research, such as the work supported by the National Institutes of Health (NIH) and the *Biomedical Advanced Research and Development Authority* (BARDA) in the United States, as well as government funding for creative work, such as France's Center for National Cinema or the much smaller National Endowments for the Arts or Humanities in the United States.

These are push mechanisms in the sense that they award funding in advance of the work being performed. There is a competitive granting process, through which applicants' proposals are vetted, but the funding is generally committed before the work is done.

Most ICW is supported through decentralized pull mechanisms, most notably patent and copyright monopolies. The logic of this mechanism is that the government sets up general standards under which these monopolies are effectively prizes, and then innovators and creative workers are allowed to gain monopoly profits based on their innovation for the term of the monopoly. Obviously, they can continue to profit even after the period of monopoly has expired, but then they must sell in normal market-facing competition.

In addition to these mechanisms, there are also examples of centralized pull mechanisms and decentralized push mechanisms. The most obvious example of a centralized pull mechanism is the government awarding a prize based on an innovation achieving a certain standard. The most famous example of such a prize was the British government's promise in 1714 of a large reward for developing a mechanism for effectively measuring longitude at sea (Sobel, 1995). There have been many other cases where governments have awarded prizes for some innovation or creative work.

Many researchers have proposed some sort of prize mechanism for developing prescription drugs (e.g. Kremer, 1998 and Hollis, 2005). The logic would be that the government would buy up rights to a drug, and the purchase price is determined based on some formula for its effectiveness and potential usage. The drug could then be sold as a generic in the free market.

The best example of a decentralized push mechanism would be the charitable contribution tax deduction in the United States. While most of the contributions that qualify for this deduction go to religious organizations or charities that provide services, some of the qualifying contributions go to organizations like orchestras, operas, or non-profits that support specific types of art and culture. With a top marginal income tax rate of roughly 40 percent, the government is effectively paying 40 cents of every dollar that high income individuals choose to contribute to support creative work.

These mechanisms can be thought of as general categories; however they can be mixed in various ways to achieve desired outcomes. For example, we can envision a structure where the government parcels out research money for a particular purpose like cancer research to a number of prime contractors. These prime contractors would have long-term contracts which would allow them to directly spend the money or alternatively to award subcontracts to smaller companies or start-ups. While the origin of the money would be centralized in this story, the ultimate decision on which research gets funded would be somewhat decentralized.

In a similar vein, the government could offer an individual tax deduction, or a tax credit, for a narrower set of activities. For example, it could restrict the tax credit to supporting journalism, either print or web-based or both. In this case, the decision as to which journalists or news outlets get funded would be

decentralized, but the government would have narrowed the range of options that qualify for the deduction.

It should be apparent that different mechanisms may be best for different types of ICW. Unfortunately, the sections dealing with intellectual products in recent trade agreements, such as the TRIPS provisions of the WTO, have sought to standardize rules across types of products, without considering the possibility that different rules may be appropriate in different areas. The next section describes these mechanisms in more detail and the benefits and drawbacks of each one, looking at the various areas in which they can be applied.

The Relative Merits of Mechanisms for Supporting ICW

As noted, the most common mechanisms for supporting ICW are centralized push systems and decentralized pull systems in the form of grants of intellectual property. Each of these has clear merits in particular circumstances.

Centralized Push Mechanisms

A centralized push mechanism is widely accepted as a useful way to support basic research in a number of areas. Most wealthy countries support some amount of basic scientific research. The United States spends over $50 billion a year on biomedical research through the National Institutes of Health, with several billion more going through other government agencies. The European Union loosely coordinates spending of around $15 billion annually. In addition, there are government programs supporting research on the development of computer chips and other technical advances, as well other areas of scientific research, like astrophysics. There are little foreseeable commercial uses of this research.

The key benefit of a centralized push mechanism is that it can be used to support innovation in areas that are deemed to be a high priority by experts in a field. It also has the advantage that the findings can be fully open and accessible to researchers throughout a country, and indeed throughout the world. This means that researchers can quickly benefits from each other's findings, building on them when they are useful, and avoid following dead ends that others have uncovered. Also, since the work has already been paid for, it can be made universally available over the Internet at essentially zero cost.

The major downside to a centralized push mechanism is that it can lead to a bureaucratized process where procedures needlessly delay the pace of research funding. There is also the risk that the agencies parceling out funding will be controlled by groups of insiders who dismiss worthwhile projects from less well-connected or well-established researchers.

There is also the risk of political interference; that political factors will play a major role in the distribution of funds. This can be either an ideological issue — conservatives not wanting to support funding for research on medication abortions — or a spoils system, where political allies receive funding whether or not their proposals have the most merit.

These political concerns are especially important in the context of creative work. At least in the United States, there is relatively little agreement on what sort of creative work deserves public support. As a result, public funding for music, movies, writing, and other forms of creative work has always been very

limited. In European countries, there seems to be greater acceptance of government funding of creative work, presumably because much of the public accepts that support for that work has merit.

There are ways to mitigate the problem of a centralized push system becoming overly bureaucratic. For example, the government could award long-term prime contracts, much like military contracts, to conduct research in various areas. This might be especially useful in the case of prescription drug research. The government could award 10 to 15-year contracts to companies to do research in specific areas, such as heart disease or lung cancer. Contracts could be renewed, expanded, or terminated depending on a company's success.

This structure would give companies a strong incentive to be innovative in pursuing their goals, since presumably they would want their contracts renewed. This should also mean that they would have an incentive to seek out start-ups or talented researchers with new approaches. The parceling out of funds to private contractors should also provide a further layer of insulation from political interference, apart from whatever rules are in place to protect the granting agency itself.

The incentives for sharing findings in a push system with open research are directly opposite from the incentives in a pull system. In a pull system, the goal is to be the first to get a patentable product and to share as little information as possible that could be useful to competitors. In contrast, in a push system with renewable contracts, the goal would be to show that the contractor had made valuable contributions to addressing a public health problem.

If a company in the push system had a major discovery that another company then developed into a useful treatment, it could claim credit as a factor in renewing its contract. For this reason, a company operating within a push system of this type would have a strong incentive to publicize its research findings widely.

A centralized push system of this type could co-exist with a decentralized pull system, although it would increase the risks for companies operating in the latter. In addition to the possibility that research will prove unsuccessful, there would also be the risk that even a successful innovation could face competition from an innovation developed through the push mechanism that is selling without patent protection at a far lower price.

This would be an especially high risk in the case of prescription drugs, where the time needed to develop a new drug can often exceed a decade. As long as all drugs are being developed through the patent system, any new drugs developed by a competitor will be selling at a patent protected price. The possibility of competitive drugs selling as cheap generics would qualitatively change the nature of the risk that companies operating within the patent system face.

Decentralized Pull Mechanisms

Grants of intellectual property, the major form of a decentralized pull system, offer at least a limited way around the problems of centralized push mechanisms. Most immediately, it avoids the problem of stultifying bureaucracies preventing promising avenues from being pursued.

Ostensibly, anyone is free to pursue a line of research, or a particular form of creative work, without needing approval by any government entity. They can then look to use the grant of monopoly protection to profit from their work for the duration of the monopoly, and possibly longer insofar as there is an enduring first mover advantage.

The decentralized pull route also avoids the obvious concerns with political interference. A company pursuing a line of research that faces political opposition, can ostensibly still get a patent monopoly and profit from any resulting innovations. Similarly, a creative worker can still get a copyright monopoly, even if powerful interest groups disapprove of their work. Also, a decentralized pool mechanism means that the government does not have to bear the cost of failures. An unsuccessful innovator or creative worker will bear these costs.

These are large advantages over a centralized push mechanism, but they also come with large costs. Most obviously, items protected by patent and copyright monopolies can sell for many multiples of their marginal cost. It is common in the United States for prescription drugs to sell at prices that are 15-20 times the price of a generic equivalent, after the patent has expired and competitors have had time to enter. In some cases, especially with drugs for rare diseases, the price can be more than 100 times the free market price. In the case of copyrights, material that could otherwise be transferred at zero cost over the web can instead carry substantial prices.

The deadweight losses in such situations can be quite large. Economists are often very concerned over the losses from trade tariffs of 10-25 percent. The losses from patent and copyright monopolies, which are equivalent to tariffs of several thousand percent, can be several orders of magnitude larger. As a practical matter, such high costs can translate to an inability to get an item that would be of value, ranging from the relatively mundane, such as access to a movie or book, to impeding access to important research tools such as business software or biomedical tests to preventing people from getting access to drugs that are necessary for their health or life. It is a very different world when a drug needed to treat a medical condition costs tens or hundreds of thousands of dollars for a year's dosage, rather than a few hundred dollars. In a world without patent monopolies or related protections, prescription drugs would almost invariably be relatively cheap. It is rare that it is expensive to manufacture and distribute a drug.

The enormous gap between price and marginal production cost leads to the predictable types of corruption. Most immediately, patent holders have an enormous incentive to mislead potential buyers about the quality of their product. This is an especially large issue with prescription drugs, where there is a serious problem of asymmetric information. The manufacturer is likely to have far more information about the safety and effectiveness of their drugs than patients or their doctors. As a result, it is common for drug manufacturers to exaggerate the safety and effectiveness of their drugs. The opioid crisis was the most extreme example of this sort of deliberate deception to promote sales, but less consequential examples are common as well.

This incentive structure also corrupts the research process itself. It has been common for the pharmaceutical industry to pay doctors and researchers, either directly or indirectly (speaker fees are a common route), to write articles touting their drugs. Medical journals have struggled for decades to find mechanisms to ensure that they are not serving as a platform for paid advertisements for the pharmaceutical industry.

The corruption can also extend to the drug approval process. Recently, there was the widely publicized case of the Alzheimer's drug Aduhelm. The Food and Drug Administration's independent panel of experts felt that the evidence from clinical trials did not warrant the drug's approval.

Nonetheless, as a result of extensive lobbying by Biogen, the drug's manufacturer, the FDA approved the drug. Without the promise of patent monopoly profits, there would have been little incentive for anyone to push the FDA to approve a drug where the clinical evidence did not demonstrate its safety

and effectiveness. Patents can also distort the research process in other ways, especially in the case of biomedical research. The pharmaceutical industry will only carry through research if there is an expectation that it will lead to a patentable product. This means that it has little interest in examining the extent to which diet, exercise, or environmental factors might affect an illness or the extent to which an older off-patent drug might be an effective treatment.

In principle, this gap could be filled by publicly funded research, but since there in general is no systematic coordination of research, there is no reason to believe that this will be the case. Furthermore, a pharmaceutical company that hopes to develop a patentable drug has no reason to share evidence that a non-patentable product may also be an effective treatment.

The enormous markups allowed by monopolies also give incentives to abuse the patent process itself. It is standard for drug manufacturers to seek dozens, or even hundreds, of patents on major drugs. Although the validity of these patents may be dubious, the cost of challenging them in court can be substantial. Furthermore, there is a major asymmetry when the patent holder is fighting to maintain a monopoly, whereas a challenger to a patent is simply trying to gain the right to sell in a competitive market.

This asymmetry is effectively a public good problem. Challenging an invalid patent does not just give the challenger the right to ignore the patent claim, it allows other competitors, and for researchers in general, to make use of the patent without compensating the patent holder (Henry and Stiglitz, 2010). However, the challenger only gets their own benefit, not the larger benefit to society. For this reason, many invalid patents are likely to go unchallenged, leading to both higher prices and higher costs for innovation in many areas.

Even the claim that the government does not have to bear the cost of failed projects ends up being somewhat dubious under closer examination. While the public sector may not directly pay for a failed research project or a movie that flops, there are economic resources being committed to these efforts. From the standpoint of the economy as a whole, we would like to minimize the amount of resources that go to develop a product or produce a valued creative work. The fact that the public sector doesn't bear the cost directly is really beside the point.

There are comparable issues that arise with the copyright side of the story. For example, "fair use" allows some amount of copyrighted material to be freely used without payment or authorization. The most common example is quoting from a copyrighted work in a scholarly article or other publication. However, the limits of fair use are not well-defined. A deep-pocketed copyright holder can use infringement lawsuits to harass critics or competitors. And, since third parties can be held liable for copyright violations, the threat of an infringement suit may keep material out of newspapers, of television, and even of the Internet.

As is the case of patent monopolies, the beneficiaries of copyright protection also spend considerable resources lobbying for longer and stronger protections. The length of copyright protection has been extended repeatedly in the United States and other countries. Incredibly, in the United States the protections have been applied retroactively, as though we can somehow give incentives for people to do creative work decades in the past.

There is also the issue of penalties. In both the case of patent and copyright, the laws are structured to be friendly to the claimant. For example, it is standard for a claimant to a patent to continue to benefit from the monopoly over the period in which a claim is contested. In the case of copyrights, the law provides for statutory damages. These can run into the thousands, or even tens of thousands of dollars,

and include attorneys' fees, even in cases where the actual damages may be trivial, perhaps tens or hundreds of dollars. Needless to say, it is not an efficient situation when the enforcement costs exceed the benefits at issue.

Even the supposed benefit of protecting innovation and creative work from political interference may be less clear with these decentralized pull mechanisms than it may originally appear. While it is easy to see the political risk with a centralized system deciding which research should be pursued or creative work should be supported, these risks don't go away with a decentralized system.

The recent effort to ban a drug for medication abortion, which was long ago determined to meet the FDA's standards for safety and effectiveness, has to raise concerns among pharmaceutical companies over future research spending. Would a pharmaceutical company invest hundreds of millions of dollars trying to develop a new drug for medication abortions, or some other area that raises major political questions, knowing that political considerations may ultimately prevent its sale and distribution?

The recent efforts by the Biden administration to limit trade with China in areas that it considers related to the military provides another example. China is potentially an enormous market for many products. If a chip manufacturer finds that a newly developed chip cannot be sold there over these concerns, it would face a substantially smaller potential market.

The same applies to creative work. If politicians can limit the distribution of a book, song, or movie, then it will discourage creative workers from dealing with politically charged topics. Again, this political interference may not be as direct as in a centralized system, where the agency determining funding is ultimately answerable to politicians, but there are risks nonetheless.

In short, there are many downsides associated with the structure of the patent and copyright system that we rely on to support the bulk of innovation and creative work. These problems are more far-reaching than is generally recognized. These problems make a strong argument for giving more consideration to alternative mechanisms.

Centralized Pull Mechanisms

The most obvious centralized pull mechanism is a prize fund. The logic here is that the fund would be used to pay for successful innovations based on pre-established criteria. There are a variety of methods through which the size and winners of the prize can be determined (Kremer 1998, Hollis 2005).

The basic story is that the prize would be awarded in exchange for the government taking possession of a patent (This could be done with copyrights as well, but the prize proposal is most often suggested with patents, and especially patents related to prescription drugs). After awarding the prize, the patent would be placed in the public domain. In the case of prescription drugs, the drug could be produced and sold as a generic, at the free market price.

Depending on how the prize is structured, the recipient could also be required to disclose all the research that led up to the innovation for which the prize was awarded. This would be a step toward making more research open-source, but it would only apply to research for which a prize is awarded, and even then, it would only be after the prize is awarded.

Developing a drug is a process that typically takes many years. During this period, the research would remain proprietary. Also, the company receiving a prize would still have an incentive to keep as much of its work as possible secret, in order to give it an advantage in further research.

The prize system would also perpetuate a major source of waste in the patent system: companies duplicating research in a race to develop drugs to treat common condition. While some competition is desirable, it is a waste to duplicate research to reach the same goal. If there is evidence that one path is clearly better, there is no benefit to society of continuing to pursue a second path. However, with a patent system, a pharmaceutical company may have hopes of recovering sunk costs if it eventually develops a marketable drug, even if another drug is safer and/or more effective. This problem would likely still exist with a prize system, although a well- structured system could limit needless duplicative efforts by offering considerably lower prizes for less effective drugs.

The prize system would not address the problem that companies would have no incentive to pursue non-patentable treatments for conditions. This means that if a long off-patent drug provided evidence of being an effective treatment, or dietary or environmental factors may affect a condition, a prize tied to a patent would offer no incentive to pursue this research.

It is possible to structure prizes that reward innovation more broadly, but the cost would be that the conditions for getting the prize would likely be less well-defined. This means that there would be both more ambiguity about which inventions or discoveries would warrant a prize and also the decisions would be more contentious. In addition, the risk of political interference becomes greater when the conditions for awarding a prize become less formulaic.

Decentralized Push Mechanisms

The logic of a decentralized push mechanism would be that the government would set rules for a subsidy for ICW and individuals decide the recipients subject to general guidelines. The model for this sort of system would be the tax deduction for charitable contributions in the United States.

Under the U.S. tax system, a person can deduct a contribution to a registered tax-exempt organization from their taxable income. To be eligible for a tax- deductible contribution, an organization has to register with the Internal Revenue Service (I.R.S.) and indicate what sort of activity they do that allows them to qualify to receive tax deductible contributions. The I.R.S. has general categories for which organizations qualify, such religious organizations, educational organizations, or charities providing service. Cultural organizations, such as museums and orchestras, can also qualify.

The tax deduction as it is currently structured is highly regressive. The overwhelming majority of low and middle-income taxpayers do not itemize their deductions, which means that even if they gave $500 or $1,000 to a qualifying organization, they would not benefit from the deduction.

Furthermore, since the benefit is a deduction from income, rather than a credit, higher income people in higher tax brackets would receive the largest benefit. The vast majority of people are in the 10 or 12 percent brackets, which means that even if they did itemize their deductions, they would only get back 10-12 cents for each dollar contributed. By contrast, high income households would be getting back close to 40 cents of each dollar contributed.

However, these are features that can be altered. The government could give a credit of say, $100-$200 per person, to support creative work. This would get around the regressive structure of the tax deduction for charitable contributions.

To be eligible to receive this money, the person or organization would have to register with a government agency indicating what sort of creative work they did, or they supported, if it is an organization. This would simply mean indicating they were a writer, musician, movie director etc., or that an organization supported work in this area. There would be no effort to determine if they are a good writer or musician, just as the I.R.S. does not try to determine if a religion is a good religion when approving its tax status as qualifying to receive tax deductible contributions. The only issue is whether the organization in fact engages in the activity that they claim. The same would apply to individuals or organizations that receive funds through a tax credit to support creative work.

The other condition that could be imposed in this system is that recipients of tax credit money are not eligible for copyright protection for a substantial period of time (e.g. 3-5 years). The logic is that the government only provides one subsidy, not two. If a writer or musician gets funding through the tax credit system, the government will not also give them a copyright monopoly. The public has paid them for their work and is now entitled to benefit from it without paying a second time. This should create a vast amount of material that can be transferred at near zero cost over the Internet.

The point of excluding people within the system from benefiting from copyright protection for a period of time is to prevent the tax credit system from being a farm system for the copyright system, in the way that minor league teams develop players for the major leagues. If the two are existing side by side, it makes no sense for the government to pay people to build up a following in the tax credit system, and then, when their work is highly valued, to wall it of behind copyright protection. This rule would require creative workers to commit to the tax credit system for a substantial period of time, if they opt to go this route.

A benefit of this sort of rule is that it is largely self-enforcing. People will have to register to be eligible to receive the tax credit. This means that if they get a copyright during the period of exclusion, they would be unable to enforce it. An alleged infringer could simply point to the fact that the plaintiff had been in the tax credit system within the specified period, and the case would be dropped.

Mixing the Systems for Supporting ICW

As noted earlier, we already have a mix of systems for supporting ICW, however as Professor Stiglitz has argued, we may want to alter that mix, and rely on different mechanisms for producing various types of items. Where we have products that depend to a large extent on consumer tastes, like smartphones, it is likely that we would want to rely largely on decentralized pull mechanisms.

The argument for this would be similar to an argument for relying on market mechanisms rather than centralized planning. Competitive firms are likely to be better situated to respond quickly to consumer sentiments than some sort of centralized government agency.

By contrast, there is a much stronger case for the push mechanism in the case of prescription drugs, vaccines, medical equipment and other health- related items. First, there are enormous problems of asymmetric information in this area. The manufacturer will inevitably know far more about their product than a patient or even a doctor. The monopoly profits from patents or related protections provide them with an enormous incentive to exploit this asymmetry.

Second, since the issue is people's health, there are enormous consequences of mistakes. Someone can be unhappy if their smartphone doesn't perform as expected, but the wrong treatment for a medical condition can impair someone's health permanently or even jeopardize their life. This is a qualitatively different sort of problem.

Third, there is typically a third-party payer in the case of health-related items — either the government or an insurer. Therefore, the logic of being sensitive to consumer demand doesn't have a role in this context.

Manufacturers of prescription drugs and medical equipment profit by knowing what they can get these third parties to pay for, not responding to patients' needs (at least directly).

There is a huge opportunity for innovation that would fall between these extreme cases. As is widely recognized, there is a role for a centralized push mechanism in funding basic research. However, where basic research ends and innovation to develop a marketable product begins, is not always a clear line. It might be desirable for the government to be somewhat less generous in allowing private actors to take advantage of publicly supported research.

The government could be more aggressive in securing and enforcing patents on publicly funded research. While charging large licensing fees for use of these patents would be antithetical to the goal of limiting the gap between patent protected prices and free market prices, it could require either shorter patent lengths or some sort of compulsory license on subsequent innovation as a condition of using a government patent.

This could mean, for example, that a company that relied on a government patent for a later innovation, would agree that its patent would extend for a shorter period (e.g. five years) as a condition of using the government patent. Alternatively, the company could be required to allow competitors to use its innovation for a standard fee (e.g. 10 percent of the sale price) for the duration of its patent.

These sorts of conditions could be shaped any number of ways, and it is likely that different rules would be applied in different areas. A wide range of possibilities exist, and they need to be considered, especially in a context where the United States and other countries seem to be moving towards increasingly explicit forms of industrial policy. If the government spends tens of billions of dollars on research, and then grants private companies patent monopolies or related protections on this research, it is effectively a public subsidy to these companies' profits.

It is also important to note, that even in the context of the TRIPS rules, there is still considerable flexibility in setting rules on intellectual property. While the rules may require that patents in all areas run for a full 20 years, nothing prevents a government from getting companies to agree to a shorter period of effective protection as a condition of getting access to publicly funded research. It is important the full range of options be considered in structuring policy.

The Money at Stake

There is little appreciation, even among people in policy debates, for how much money is at stake with intellectual property. Intellectual property rules, as they are currently structured, also play a huge role in creating and preserving inequality, both within countries and between rich and poor countries. While it would be difficult to produce a careful estimate of the extent to which intellectual property protections

raise the prices of goods and services above their free market price, we can get a ballpark number from examining the categories where intellectual property is a major determinant of the current price.

Table 1 shows a number of categories where intellectual property accounts for a major portion of the current market price. The first column shows sales in each category in 2022. The second column shows the percentage of the sales price that is assumed to be attributable to intellectual property rules. The third column shows the implied excess spending attributable to these rules.

Table 1: Total Savings From Patent/Copyright Alternatives

Billions of 2022 dollars

Consumption categories	Current spending	Share due to IP	Potential savings
Prescription drugs (line 121)	$525.9	80%	$315.5
Non-prescription drugs (line 122)	$94.9	50%	$47.5
Computers and other information processing equipment (line 46)	$242.4	60%	$145.4
Recorded music and video material (line 42)	$20.3	80%	$16.2
Educational books (line 67)	$13.5	70%	$9.5
Recreational books (part of 90) (line 58)	$25.9	50%	$13.0
Newspapers and periodicals (line 141)	$91.8	80%	$73.4
Motion pictures (line 212)	$6.5	80%	$5.2
Cable and satellite television and radio services (line 217)	$96.0	80%	$76.8

Investment

The total figure of $957.2 billion is equal to 3.8 percent of 2022 GDP. It is almost 40 percent of after-tax corporate profits for the year. It comes to $2,900 per capita. By any measure, this is a substantial sum of money.

To be clear, this is not a sum that would somehow be magically freed up if we eliminated all intellectual property protections. Assuming that we want to continue to support ICW, we would need to use much of this money to finance it through other mechanisms. This figure can be seen as a calculation of how much is at stake with our current rules on intellectual property.

It is also important to recognize that these rules have played an important role in maintaining and increasing inequality both within and between countries. It is common in policy circles to assert that technology has led to an increase in inequality in recent decades.

This claim misrepresents what is at stake. Insofar as some workers have gained at the expense of others in the last four decades, it has not been because of the technology, but rather our rules on technology. If we take an extreme case, where we do not have any patents or copyrights or related forms of protection, and non-disclosure agreements in labor contracts are not enforceable, it is very difficult to see how computer programmers, or other big gainers in recent decades, would be getting large salaries.

Not having any policy in place to support ICW would almost certainly lead to slower economic growth, as well as failing efforts to deal with climate change and improve public health, but the specific policies that have led to so much inequality were matters subject to political choice. They were not dictated by the technology itself.

This also applies to inequality between nations. If developing countries could freely use technologies developed by rich countries, it could hasten the rate at which they catch up with the rich countries. Imagine a world where any software could be freely transferred from rich countries to developing countries, where drugs, fertilizers, pesticides and medical equipment could be produced without paying licensing fees or royalties. This would have a huge impact for developing countries.

It also would enormously improve the health prospects of people in the developing world, if they could get drugs and medical equipment at the marginal cost of production, rather than having to pay fees for patent licenses and other forms of intellectual property. In the pandemic, millions of lives could have been saved in developing countries if there had been a fully open flow of technology from the earliest days of the pandemic. This would have allowed, among other things, for massive production and stockpiling of vaccines, while they were still in the testing phase. The benefits of having a large stock of vaccines to be distributed as soon as they were determined to be safe and effective hugely outweighed the downside risk of having to discard vaccines that might not be approved.

The fact that this sort of sharing was never seriously considered demonstrates the desperate need for clearer thinking on the financing of ICW. To be clear, this was not an issue of rich country pharmaceutical companies losing profits. There would be nothing precluding an arrangement where technology was freely shared, which means both non- enforcement of patents and also non-enforcement of non-disclosure agreements, and companies were compensated after the fact for their lost profits.

There would be a risk that this sort of ex ante compensation system would give a company less profit than they might have gotten by staying with the existing intellectual property system, but this would hardly be a necessary outcome. And, companies would retain their right to sue in court if they believed that compensation was inadequate.

There would be a risk that if we did test a system of open technology in the pandemic, that its advantages would be apparent, and there would be a reluctance to return to the pre-existing system of

IP. While the pharmaceutical industry's concerns along these lines might be understandable, it is hard to be very sympathetic to them. Insisting on maintaining IP rules throughout the pandemic led to a needless sacrifice of lives and exposing tens of millions of people to infections that could have been avoided.

Conclusion

Professor Stiglitz has provided us with a useful framework for analyzing mechanisms for incentivizing ICW. Current policy debates tend to treat the existing structures as givens that cannot be altered. Stiglitz's work is a powerful rebuke to this thinking. Rules for incentivizing ICW are infinitely malleable. There is good reason for believing that we can adopt mechanisms that are both efficient and more equitable. The structuring of rules for incentivizing ICW is already enormously important for the economy. It is likely to grow in importance in the future, as an increasing share of GDP is devoted to intellectual products. These rules will also be enormously important to the efforts to deal with climate change, future pandemics, and other threats to global health. It is long past time that we have serious debate on how the tools for promoting innovation and creative work can be best structured.

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America's Trade Deficits: Blame U.S. Policies – Starting with Tax Laws

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Abstract:
American external imbalances of the past quarter-century result from structural changes in the global balance-of-payments system that evolved from the older Bretton-Woods system. American imbalances originate on the financial account side and flow from the confluence of two major forces: 1) the Global Savings Glut, 2) policy choices by U.S. authorities to passively allow other countries to vent those surplus savings in U.S. financial markets.

Financial account surpluses *directly cause* American current account deficits by inflating the dollar's value, in turn, creating a drag on aggregate demand. The inflows destabilize the U.S. financial system by adding debt and liquidity that is compounded by countercyclical fiscal and monetary policy. This process is politically and economically unsustainable.

Practical policy remedies, including removing perverse tax incentives for financial inflows, are available. However, there is doctrinal opposition to any restrictions on international financial flows and national pride in the "strong dollar." In fairness, some of the most harmful and counterproductive policies may have served legitimate objectives in a different era or different international financial system. Today, however, they require stringent, *de novo* review.

Keywords: Trade Deficits, Global Imbalances, Financial Account, Tax Law, Exchange Rate Determination, Reserve Currency

JEL Classification: F10, F31, F32, F41, F42, F62

Introduction

For over 20 years, the United States has struggled with large and unwanted trade deficits[1] and the consequent decline of its industrial base. Although the effects of the "China Shock" peaked over a

[1]The terms "trade deficits" and "current account deficits" are used interchangeably throughout. The more inclusive term "current account," includes other transactions and services, but is less intuitive for non-economists. We also ignore the relatively tiny "capital account" currently lumped into the new "Capital and Financial Accounts."

decade ago, its effects linger (Autor, et al., 2021). The deficits were the result of a combination of two factors: a global glut of savings, and policy choices by U.S. authorities to passively allow other countries to vent those surplus savings in U.S. financial markets. Either one, without the other, would not have caused the deficits. The first of these factors is external and relatively novel in the U.S. case. But it is largely unappreciated because many economists still fail to fully accept that all external balances are determined simultaneously (Austin 2019). The second factor is domestic: the result of prior policy choices and is therefore reversible.

But only policies that reverse the macroeconomic conditions and incentives that cause offshoring and overpricing of American manufactures will reduce its trade deficits in the longer term. This paper will explain that to accomplish these goals, policies must reduce the net financial inflows that finance the deficits.

This article's analytical framework begins with four insights of the proto-Keynesian economist John A. Hobson (Mummery & Hobson, 1889) and (Hobson, 1902): the true father of the idea of insufficient aggregate demand. These insights are:

1. Oversaving, more savings than are needed to fund productive investment, can be structural and persistent, as well as cyclical (the standard Keynesian case).
2. Income concentration is a primary cause of oversaving.
3. Oversaving can cause recession or stagnation. It funds bad investment, waste and household debt.
4. Surplus savings can be exported.

Many standard macroeconomic models assume capital and savings are scarce. However, in the case of persistent oversaving, whether from domestic or foreign sources, such models and their resulting policy prescriptions do not work. Keynesian counter-cyclical solutions cannot indefinitely offset persistent structural surplus saving without unsustainable debt increases.

Shrinking the U.S. trade deficit requires reducing the corresponding foreign savings inflows. This analysis identifies five mechanisms that drive the inflows and which ones are caused by and/or susceptible to U.S. policy control. Ironically, the easiest remedy is the elimination of the perverse and outdated tax incentives originally created to encourage financial inflows.

1. Financial Flows and Trade Imbalances

Non-economists, if they think about it at all, might believe that international financial and trade balances are unrelated to one another. Nothing could be further from the truth. Without financing (including transfers), the only way to pay for imports is with exports and the only way to accept payment for exports is by accepting imports: trade must be balanced to the penny.

We intuitively know that to spend more than we earn, we must borrow the difference or draw on savings. What is surprising and counterintuitive is that trade surpluses *must* be financed by lending the balance. If a trade-surplus country spends all its export revenues on imports, its trade surplus vanishes. That is why surpluses *must* be financed. If the exporter keeps any export revenue, even as dollars saved under mattresses, that is a form of lending. If, and when, the exporter spends the cash, it calls in the loan. Conversely, if the government or private residents of a foreign country wish to save dollars (or repay dollar debt), that country must run a trade surplus to obtain the dollars.

When foreigners lend to America, they typically exchange their own currency for dollars or use their dollar export earnings to acquire U.S. assets, including stocks, bonds, or U.S. bank deposits. This finances the U.S. trade deficit and, by one mechanism or another, the trade deficit adjusts to match its financing. Most commonly, the financing raises the relative value of the dollar and American goods and makes American manufacturing less price competitive.

Subsidies, trade deals, import quotas and tariffs can change the commodity composition of trade, protect key industrial sectors, and alter bilateral balances, but cannot reduce trade deficits unless they reduce financial inflows. Similarly, one cannot have net financial inflows without incurring trade deficits. The balance of payments is a basic double-entry bookkeeping system. If the system is properly designed, credits must equal debits and the current account must equal its financing. Assertions or implications to the contrary are fantasy and logical impossibilities.

2. Savings and Investment

Capitalism is distinguished from other economic systems by its ability to mobilize savings into productive capital (goods and services that produce more goods and services); hence the name "capitalism." Capital investment, and the technologies embodied in it, have been major drivers of economic growth for *at least* the last 300 years. Not only does capital contribute to the income of its owners, but according to standard economic growth theory, it increases the productivity and income of workers, as well as labor's *share* of total income. Thus, in theory, the more capital that is accumulated, the greater the general prosperity.

Economists have traditionally regarded capital and savings as perpetually scarce. "Tradition" is used literally here, "the transmission of customs or beliefs from generation to generation, or the fact of being passed on in this way." Historically, capital scarcity was the normal condition of society as observed by the classical economists, such as Adam Smith . Over the generations, capital scarcity has become folk wisdom among many economists and policymakers. Today however, there is concern about a contrary problem: "a savings glut."

To understand a "savings glut" properly, "saving" and "investment" must be carefully defined.

"Saving" is that portion of current disposable income not spent on consumption. The income that is not used to demand goods is the flow demand for assets. Assets can be a way of earning additional income or simply storing income. Assets can take many different forms with vastly different economic effects. Assets can involve storing the income in the form it was received as cash or kind or cash equivalents, such as stocks of goods, as bank accounts; as financial instruments, such as equities, bonds, or loans which are another person's, or entity's liabilities; or the purchases of new or existing productive capital, the means of production. In a globalized world, these assets can be both domestic and foreign.

Saving has important implications. If saving rates are low relative to available productive capital investment opportunities, then policies that boost savings promote growth. Such policies match the self-interest of those who need to save or can save a large proportion of their income and those who derive a large portion of their income from previous savings (including inheritances).

But policies intended to encourage capital accumulation and growth are often ineffective or even counterproductive. One reason is that the term "investment" has multiple definitions that often cause confusion and sloppy reasoning, even among well-respected economists. These definitions are important, not only for economists' formal models, but, for the "mental models" that people use to

visualize the economy. To understand the financial flows that cause trade imbalances, several precise definitions must be laid out.

> Definition #1 ($I_{\#1}$): The type of "*investment"* politicians and policymakers want to make the economy grow faster is *"expenditure on new productive capacity."* This is *"real investment."* In the National Income and Product Accounts (NIPA) statistics produced by the U.S. Department of Commerce's Bureau of Economic Analysis (BEA), this falls into the category "private fixed investment." It excludes the purchase of existing capital assets or natural resources.

Gross private investment expenditures is a slightly broader category in the NIPA that also includes business inventories. This definition is essentially a residual category.

> Definition #2 ($I_{\#2}$): *"Investment"* is all final production that is not classified as something else, including unsold goods. Definition #2 can be divided into two subcategories:
> - #2a ($I_{\#2a}$): "Profitable investment" or "Desired investment."
> - #2b ($I_{\#2b}$): *"Unprofitable investment"* or *"Undesired Investment."*

$I_{\#2b}$ could also be called "Unsustainable Investment" because firms will reduce their output or investment to eliminate it.

The Keynesian tradition is to consider #2b to be excess inventories of goods. A more Hobsonian approach includes investment in excess capacity that is misallocated or unneeded because effective demand is insufficient to justify increased productive capacity. This broader definition corresponds better to recent experiences, for example the dot-com bubble of the late 1990s or the excess capacity of China's state-owned enterprises.

> Definition #3: "Financial investment" is the transfer or allocation of savings among financial instruments and individuals.

"Financial investment" can be very misleading if it falsely implies a direct increase in the capital stock. Investing in corporate stock is an exchange of bank deposits for equities. Bank deposits are a loan to the bank. It is up to the bank how the money is used. The bank may use it, *inter alia*, to finance productive business investment, consumer lending, or excess reserves. Consumer borrowing and spending is an act of dissaving that cancels out the original act of saving. Because of the potential dissaving, it cannot be assumed that a new act of saving or inward transfer of savings will finance new capital investment; it could alternatively finance dissaving.

Similarly, the term "financial capital" is deceptive or ambiguous if it falsely implies real capital.[2] The financial inflows that cause trade deficits are incoming transfers of savings, not expenditures on productive investment as included in the definition $I_{\#2a}$ or BEA's term "fixed investment." This is not nitpicking or pedantry. In the U.S. case, very little incoming "*foreign investment"* directly contributes to the America's stock of real capital.

[2] Because of their historical usage, the misuse of the terms "capital" and "investment" is sometimes unavoidable. Terms like "capital controls," "capital account," or "foreign investment" can be misnomers.

Even what the United States classifies as "Foreign Direct Investment" (FDI) is largely something other than new additions to the productive capital stock.[3] This distinction is very clear if one compares BEA's definitions of Fixed Investment and FDI (U.S. Bureau of Economic Analysis (BEA), n.d.):

> **Fixed Investment:** Consists of purchases of residential and nonresidential structures, equipment and intellectual property products by private businesses, by nonprofit institutions, and by governments in the United States. (Owner-occupied housing is treated like a business in the NIPAs.)
>
> **Foreign direct investment in the United States (FDIUS)**: Ownership or control, directly or indirectly, by one foreign person, or entity, of 10 percent or more of the voting securities of an incorporated U.S. business enterprise or an equivalent interest in an unincorporated U.S. business enterprise.

Typically, only three to four percent of FDI involves the establishment or expansion of U.S. businesses: in pre-pandemic 2019, only 2 percent (U.S. Bureau of Economic Analysis, 2021). The rest is financial investment, largely bank deposits used to acquire control of existing U.S. businesses and their existing real capital. Reclassifying the latter as Foreign Direct Acquisition (FDA) would reduce misunderstanding. In many countries, the meaning of FDI may be even more dubious and less connected to real economic activity (Blanchard & Acalien, 2016).

This conflation of external financial flows and real capital in the minds of the public and policy makers, and even eminent economists impedes reform of American economic policy making.

3. Savings Gluts and International Financial Flows

If the idea of surplus savings seems counterintuitive, desiring a persistent trade surplus should be even more counterintuitive.

- A trade-surplus country consumes *less* than it produces; it has a lower standard of living.
- If savings are scarce, then exporting precious savings is a burden.

The true benefit of the trade surplus is the economic stimulus that comes from exchanging the surplus savings and getting the foreign customers. In short, if a country cannot productively invest its savings, they are toxic industrial waste.

Historical conditions may not be eternal. Until the Great Depression and Keynes, anyone (notably Hobson) who doubted the "more saving is better" doctrine was considered a crackpot or heretic. But in Keynesian theory, high savings rates are risky. Invest them *all*, and the economy thrives and grows quickly. Fail to invest them *all* and the economy may stall. An increase in collective saving (consuming less) can reduce the need for additional productive capital.

If real capital and savings are scarce, these problems and ensuing recessions are usually temporary and mild. The standard Keynesian remedy for recession is fiscal policy: the government borrows and spends the surplus savings. Borrowing and spending is the opposite of saving – dissaving. So, the government's dissaving cancels out the private sector's surplus saving. But governments fear high debt

[3] Capital refers here to BEA's definition of fixed assets: "Produced assets that are used repeatedly, or continuously, in processes of production for an extended period of time." (U.S. Bureau of Economic Analysis (BEA), n.d.).

levels are unsustainable, so fiscal policy may not be politically sustainable in the long term even if it is economically sustainable.

Keynes' cyclical focus was, in some ways, a step back from Hobson. Mummery and Hobson raised the issue of inadequate investment opportunities long before (Keynes, 1937) and (Hansen, 1939) raised the specter of secular stagnation. Unlike Hansen or Keynes who saw the problem as one of declining or stable populations and technology limiting new investment opportunities, Hobson focused on the flip side; income concentration causing high saving. Similarly, today's frequent asset bubbles reflect Hobsonian Point #3 about investment misallocation.

Analyzing oversaving and its consequences requires using correct definitions of "investment." Take the simple closed-economy case. People often simply write "Saving = Investment."

$S = I_{\#2}$ (Savings = All Investment): This is the "Savings-Investment Identity." 1.

Equation 1 is always true. But "Saving = Investment" can also be an equilibrium condition.

$S = I_{\#2a}$ (Savings = Profitable Investment): the economy is in equilibrium. 2.

$S > I_{\#2a}$ (Savings > Profitable Investment): the economy contracts.
This is a *savings glut*. 3.

The difference between Equations 1 and 2 is definition $I_{\#2}$ or $I_{\#2a}$. Conflating the two is a serious logical error that even good economists can make (see for example (Taylor, 2009), location 88). Equation 1, $S = I_{\#2}$, *always* holds, but Equality 2, $S = I_{\#2a}$, may not. In the savings glut case, economic output may shrink.

Balance can be restored by either reducing savings or increasing investment. If capital is scarce, and credit markets are functional, the problem can work itself out though interest rate adjustments. But if capital and savings are overabundant, the problem can persist.

In an open economy, if $S > I_{\#2a}$, there is another alternative to recessions and stagnation: vent the surplus savings abroad. For capital scarce countries, this can work out well. As the stream of surplus savings flows (is lent) from one country to the next, two things happen. The savings can be channeled into new, productive investment in the (willing) recipient country. Simultaneously, the lending will finance (cause) trade imbalances. The lending country runs a trade surplus, and the borrower runs a trade deficit. The trade surplus transforms the lender's surplus goods and savings into exports. The trade deficit will allow the borrowing country to temporarily consume and invest more than its own production. This can benefit both countries.

We represent the outflow of financing (saving) that finances a trade surplus by adding the term F to equilibrium condition #1. A negative F is an inflow and finances a trade deficit.

$S - F = I_{\#2a}$
(Domestic Savings – Financial Outflows = Profitable Domestic Investment) 4.

Or we could write the equivalent expression:

$S = I_{\#2a} + BOT$
(Domestic Savings = Profitable Domestic Investment + Balance of Trade) 4'.

Note that F is an outflow of savings and finances the trade balance. Exporting surplus savings and running trade surpluses can stimulate and stabilize an economy.

But what if, globally, there are not enough qualified and willing borrowers to absorb the surplus savings? This brings us to Hobsonian Point #4: The export of surplus savings, the Economic Taproot of Imperialism (Hobson, 1902)(Chapter VI). In Hobson's day, that meant that the relatively advanced countries of the time acquired colonies. Today, countries at almost all levels of development take advantage of open financial markets to push out their extra savings. Their favorite destination is the United States.

In 2005, Ben Bernanke coined the term "Global Savings Glut" to explain America's record current account deficits (Bernanke, 2005). He stated that the root cause of U.S. current account deficits was remarkably high savings levels in some developing countries, primarily Asian, that pursued export-led growth strategies. He described his analysis as "somewhat unconventional," although it was just a consistent application of textbook theory. In fact, Bernanke's "savings glut" is just a rewording of Hobson's "oversaving." Bernanke argued that because the origins of the problem were external to the United States, there were few effective U.S. policy responses available. America, and other trade deficit economies, needed to endure and wait for poorer countries to resume their theoretically expected role of international borrowers.

Most mainstream economists tacitly accepted Bernanke's analysis. A cynic can argue that this was because Bernanke had not disrupted the intellectual status quo nor advocated any difficult policy decisions. However, with a few exceptions such as (Aliber, 2020), many economists failed to recognize or accept that the inflows causing U.S. trade deficits resulted from external conditions and conflicted with U.S. economic needs.

The consequence of these savings inflows was the Great Recession/Global Financial Crisis. The crisis happened with a speed and scale that none would have guessed two years earlier in 2005. The trade surplus countries not only transferred surplus savings to the United States; they transferred the consequences: financial imbalances and powerful recessionary impulses. The savings inflows overvalued the dollar, switched expenditure from American goods to foreign goods, and created an excess of total saving (domestic and foreign) relative to domestic investment. Although it created more financing for domestic investment, less domestic investment was needed since the aggregate expenditure on American goods has been reduced.

The current account deficit is an external imbalance that corresponds to the financial inflows (foreign savings). The problem for U.S. policy is maintaining internal balance (full employment) or $S - F = I_{\#2a}$ (Domestic Savings – Financial Outflows = Profitable Domestic Investment).

Fiscal expansion is the most immediate way of compensating for the loss of expenditures due to the increased trade deficit. Fiscal stimulus is a deliberate act of government dissaving that restores macroeconomic balance by reducing aggregate saving (S – F). The 2001 and 2009 recessions both followed large surges in foreign financial inflows that caused rapid increases in the trade deficit. In turn, they led to major U.S. fiscal stimulus packages intended to restore aggregate demand. Thus, trade deficits caused fiscal deficits.

Both trade and fiscal deficits *ceteris paribus* increase aggregate debt without increasing debt service capacity; sustaining aggregate output comes at the cost of increasing financial fragility. In theory, the

sequence can work in reverse if the trade deficit can be reduced and fiscal stimulus withdrawn, maintaining output while reducing debt accumulation.

Monetary policy puts the Fed in a double bind. If it tries to compensate for the loss of aggregate demand created by the trade deficit, it must add even more liquidity to the liquidity flowing in from abroad via the financial account. The Great Financial Crisis of 2007/8 demonstrates the destabilizing consequences of such a double-barreled liquidity expansion. Part of the problem is that the U.S. financial system, monetary policy, and interest rates may not conform to the simplifying assumptions of textbooks.

Economists still neglect the role of household borrowing in the macroeconomic adjustment process. Generations of economists have been taught that lower interest rates increase demand by increasing investment expenditure. As (Keynes, 1964) put it:

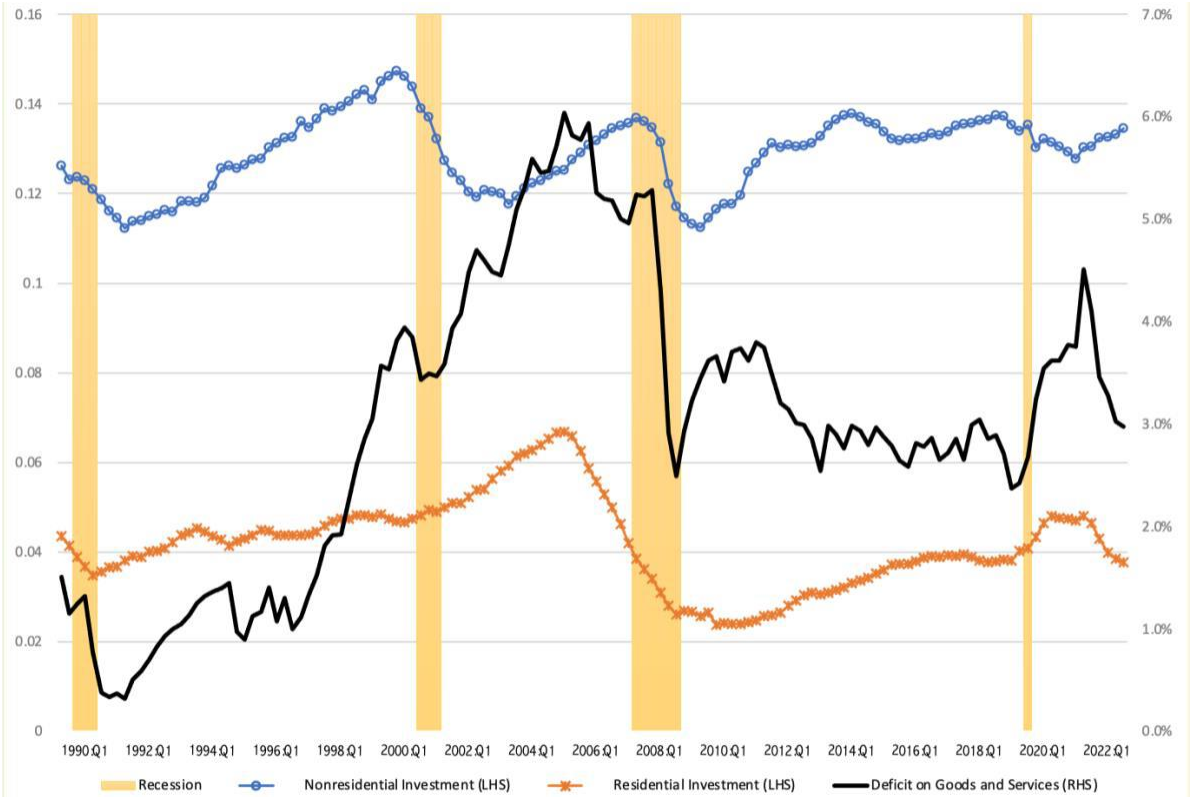
> a relatively weak propensity to consume (high saving) helps to cause unemployment by requiring and not receiving the accompaniment of a compensating volume of new investment.

Economists tend to assume an upward-sloping savings curve with respect to real interest rates (although the justification for this in the standard intertemporal optimization models was always ambiguous). Thus, falling interest rates eliminate surplus saving (and avoid recession) by inducing both higher investment and lower savings.

An important paper (Mian, et al., 2021) quantitatively demonstrates that the dissaving of less affluent households may sometimes be the most dynamic and important factor in macroeconomic adjustment. Thus, dissaving, especially household borrowing, should not be simply aggregated into a single net private savings term “S.” Figure 4 of their paper shows the links between the combined inflow of global savings and the increased saving of the richest one percent of Americans on the dissaving and debt accumulation by the non-rich, comparing the period 1983 –2015 relative to 1973 –1982. The combined savings increase did not raise real investment rates. Instead, net investment rates fell. The counterpart of the savings increase was dissaving of the bottom 99 percent of the U.S. income distribution and a smaller increase in government debt.

Figure 1 shows the relationship between the U.S. current account deficit and residential and non-residential fixed investment. It illustrates the Mian et al conclusions about investment. There is no obvious relationship between the current account and non-residential investment.

Figure 1: Trade Deficits and Investment (percent of GDP)

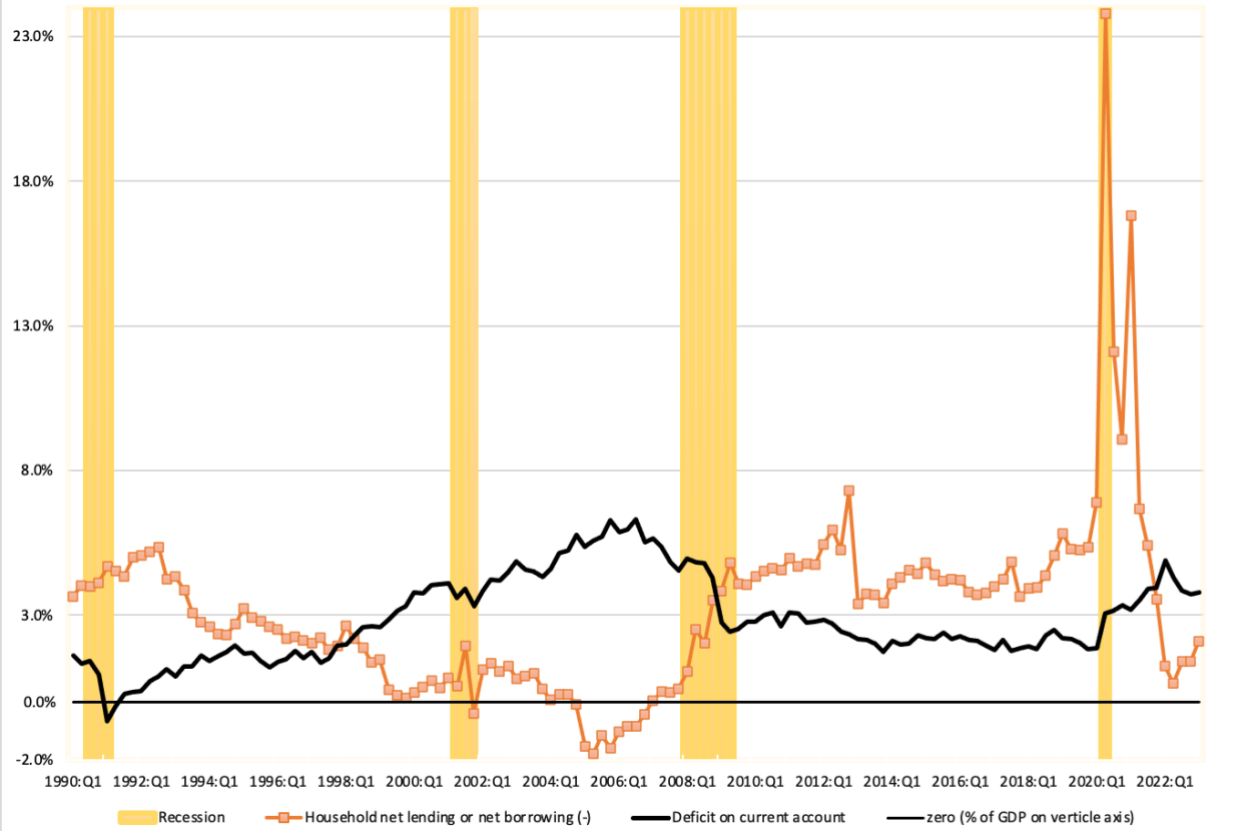


Source: BEA and author's calculations

Residential investment and the current account do show a similar pattern of growth and decline from the end of the 2001 "dot-com" recession until the end of the Great Recession in 2009, but no obvious relationship at other times.

Instead, it is dissaving among the less wealthy that has served as the major equilibrating mechanism as foreign savings flow into the U.S. economy. Figure 2 shows that Household Net Lending (negative values represent borrowing) mirrors changes in the current account deficit quite closely until the COVID crisis when household net lending mirrored the massive net government borrowing that financed the COVID-relief packages. Aggregate demand is restored by a fall in some combination of interest rates and/or prudential standards that induces (allows) more household borrowing. Increased household debt does not create growth in repayment capacity and may not be sustainable.

Figure 2:Current Account Deficit and Household Net Lending (Percent of GDP)



Source: BEA and author's calculations

A subsequent working paper (Bauluz, et al., 2022) found that the "Savings Glut of the Rich" is a common phenomenon in the G3 (China, Western Europe, and the United States) and has a common root: retained corporate earnings, most of which accrues to the wealthiest 10 percent of households. Corresponding to this a decline in the net saving of the middle classes, defined as households between the 50th and 90th percentile (the "Middle 40"). This was especially pronounced in the United States and to a lesser extent in Europe. The Middle 40 accumulated fewer financial assets and more debt.

Three articles in the financial press, (Moise, 2021) in the Financial Times and (Andriotis, 2021) and (Eisen, 2022) in the Wall Street Journal, illustrate how aggressive marketing by lenders can be an important balancing mechanism for financial markets. Andriotis begins, "Americans paid down credit-card debt during the pandemic. Credit-card issuers are spending big to get them borrowing again." Such behavior by lenders explains how an inflow of foreign saving (demand for assets), can be matched by an increase in household liabilities (dissaving). Eisen explains that with automobiles in short supply, car dealers are marketing dealer financing so aggressively that they literally discourage buyers from paying cash. Dealer financing is no longer a tool for sales promotion but is now a major profit source for automobile retailers.

Aggregating gross saving and dissaving into a single term in textbook and macroeconomic analysis veils the role of debt and dissaving in the macroeconomic adjustment process. Changing the aggregation of our models is a means to a more important end: changing how we think of the U.S. macroeconomic adjustment and balance.

4. The Dollar's Reserve Role and Its Quasi-floating Exchange Rate

In the current mixed or "non-system" of exchange rates, the U.S. dollar plays a unique role that is poorly understood by mainstream economists. The dollar is nominally free floating. The U.S. government and monetary authorities do not intervene in foreign exchange markets. However, some countries fix their exchange rates at depreciated levels against the dollar, or baskets of currencies including the dollar. This is for the obvious, but unstated, purpose of running a trade surplus. In effect, the U.S. has a quasi-floating exchange rate; it floats against some currencies, but against others, the dollar is pegged under the control of other governments (the fixer).

The quasi-floating exchange rate differs from a true fixed exchange rate in two ways 1) the fixer alone controls the bilateral exchange rate and modifies it at will and 2) the United States allows the fixer to buy U.S. financial assets as reserves to unilaterally maintain the exchange rate.

The second point means that the United States treats foreign central-bank purchases of U.S. Treasury securities as ordinary private sales of domestic assets to foreigners (except that the income is tax exempt). The U.S. central bank is not involved and there is no direct tally of the foreign central bank dollar-reserve transactions. The transactions are treated in the U.S. balance-of-payments statistics almost the same as ordinary, private, financial inflows.

A simple description of three countries (calling them the U.S., UK, and China for our example) within the larger "non-system" illustrates the mechanics of the quasi-floating exchange rate system. Begin by defining the U.S. balance of trade as a function of exchange rates:

$$BOT^{us}(e, e^c) \equiv X^{us}(e, e^c) - M^{us}(e, e^c), \qquad 5.$$

where U.S. Exports $\equiv X^{us}$, Imports $\equiv M^{us}$, and e is a floating exchange rate defined as the dollar price of the British pound: \$/£.[4] China (the fixer) pegs its exchange rate e^c, (\$/¥), against the dollar. It is an exogenous policy instrument under the control of China's government. American balance-of-payments equilibrium requires that the BOT equals its financing: F^{us}:

$$BOT^{us}(e, e^c) = F^{us} \leftrightarrow BOT^{us}(e, e^c) - F^{us} = 0. \qquad 6.$$

F^{us} is the balance on the U.S. Financial Account. It includes financial-asset sales to both the foreign private and official sectors. Since F is a savings outflow, a negative value of F denotes a financial inflow. A trade deficit must be financed by a savings inflow (negative outflow): credits that correspond to the net debits of the trade balance. Neither the U.S. nor UK central bank buys or sells reserves, although the U.S. and UK private sectors buy and sell both foreign assets freely. Since the dollar and pound float against one another, e must adjust to keep $BOT^{us}(e, e^c) = F^{us}$. If $BOT^{us}(e, e^c) < F^{us}$ then the dollar must depreciate against the pound (e must increase). If $BOT^{us}(e, e^c) > F^{us}$ then the dollar must appreciate against the pound (e must decrease).

The Chinese balance of payments equilibrium is:

$$BOT^{c}(e, e^c) = F^{c} + R \leftrightarrow BOT^{c}(e, e^c) - F^{c} = R. \qquad 7.$$

[4] There are three bilateral exchange rates, but the third rate is a function of the other two. Thus ¥/£ = \$/£ ÷ \$/¥.

China's Central Bank buys U.S. financial assets to hold as official reserves (R). China's official (reserve) demand for U.S. financial assets is determined by it overall balance-of-payments surplus: $BOT^c(e, e^c) - F^c$. This directly leads to an important conclusion: China's dollar reserve purchases are unrelated to the U.S. economy's or financial markets' need for financing. Instead, China's reserve purchases depend on its overall balance-of-payments surplus.

The Fixer's central bank reserve purchases cause the dollar to appreciate against the pound. For example, assume increased Chinese exports to Saudi Arabia result in a larger Chinese trade surplus. Maintaining China's fixed bilateral exchange rate requires an increase in China's reserve purchases. The counterpart of a change in China's reserve purchases, ΔR, is a change in U.S. net asset sales ΔF^{us}. That causes an appreciation of the dollar and larger U.S. trade deficits against third countries with floating rates.

A disproportionate portion burden of the counterpart deficit to China's trade surplus falls on America because it is the reserve issuer, not because China fixes its exchange rate against the dollar. Normally a fixer fixes its exchange rate against either the reserve currency or a currency basket. However, even if the fixer sets its bilateral rate against a third currency, it is the reserve issuer's currency that will appreciate and the reserve issuer's trade balance which will deteriorate because of the reserve purchases. For a broader discussion of this phenomenon see (Austin, 2014). To the extent that trade surpluses are financed by private financial flows, the same qualities that make U.S. assets attractive to foreign central banks make them attractive to private money managers. In the case of China, the government's extensive financial controls, including directed lending and large state-banking system, blur the distinction between official and private flows. That reduces China's dependence on official reserve purchases to defend its chosen exchange rate.

U.S. policy actions, *inter alia,* tariffs, quotas, subsidies, domestic content requirements etc., can change the commodity composition of trade, the direction of trade, and the volume of trade. These outcomes may fulfill trade-policy objectives, such as protecting specific industries.

However, these actions cause the dollar to appreciate against other floating currencies, so they cannot directly improve the bilateral trade balances against countries such as the UK. Any benefits to favored industries come at the expense of other domestic industries. This is because only changes in the financial balance, F^{us}, can change the trade deficit. Floating-rate systems have no automatic mechanism to finance trade-balance changes, so the exchange rate adjusts the current account to changes in the financial account.

However, these policy actions can be effective in the case of a quasi-floating rate regime because changes in the fixing country's trade balance are financed by changes in reserve purchases. If a U.S. tariff on Chinese goods reduces China's trade surplus, Chinese reserve purchases will decline to maintain the chosen bilateral exchange rate ($/¥). This comes with the caveat that China can respond by depreciating against the dollar to maintain its trade surplus.

5. Why America Cannot Just Stop Borrowing

It is a foolish and circular argument to assert that the inflows of savings are mutually beneficial and market-driven transactions as evidenced by the fact that they occurred. In fact, America's continued international borrowing seems paradoxical given the widespread political opposition to its unintended and adverse effects. The short explanation is other countries want to lend and rid themselves of surplus

savings, even at expected negative real rates of return. A complete inventory of mechanisms behind America's ongoing borrowing would be long and complicated, but there are five important reasons.

Reason #1 is the glut of global savings. A savings glut is a dangerous, deflationary impulse. Both private and official financial flows transfer savings to U.S. financial markets and finance U.S. current account deficits. If capital were scarce worldwide, there is neither the reason, nor the available savings, to send funds to America. It would be needed and invested elsewhere.

Reason #2 is that aggregate international lending does not require mutual consent. The mechanics of international borrowing and lending, especially in the U.S. case, are very different from the individual and private credit transactions with which we are all personally familiar. A private credit transaction is a deliberate and consensual act by lender and borrower, but Uncle Sam does not fill out a loan application at the People's Bank of China.

Instead, anyone not under U.S. Government sanctions has unrestricted access to the American financial system. Foreigners can keep their savings in U.S. banks deposit or exchange their deposits for U.S. stocks or bonds. The transferred savings earn income and finance American trade deficits. Private foreign individuals may put their money in U.S. assets for a variety of reasons besides earning income: because it is the proceeds of criminal activity, because their home financial systems cannot intermediate savings adequately, for safe haven against political risks, or to evade taxes. For whatever reason foreigners choose U.S. assets, they determine how much America borrows abroad. But these reasons have little to do with America's needs or ability to absorb more savings.

Reason #3: The U.S. Government actively refuses to prevent or regulate these inflows. Doing so would require a full re-examination of conventional economic doctrine. Mainstream American economists, across the political spectrum, champion free movement of international "capital." Any policy intended to restrict or penalize inflows would come within the definition of "capital controls" or what the IMF calls "Capital Flow Management Measures" (CFMs).

At Bretton Woods, Keynes advocated strict controls on "capital" movements. The IMF Articles of Agreement include an explicitly enumerated right to control flows of international capital. But the United States, then the world's paramount exporter and industrial power favored eliminating controls. Over time, the U.S. position dominated. Just prior to the Asian Financial Crisis of 1997, the U.S. and other industrial countries nearly succeeded in restricting the formal right of IMF members to use "capital controls." But whatever the written rules, an unwritten rule prohibiting restrictions on international financial flows has been vigorously enforced with rare, grudging exceptions for developing countries.

Reason #4 is the dollar's reserve currency role. The reserve currency role, *strictly speaking,* means that foreign central banks buy and hold dollars. But the dollar serves other international purposes that are carelessly conflated with that role. Within the international financial system, the dollar performs three functions generally attributed money. It is a means of exchange, a measure of value, and a store of value. Because the dollar is commonly used in international transactions and denominating international contracts; Americans conveniently avoid changing money. This also allows the United States to impose economic sanctions. But these other functions do not directly depend on the dollar's role as a public or private store of value. In the early 1970s, the advanced economies agreed to float their currencies against one another and reduced the dollar's formal reserve currency role. However, the dollar continued, or even expanded, its transactions currency role.

But it is the dollar's store of value role that finances American external deficits. If other countries want trade surpluses, they are free to fix their currencies and depreciated exchange rates by buying safe

American financial assets, such as Treasury bonds and hold them as foreign exchange reserves. This finances their trade surpluses and keeps the U.S. dollar prices of their currency and exports cheap. This is called "exchange rate management," or less favorably, "exchange rate manipulation."

Reserve accumulation plays a smaller role in global imbalances that it did just a few years ago, but it remains a problem and could become more serious again. The IMF's Currency Composition of Official Foreign Exchange Reserves (COFER) data indicate that global foreign-exchange reserves have peaked in recent years after a nearly six-fold increase between 2001 and 2013. However, because of COFER's narrow reserve definition, this is misleading. (Setser, 2023 a) and (Setser, 2023 b) demonstrate how governments can conceal their foreign exchange reserve accumulation by keeping it off the central bank's books. Setser estimates that China's hidden reserves maybe nearly as large as the officially reported $3 trillion. If the intent is to maintain a depreciated currency and finance a current account surplus, these measures muddle the issue and maybe give plausible deniability to currency manipulation charges.

Reason #5: A surprising reason that foreign money pours into the United States and finances the trade deficit is that American tax law subsidizes it. Putting your money in America is artificially attractive because you don't have to pay U.S. taxes. As a bonus, the U.S. government often avoids reporting the income to your home country's tax collectors (and sometimes the criminal authorities). Two such important and perverse provisions of the U.S. tax code are:

26 CFR §1.895-1 (Legal Information Institute, 1975) exempts income of foreign central banks on obligations of the United States. Central banks (including China's and Japan's) buy and hold foreign financial assets as reserves to manipulate their exchange rates. It's one of the definitions of exchange rate manipulation under U.S. law and 26 CFR §1.895-1 tax subsidizes it.

26 U.S.C. §871(h)(1) (Legal Information Institute, 1984) exempts portfolio interest income received by nonresident aliens from U.S. sources. If an American owns a corporate bond, she gets an IRS Form 1099 and pays taxes on the interest. But if she sells it to a German, the interest income disappears from the U.S. tax base and is no longer reported to the IRS. In fact, to the dismay of many other governments, the United States does not generally reciprocate the type of information gathering and sharing it demands for its own tax authorities. That income is effectively tax-free. Think-tankers on the left have criticized this provision on fairness and tax evasion grounds (Tax Justice Network, 2020), but the deleterious economic effects are not fully appreciated. These exemptions are granted to foreigners who can't even vote in U.S. elections and chew up a large portion of the U.S. tax base and complicates tax administration. Thus the U.S. tax code *incentivizes* trade deficits and foreign lending into the U.S. financial system.

A closely related problem is that the United States is very ambivalent, at best, about international information sharing on tax matters which can encourage inflows for the purpose of tax evasion. It does not participate in the OECD's Automatic Exchange of Information (AEOI) and Common Reporting Standard (CRS), but instead relies on a system based on its own Foreign Account Tax Compliance Act (FATCA). This patchwork system does not meet the OECD's minimum standards. Beyond the direct tax issues, (Michel, 2021) shows how foreigners can use the U.S. legal system to keep money beyond the reach of foreign criminal authorities. Regardless of the ethical issues, these policies encourage the financial inflows which maintain America's external imbalances and their adverse impact on U.S. economic performance.

6. Effective Policy Options Open to the United States

This analysis makes no political forecasts regarding American political will to re-examine its international economic policies. But the economic and political costs have created a political impetus for change that atypically receives support across the American political spectrum. For U.S. policy makers and Congress to choose a more active approach, they must overcome the self-imposed ideological constraints of American policy. These include the "strong dollar" mantra, unequivocal opposition to "capital controls," and the dollar's grossly misunderstood, quasi-sacred reserve currency status and its conflation with the dollar's transactions currency role. If American policy makers can clear these hurdles, there are effective remedies available. Reducing U.S. trade deficits is straightforward; America must stop absorbing foreign savings that it doesn't need. All else fails.

The most obvious measures are the elimination or reversal of the tax incentives established to encourage the inflows, starting with 26 CFR §1.895-1(tax exemption of central banks' income on U.S. government obligation), 26 U.S.C. §871(h)(1) (tax exemption of non-residents U.S. portfolio income), including exemptions from tax withholding given to foreigners. If the beneficial owners have tax-exempt status under bilateral tax treaties, the income can be withheld and refunded to the home country's tax authorities, so that the income would still be taxed. In essence, foreigners buying U.S. financial assets will either get U.S. national treatment or be taxed by their home authorities.

This should be unobjectionable on both legal and equity grounds; the United States has the sovereign right to tax U.S.-source income except when it is exempt under tax treaties. Even then, tax treaties can be abrogated or renegotiated for chronic trade-surplus countries. Tax treaties are meant to protect cross-border financial income from double taxation, but without information sharing the money is often effectively shielded from *any* taxation. The United States has been criticized by others for its favorable tax treatment of U.S. income of foreign residents and failure to share information with other governments. Aggressive taxation of foreign residents and information sharing may even be popular with some other governments. But that cannot happen without a realization that current tax law and policy is destructive of broader U.S. economic interests. America can have it both ways: on one hand, the rule of law and tax administration without favor to special interests, and on the other growth, and balanced trade.

It is hard to evaluate how much revenue repealing a tax break can produce, but a quick back-of-the-envelope estimate is easy for repeal of 26 CFR §1.895-1. Foreign official holding of U.S. obligations are roughly $4 trillion (U.S. Department of the Treasury, 2022). A 2.5 percent average interest rate on U.S. Treasury obligations produces $100 billion in annual income. A 30 percent tax rate would generate $30 billion (about a quarter from China and Japan each). Of course, if dollar reserves are reduced, the tax revenue may be less, but the trade deficit will shrink, and domestic tax revenues will increase.

Taxation of foreign income earned from U.S. assets is not a novel idea. It has been proposed for over a decade including (Pettis, 2019), several economists at Peterson Institute for International Economics *inter alia* (Hufbauer, 2010), (Hufbauer & Gagnon, 2011), (Gagnon, 2011), and (Bergsten & Gagnon, 2017).

An advantage to eliminating perverse tax incentives is that it is politically and diplomatically more defensible than penalizing foreign residents. The difficulty is the novelty of these policy reforms. The sensitivity of the inflows to taxation and how quickly changes will occur is unpredictable. The objective is a medium-term adjustment, not a disruptive shock. While some capacity exists to increase the output of tradeable goods, the United States needs to rebuild much of its tradeable-goods sector if it wishes to eliminate its trade deficit. That capacity was built once, and it can be rebuilt. U.S. multinationals build

these capabilities abroad from scratch. The issue is time. However, market economies adjust; that's the purpose of markets. New policy measures need to be cautiously inaugurated and calibrated upwards. Just announcing that foreign-owned U.S. assets are part of the tax base may immediately reduce the inflows.

The United States can impose other restrictions on the use of U.S. assets as central bank reserves. But strict reporting requirements on foreign central banks' U.S. asset transactions and positions should come first. The United States Government routinely discloses such information, including weekly foreign exchange information (U.S. Department of the Treasury, n.d.). This is certainly not a capital control; it is a transparency requirement and a deterrent to abuse.

Other, economically effective measures are legally available, but face doctrinal and political hurdles. Some well-respected economists mischaracterize the dollar's reserve-currency role as an "exorbitant privilege" (Eichengreen, 2011) (Page 4). Yet no one else wants that "privilege." Calling it a "privilege" is the same scam that Tom Sawyer used to get the other kids to do his work, paint his fence, and pay for the honor. Is the dollar's reserve role really a privilege or just a vain man's status symbol? Is everybody else just happy to let America have the honor of sitting at the head of the table so that it can pick up the check? Is it really a privilege to borrow and spend the money instead of earning the money yourself by making the things you buy?

Some economists have actually asserted the former point. (Blinder, 2016) states:

> A trade deficit means that foreigners send us more goods and services than we send them. To balance the books, they get our IOUs, which means they wind up holding paper—U.S. Treasury bills, corporate bonds or other private debt instruments. That doesn't sound so terrible for us, does it?

The Great Financial Crisis should have conclusively answered that rhetorical question, unless Blinder is suggesting that repayment is optional.

If these measures are insufficient to eliminate the current account deficit, then another doctrinal taboo must be breached: capital controls. Ironically, although U.S. policy in recent decades has consistently opposed capital controls, a residency-based tax provision like 26 U.S.C. §871(h)(1) *is a capital control* (or more euphemistically, **capital flow management**). Nobody notices because the United States aims the gun backwards and defeats its own economic objectives. However, a positive, residency-based, surtax on foreign purchases of U.S. financial assets or income from those assets would also be an obvious capital control. An example is the Market Access Charge (MAC) proposed in Section 5 of the (Baldwin-Hawley, 2019) bill introduced in the U.S. Congress. The MAC is a tax on the initial foreign purchases of U.S. assets. It would be set and subsequently readjusted to a level intended to eliminate the U.S. current account balance within five years. It can be argued that the sale of U.S. financial liabilities by U.S. residents to eager foreign buyers at premium prices is a mutually beneficial market transaction. But those are private benefits. On a macroeconomic level, the transaction can result in increased domestic debt levels, financial instability, and loss of demand for U.S. output. These are social losses: a negative externality. The best policy remedy is a tax on the transaction producing the externality.

This illustrates a paradox. Market transactions can be refused by either party. That assures that they are mutually beneficial. At the "macro" or national level though, financial inflows cannot be refused without measures that are technically "capital controls." Disallowing capital controls means financial transactions are exempted from any restrictions on their negative externalities.

If the United States wishes to eliminate its trade (current account) deficits only policies that directly or indirectly reduce its financial account surplus to zero will work. Targeting the financial account itself is superior to using the exchange rate as an intermediate target. The reason is simple. The authorities cannot know the Current Account Balancing Exchange Rate (CABER) in advance. But they know that to reach and maintain the CABER, they must intervene until the financial account reaches zero. Thus, it logically follows that the authorities only need to know the directional effects of their policies to bring about a gradual reduction of the financial account surplus to zero.

Ironically, such policies might help conserve the dollar's "reserve currency" role and status. Over time, the dollar's international currency role will continue to evolve. However, the United States faces a problem similar to the Triffin Dilemma. If it continues to passively supply the rest of the world's demand for safe assets, its external liabilities (both official and private) will reach unsustainable levels and the dollar may face a sudden loss of value and even reserve-currency status. Alternatively, if the net deficit on the financial account were gradually reduced to zero and held at that level, the U.S. Net International Investment Position (NIIP) would stabilize in nominal terms. The NIIP would thereafter decline relative to GDP. This would reduce concerns about U.S. financial solvency. If foreign central banks or private sectors wished to hold the then stable stock of dollar assets or trade them beyond U.S. borders, they would still be able to do so. Such a system might resemble the gold standard in that there might be a fixed quantity of dollar central bank reserve assets, but further speculation is beyond the scope of this paper. But the Triffin-Dilemma-like problem would be gone.

Eliminating the net financial inflows will reduce the amount of credit to be intermediated by the U.S. financial sector and may initially constrain that sector's growth. However, since the Great Financial Crisis, there has been a re-evaluation of the relationship between financial-sector growth and GDP growth. Studies such as (Cecchetti & Kharroubi, 2012) and (Cournède & Denk, 2015) have found that for many countries there appears to be a threshold level above which growth of the relative size of the financial sector is associated with lower overall economic growth. This implies there is no strong *a priori* reason to believe that the pain of adjustment will spread beyond the financial sector.

7. Consequences for the Rest of the World

Keynes advocated the adjustment burden be distributed on both surplus and deficit countries. He feared forcing trade-deficit countries to assume the entire burden imparts a deflationary bias on the global economy. If the burden is shared by trade-surplus countries adopting expansionary policies, then the overall impact on the global economy will be more neutral – and the surplus countries will enjoy a higher standard of living. But FDR's New Deal Treasury Department opposed Keynes' approach and the burden remained solely on deficit countries. Sixty years later, in the age of the Global Savings Glut, trade surplus countries discovered how to transfer their *ex ante* demand deficiencies to the United States.

For 25 years, America has been the global macroeconomic-balancing mechanism. The rest of the world has become collectively dependent on America. For America, this is neither politically nor economically sustainable. By Stein's Law, it must change. The sooner, the better, for everyone.

The other Anglophone trade deficit countries – the UK, Canada, Australia, and New Zealand, will need to follow suit or lose control of their trade deficits. The UK's Overseas Territories and Crown Dependencies are among the most secretive banking jurisdictions (Tax Justice Network, 2020), but presumably the deposits of those banks flow elsewhere. The Russian invasion of Ukraine has called

attention to the London's (nicknamed Londongrad) prominent role in hosting Russian oligarchs. The UK is, in fact, *by design,* a primary destination for foreign oligarchs and money of questionable origin as noted by the British magazine, The Economist: "The rise of Londongrad was planned. British governments of all stripes opened the country to Russian capital." (Economist, 2022). (For an even more trenchant of the UK's role in attracting money of questionable provenance see (Bullough, 2018) and (Bullough, 2022) Britain's economists and government seem oblivious to the role of these financial inflows in Britain's current account deficits and deindustrialization.

Developing countries will be either delighted, or rightfully terrified, that torrents of unwanted savings will be diverted to them depending on whether they want to increase or reduce their external deficit. If they follow the U.S. lead, they will have to use "capital flow management" to either deflect the flows or negotiate more advantageous terms.

Without the United States to absorb the surplus savings, eventually the burden of adjustment will return to its countries of origin: the trade-surplus countries. Klein & Pettis (2020) give an excellent description of the economic policies that helped concentrate wealth and create the Global Savings Glut, not only in trade surplus countries such as Germany and China, but in America. Their concluding chapter describes what other countries will have to do if the United States ends its role as the great global balancing mechanism. In short, their working and middle classes will have to accept a higher standard of living.

Klein and Pettis believe unilateral U.S. action to stop the inflow of unwanted funds would be too painful and disruptive for the rest of the world. Instead, they advocate dramatic changes in trade-surplus countries' domestic policies that would eliminate the savings glut.

There is a major weakness in their position. American presidents have asked nicely since the Clinton Administration for help reducing the trade deficits and have been ignored or scorned. In 2010, Chinese President Hu Jintao flatly told the Obama Administration that China would not yield to "external pressure" to appreciate its hard yuan peg of 6.83/$ (Chen & Delaney, 2010). Yet the peg was only possible because of U.S. acquiescence to massive Chinese intervention in its financial markets.

Baring U.S. action to stop the financial inflows, there is no reason to expect that will change. If the political decision is made to begin reducing the inflows, the two realistically possible choices are: (1) A medium-term, mutually advantageous adjustment, or (2) a sudden shock. The latter will eventually occur if the present situation continues until enough damage has been done to the American economy that the system collapses.

Unilateral U.S. measures to control the inflow of the Global Savings Glut would push the world closer to the first option. If properly designed, such measures will allow the surplus countries at least three to five years to adjust. Depending on how quickly they respond, that could be enough. But the result should be politically popular improvements in living standards. The problem is that for either political or ideological reasons, many surplus countries have refused these reforms thus far.

8. Summary and Conclusions

Today, surplus saving that the U.S. economy does not need flows in from economies that need it even less. This not only causes U.S. trade deficits but harms the financial and industrial sector. It drove U.S. interest rates towards historic lows while the Fed worried that ultra-low interest rates trigger financial instability. American savers suffer (especially retirees living on their savings), and consumers are

burdened with debt. Economists worry about the "zero lower bound" rendering monetary policy ineffective. Yet American tax policy subsidizes this!

America's position is constant from each presidential administration to the next, regardless of party. In this respect, America has shunned the routine hypocrisy that defends the self-interests of nations. Donald Trump obsessed about the trade deficit and resulting deindustrialization of America. He proclaimed an "America First" policy. And yet, the U.S. Treasury's institutional bias for a "strong" (i.e. overvalued) dollar endured. This allows other countries to do the opposite: undervalue their currencies to make their exports cheaper. Therefore, American wares are overpriced and uncompetitive on world markets and its factories are no longer viable. U.S. trade negotiators seem unaware that the financial inflows prevent any adjustment of the exchange rate or trade deficit. While the Trump Administration seemed to delight in violating many of the norms and conventions of American politics, including those of the old Republican Establishment, it never actually challenged the intellectual inertia of America's policy elites.

In fairness, under fixed exchange rate systems or when capital was scarce, measures to encourage financial inflows may have served American national interests, even if at other countries' expense. Today, these measures are obsolete and destructive government economic interventions. Eliminate them and America's external imbalances will shrink. For America, that is good news because it has the incentive and means to act unilaterally. The governments of trade-surplus economies have no compelling incentive to help, even if their populations would enjoy higher living standards if they adopted the appropriate reforms. But the American problem is that it doesn't even understand the consequences of its own tax code. [5]

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Core prices or more prices? Extending the concept of inflation beyond consumer prices

Merijn Knibbe[1]

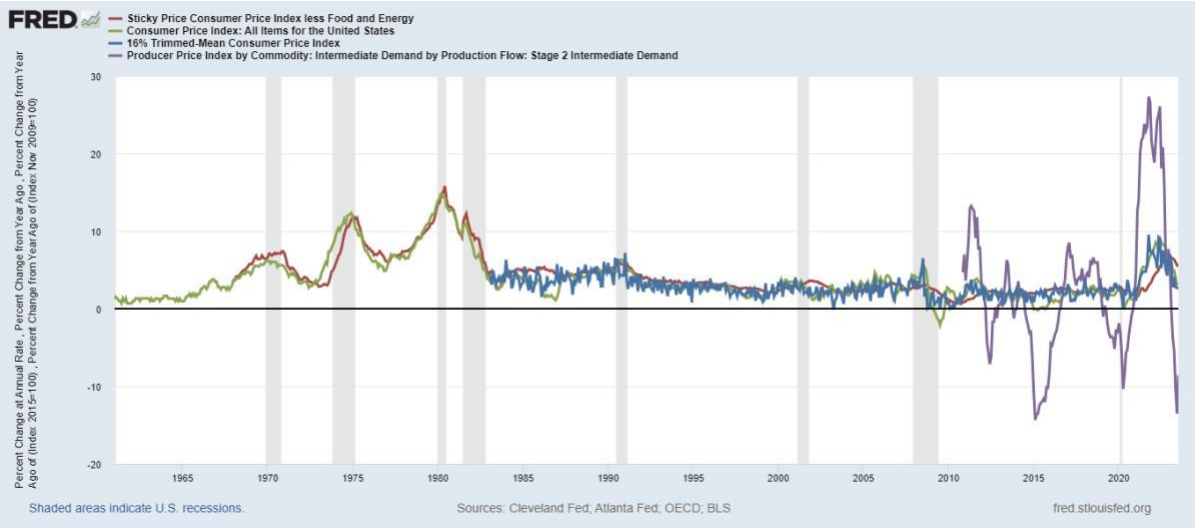
1. Introduction

The recent inflationary episode has ignited considerable public and scientific discussion. Much of the discussion on social media like 'X' (formerly Twitter) but also in the numerous scientific articles already published is focused on just a subset of prices, aggregated in the consumer price index (CPI).[2] Or even on more limited subsets of prices of this index like 'core prices' (consumer prices excluding food and energy prices), 'trimmed mean' prices (an index which 'excludes 8% of the CPI components with the highest and lowest one-month price changes from each tail of the price-change distribution') and others. This is remarkable as inflation is supposed to be a process that affects the entire monetary economy, not just consumer spending. Instead of focusing on a subset of a subset of prices or, as in the case of 'super core prices', on a subset of a subset of a subset, focusing on more prices and other subsets might yield additional insights. Graph 1 shows the large differences between on one side different subsets of the CPI mentioned above on one side and one of the price indexes of producer prices or, in the language of the national accounts, 'intermediate expenditure' on the other side. The graph shows so-called 'stage 2' producer prices. These are conceptualized, estimated, and published by the USA Bureau of Labor Statistics (BLS) to get a clearer view of 'cost push' inflation. I'll return to this. At this moment it's important to note that, large differences exist: at the time of writing this article, USA consumer price inflation was still positive but 'stage 2' producer prices showed 10% deflation!

[1] Merijn Knibbe is an independent economic historian. He published on historical factor prices ike land rents, interest rates and wages as well as on producer prices of agricultural products. At this moment he's working on 19th century insurance prices of hay which have to be understood as gift exchange prices, not market exchange prices.

[2] An overview of a number of recent articles on inflation and the inflation metric used in these articles will be available on the internet.

Graph 1. Subsets of consumer price index inflation compared with a stage 2 supply chain focused producer price inflation metric



Source: The Saint Louis Fed 'Fred' database and graphing facility. The organizations originating these statistics are mentioned at the bottom of the graph, additional information is available on the 'Fred' website.

Aside from these producer prices, there are more kinds of prices and price indexes. We can think of income prices like wages and land rents but also of series of other kinds of final expenditure besides consumer expenditure, like business and government investment or exports. All of these series show a different dimension of the monetary economy and, hence, a different dimension of inflationary processes. As a metric enabling the calculation of household purchasing power, the consumer price index is invaluable. As a tool to investigate inflationary episodes, it is, considering the differences shown in the graph and the tinkering with it mentioned above, wanting. A broader perspective is needed, based upon more price indexes – which of course has to be based on a coherent, consistent, and complete concept of the money economy. Below, I'll provide such a perspective.

This is important as the concept of price indexes, the price level, and inflation are not arcane subjects discussed by waning old men. Economic statistics and how we define and use these have real consequences. An example: in September 2022 consumer price inflation in the Netherlands reached an unexpected peak of 14.5%.[3] Or, did it? Dutch inflation was, compared with neighboring countries, remarkably high. This made the Dutch Centraal Bureau voor de Statistiek (CBS), which constructs and publishes the Dutch consumer price index, investigate its method. Based on this investigation, the method was changed and in June 2023 a new official rate was published, which would have shown a peak of 11.6% in January 2023 – more in line with neighboring countries and quite a bit lower and later

[3] The data used in this article will be mainly based upon USA statistics, because availability and the ease of access of this data. The supply chain-based producer price series and the total wage series are constructed by the USA BLS, the valuable 'land and natural resource rent' data which enable a 'classical' political economy break down of inflation-induced changes in the distribution of factor income are part of the financial accounts of the USA, the other series are part of the national accounts of the USA. To prevent too much emphasis on the USA, some information on the Netherlands will be added. The choice for information on the Dutch situation as a kind of counterweight is because these are the data I'm most familiar with.

than the peak of the original index.[4] And 'would have' as the new data were not officially backcast – leading to problems for users of this particular statistic! The difference between the new and the old: instead of using energy prices in *new contracts offered by energy suppliers* to calculate the (energy)price level the CBS switched to using energy prices *actually paid by households* which were often based on contracts with a duration of one or even several years. This operational change brought the Dutch consumer price index closer to one of the core concepts on which the consumer price index is based: a gauge that helps us to calculate the purchasing power of households based on prices paid, not a variable intended to track changes of bid prices as fast as possible. In the meantime, however, the high rates of September 2022 had been used by quite a number of (more than fully funded) Dutch pension funds as a basis for the indexation of (millions of!) nominal pensions. Operationalizations matter! However, operationalizations are based on concepts meaning that concepts matter, too. In my opinion, the 'purchasing power' concept should be leading for the definition, operationalization, measurement, and interpretation of the consumer price index. But other concepts however exist and influence results.[5] The Dutch CBS temporarily strayed from the purchasing power concept and introduced elements based on the idea of a kind of short-term supply bid prices tracker instead of looking at prices actually paid by households. This was more in line with the use, by many economists, of the consumer price index as a gauge of economy-wide inflationary pressures instead of as a gauge of household purchasing power.[6] The speed with which the CBS returned to the time tried purchasing power concept when things really mattered is remarkable and shows that the consumer (the concept of) the consumer price index is a socially and politically embedded statistic, an element of a continuous development of ideas and, indeed, political struggle. It, however, also shows that *the very existence* of a price index and, hence, the concept and its embeddedness in society, and not just the details of its construction, matters[7]. People and organizations incorporate such data in their decision-making process. To take this one step further: if the conceptualization and operationalization of statistics matter, it also matters which statistics *do not* exist (for economists: without a price index no Philips curve…). It also matters which metrics do exist and are published by perfectly accepted institutions using an integrated framework of the economy but does not get due attention as (the situation in economics) much of the analysis is not based on such an integrated framework of the economy but on a simpler view of the economy. The Dutch CBS does, for instance, publish a 'dashboard' of prices not just based on consumer expenditure prices but also on import prices, producer prices, the interest rate, and other prices – but it gets scant attention. Even when the general public is right to focus on consumer price inflation as it's directly relevant to their purchasing power it's less understandable (even when explicable) that economists have a comparable myopia. The importance paid by the public to the consumer price index and the role it plays in the indexation of pensions or wages of course makes it an

[4] Centraal Bureau voor de Statistiek, 'CBS switches to a new method for calculating energy prices in the CPI', 30-06-2023, to be found here.

[5] One example: many consumer price indexes contain 'imputed rent' for owner-occupied dwellings. This is not a measurement based on prices actually paid by households but an assumption made by statisticians. The EU Harmonized Index of Consumer Prices (HICP index) however excludes these imputations as it is supposed to be a monetary-based index, not a neoclassical utility based index. An excellent investigation of the struggle and strive behind the conceptualization of and the influence of economic theory on the USA price index: T. A. Stapleford, *The cost of living in America. A political history of economic statistics, 1880-2000* (Cambridge: Cambridge University Press 2009).

[6] One is reminded of the discussion amongst USA economists about 'house rents actually paid' in the USA CPI

[7] In the Netherlands, consumer prices had been gathered since the end of the 19th century. Modern price indexes based on consumer budgets and regular and timely gathering of a complete set of prices was, however, mainly a post 1940 development. Centraal Bureau voor de Statistiek, 'De consumptieve uitgaven in Nederland 1923-1939', *Statistische en econometrische onderzoekingen, nieuwe reeks, jaargang 4 no. 3* 99-143. Centraal Bureau voor de Statistiek, 'Prijsbeweging van levensmiddelen *Maandschrift 18 no 6* pp. 342-354 (Den Haag 1913).

item of special interest. But even taking account of this, it's only one kind of final expenditure. Other kinds are, as stated, different kinds of government expenditure, business investment, and exports while intermediate expenditure prices exist too and are related to final expenditure meaning that price shocks will be propagated (but how…?), just like income prices exist. It's obvious that a serious analysis of inflationary periods should be based on an interrelated analysis of all these prices, which does not happen often enough.[8]

2. Data and methods

These musings leads to the following question:

> *"Which subsets of prices, covering the entirety of an integrated framework of the economy, have to be used to enable, contrary to the consumer price index, a broad, economy-wide picture of inflationary periods?"*

To be clear: this article is *not* an analysis or interpretation of these series, it will only look if an integrated framework can be provided. When answering this question I will restrict myself to available price indexes and base myself on an accepted integrated framework of the economy, using the following concepts:

a) Based on the system of national accounts I'll use the accounting identity

Total nominal expenditure = Total nominal production = total nominal income.

This identity enables us to compare expenditure-based price indexes like the consumer price index and fixed investments price index with production-chain based indexes and income indexes (wages, profits, rents, interest). Whenever nominal final expenditure increases because of sudden and large price increases of final products and services, nominal production and as well as nominal income will, by accounting necessity, increase too[9]. Even when the logic of accounting theoretically enables a situation where expenditure increases because of higher prices while incomes increase because of increases in input (more people receiving lower income to produce more expensive items, imagine a drought leading to a decline of agricultural production despite additional labor input) it's hard to conceive that recent double-digit expenditure inflation did not also have a counterpoint in unusual large price increases in producer prices or at least some incomes.

b) Based upon the classical production function Y = f (Labor, Capital, Land, and natural resources) I will couple this to indexes of labor income (wages), capital income (profit) and 'Land and natural resources' income (rent).[10]

[8] It did happen in: Keynes, J.M., *How to Pay for the War: A Radical Plan for the Chancellor of the Exchequer* (London 1940). His method was the road not chosen in economics.

[9] For people not acquaintanced with this kind of thinking: there are some accounting conventions used to enable this identity to be true. One example: changes in business stocks are defined to be part of business investment and hence expenditure, meaning that production not sold is, despite this, included in total expenditure. This is not just a trick: it does show on business balance sheets.

[10] The neoclassical production function excludes 'Land' meaning that ownership (and the connected flow of income), depletion, and geopolitical aspects connected to the production of non-reproducible factors of production like oil, copper, and phosphate are defined away.

This enables a direct coupling of inflation to income distribution. High expenditure inflation because of high energy prices might be connected to 'Land-based inflation', like an increase in rents for owners of subterranean oil like the population of Norway and the royal family of Saudi Arabia. Or, in 2023, owners of solar panels or windmills (both very much land-based ways to produce energy). A common component of the production of fossil energy as well as renewable energy is a low wage component of value added and a large land component and hence a high share of rent in total income meaning that price increases accrue to land owners (including owners of subterranean natural resources).

c) Based upon the supply chain concept and the idea of intermediate production of the national accounts and the input-output idea behind these accounts I will present indexes showing price developments in different stages of the production chain.

Such metrics exist, are published as a matter of routine by the BLS, and are designed to enable an analysis of the reverberations of price shocks through the supply chains.

d) Based on the national accounts and economic textbooks I will look at different kinds of final demand, like business fixed investment, government consumption expenditure (i.e. household consumption financed by the government[11] (streetlights, large parts of education etc.) government investments (like in almost all countries: sewer systems) and exports.[12]

This approach contrasts with much of the macroeconomics guiding the present focus on the consumer price index by economists and, indeed, central banks, which is based on an economic model that, to give it the benefit of the doubt, is a crude approximation of a 19th-century economy, characterized by much lower relative levels of investment and government expenditure and much higher relative levels of consumption spending than modern economies.[13] This holds even more for countries like India (35%) and China (42%).[14] Modern economies are also characterized by more complicated and globalized

[11] It would have been nice to have specific price indexes for US government consumption and government investment. It seems that these are not available. On Eurostat, data on total household consumption price indexes (i.e. consumer expenditure prices plus government individual consumption expenditure prices are available as part of the calculations of Actual Individual Consumption (AIC), i.e. consumption financed by consumers themselves plus individual consumption financed by the government.

[12] The examples between the parentheses are necessary as many neoclassical macro models assume that all government expenditure(all of it) is wasteful by definition. It isn't.

[13] On the social media site formerly called Twitter an interesting discussion about this can be found. Olivier Blanchard, an economist and textbook writer stated: '*1. Triggered by the exchange with @R2Rsquared @AngelUbide, @Guido_Lorenzoni and others: The discussion was at the core of macro. The nature of the determinants of the price level is THE fundamental issue in thinking about short run fluctuations, not a marginal or esoteric issue*.' Paul Krugman, winner of the economics Noble, a textbook writer and extra ordinarily talented when it comes to investigating economic statistics and taking these seriously responded to this by stating: 'The amazing thing about this debate is that it's the same debate we've been having for almost 50 years, since Olivier and I were grad students'. According to Blanchard, the discussion was about the nature of prices: sticky or not, Krugman adds that an influential group of economists states that prices aren't sticky while he and Blanchard go for 'sticky prices' (surely in the short run). Both Krugman and Blanchard focus on consumer prices.

[14] Historical series stretching back to the beginning of the 19th century showing the ups and downs of the rate of fixed investment are to be found in: Knibbe, M. The growth of capital: Piketty, Harrod-Domar, Solow and the long run development of the rate of investment, *Real World Economics Review 69 (2014)* pp. 100-121. Updates of the series can be found in Knibbe, M., 'Long term changes in the western rate of 'Gross Fixed Capital Formation'. Patterns and anomalies', *Real World Economics Review blog 25 May 2022*. The importance of Government expenditure on private consumption as part of total private consumption (called Actual Individual consumption by economic statisticians is shown for EU countries in Eurostat, 'GDP per capita, consumption per capita and price

chains of production than 19th century economies, surely for the lower 80% of income earners.[15] This, however, does not show in the neoclassical macro models. These started out with a 'one person one good' Robinson Crusoe model of the economy. Even when more recent variants do include more persons and goods, thinking about 'the' price level is still very much influenced by this 'one person, one good (and hence one price level)' idea of thinking. But the economy and, as the existence of readily available price series indicates, economic statisticians too, have moved beyond the 19th century concepts for a long time. Instead of looking at one price level – be it the consumer price level or the core price level or service prices or whatever - we have to look at basically all prices using an integrated and complete description of the economy to define the subsets. Or at least to look at a number of subsets which can be expected to be a reasonable approximation of all prices.

3. Results

3.1 Final expenditure inflation

Final expenditure consists of consumer spending, business investment (including change in stocks), government investment, exports and government consumption expenditure (again: household consumption financed by the government, not consumption by the government itself). When we show the development of the price levels and year-to-year changes we see profound differences. USA business investment knew, at least during the last decades, a much lower level of inflation than consumer spending while the same holds for export prices which are also clearly more volatile. Despite this, the recent bout of inflation was clearly led by export and business investment expenditure inflation!

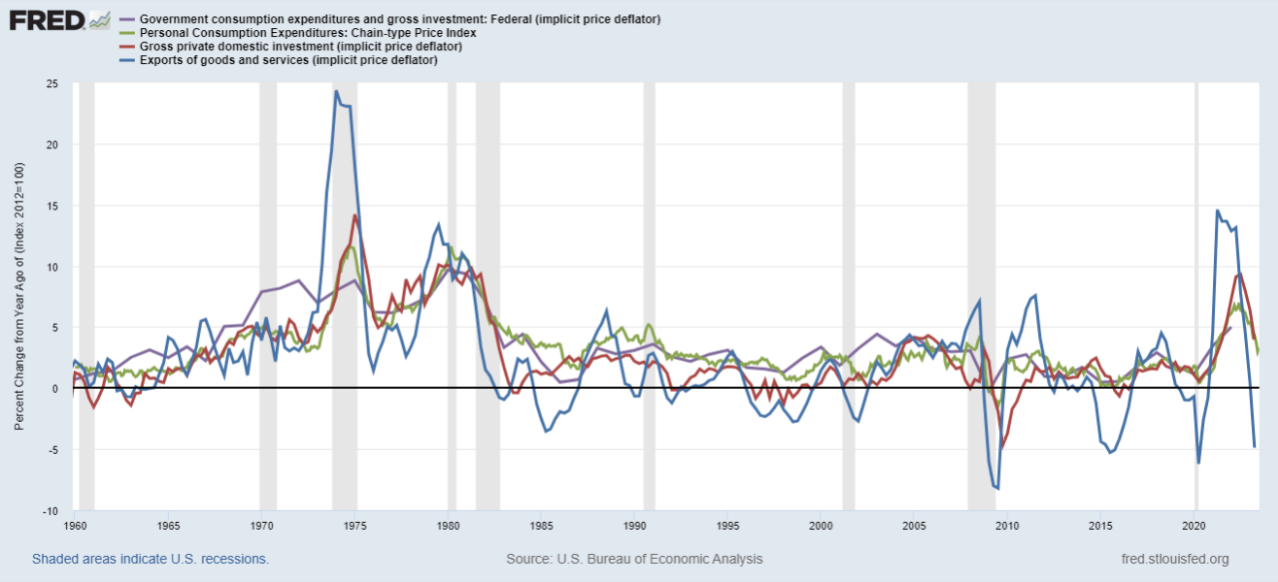
Graph 2. Final expenditure price levels, USA (1960-01-01 = 100).

Source: See graph 1

level indices', Statistics explained. Data from 20 June 2023, planned update of data 13 December 2023. Note that the article uses a price level index based upon a combination of household consumption expenditure and government consumption expenditure.

[15] An extensive discussion of these models: Knibbe, M., *Macroeconomic measurement versus macroeconomic theory* (Routledge: Abingdon/New York 2020)

Graph 3. Final expenditure inflation (YoY % changes), USA.



Source: See graph 1

3.2 Intermediate expenditure or 'production stage' inflation

Final expenditure is not the only kind of expenditure. Another kind is intermediate expenditure which is roughly defined as business-to-business commerce except expenditure on fixed capital formation and (often unanticipated) changes in stocks. Consistent with this idea the USA 'Bureau of Labor Statistics' (BLS) and 'Bureau of Economic Analysis' (BEA) do not only distinguish different kinds of final demand but also draw attention to the relation between prices of final demand goods and services and prices of intermediate demand goods and services, with the express goal of being able to track the movement of prices and price shocks through the economy (emphasis added):

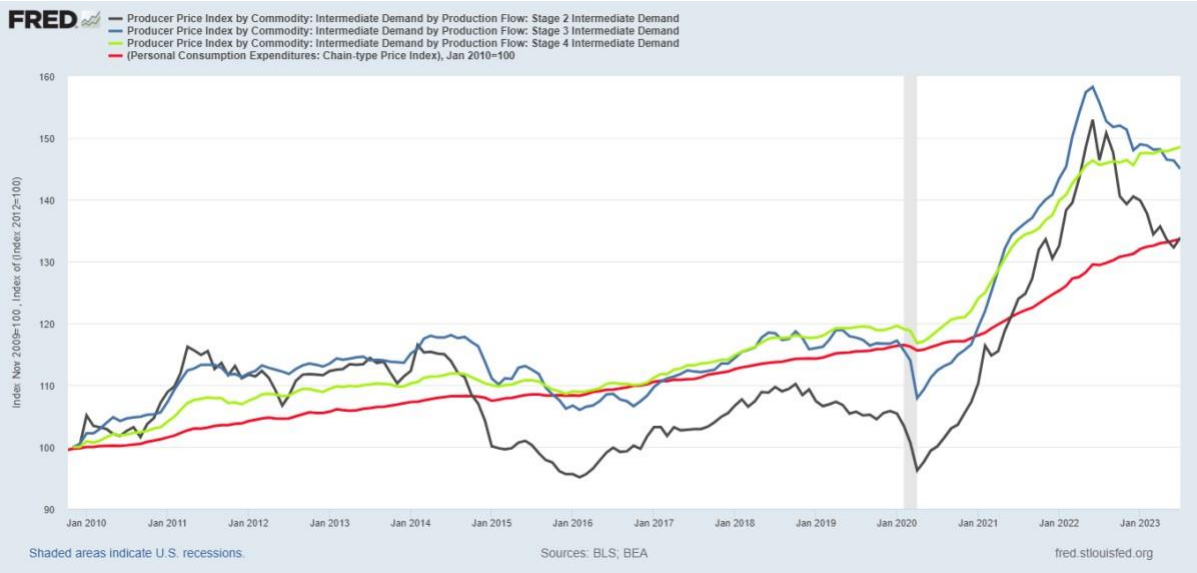
> "The intermediate demand portion of the FD-ID system tracks price change for goods, services, and construction products sold to businesses as inputs to production, excluding capital investment. "The system includes two parallel treatments of intermediate demand. The first treatment organizes intermediate demand commodities by type. The second organizes intermediate demand commodities into production stages, **with the explicit goal of developing a forward-flow model of production and price change**." [16]

In this model, consumer price increases are not the consequence of 'demand-pull' but of 'cost-push' (even when modeling cost-push does not preclude an analysis of additional demand-pull or monopoly power induced cost increases per production stage). Importantly, the forward linkages are based on input-output analysis of the relations between sectors, not just on theory. Using this analysis, the supply chain is divided in 4 stages. Stage 4 is statistically closest to 'final expenditure', stage 1 is least close (and, following the BLS, not included in the graphs). Looking at the graphs the volatility of the indexes is notable even when stage 4 volatility is clearly lower than stage 2 volatility – this seems to be one of

[16] Bureau of Labor Statistics, 'PPI Final Demand-Intermediate Demand (FD-ID) System', https://www.bls.gov/ppi/fd-id/ppi-final-demand-intermediate-demand-indexes.htm, Last modified om September 4, 2017, consulted on August 21 2023

the fundamental aspects of price shock propagation! Looking at their relation with one of the components of final demand, consumer expenditure, they also seem to drag consumer price inflation up and (albeit a little less so) down. Remarkably, stage 2 and 3 prices did despite some short term volatility on the whole not increase between 2011 and 2021 – while seeing a brutal increase thereafter.[17]

Graph 4. Intermediate demand price levels per stage of the supply chain.



Source: See graph 1**.**

Graph 5. Intermediate demand inflation per stage of the supply chain and wage inflation

Source: See graph 1

[17] Long term stability is not exceptional for producer prices. Milk prices in the Netherlands (closely related to world market prices) did despite some shorter-term volatility not really change between 1987 and the beginning of 2021.

The BLS research output comparable to the work of Weber et all and yields comparable results, even when Weber et all also point out specific sectors with a large influence on consumer prices like oil, food and wholesale trade, wholesale trade may be comparable to 'stage 4' prices of the BLS.[18] Somewhat comparable are Borio e.a. who use also use factor analysis to compare different subsets of consumer prices. They find two inflation phases: one low inflation phase characterized by largely 'individual' movements of prices and a high inflation phase, where subset price-indexes move much more in tandem. The graphs above however indicate that during phases of high inflation producer prices show much higher increases but afterwards also decreases than consumer prices while it also seems hard for consumer prices to decrease suggesting an asymmetric pattern of drag: a (large) increase of producer prices may have a larger and more universal impact on consumption prices than a large decrease.[19]

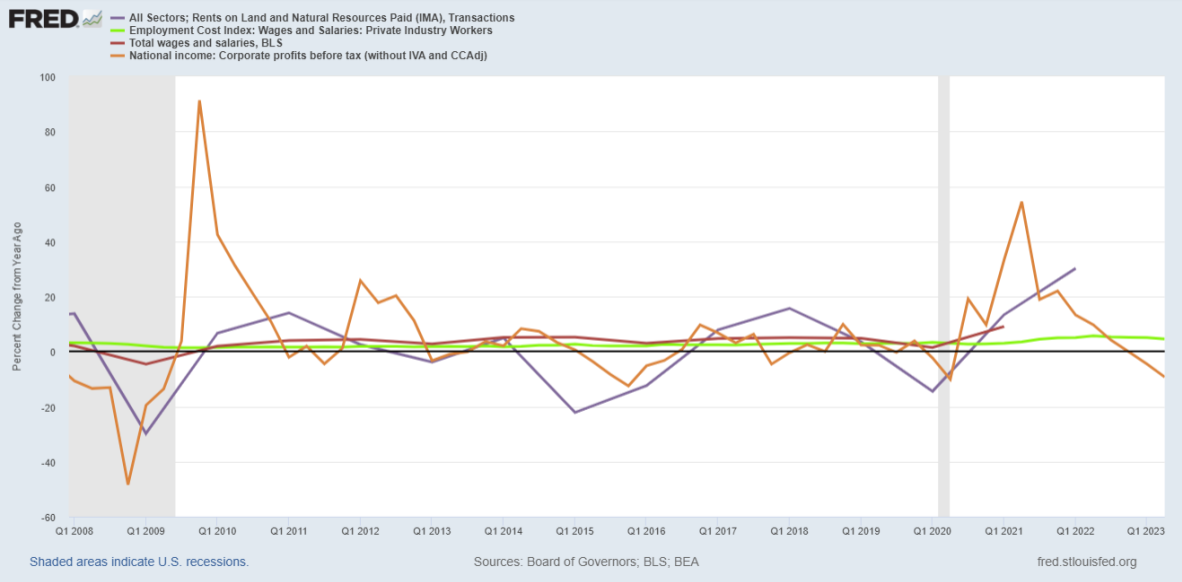
3.3 Income inflation: rents, wages, profit

To estimate income inflation, a graph has been made of changes of *total* wages, profits and 'land and natural resources' rents, there will be some double counting between total profits and 'land and natural resources' rents, for the sake of brevity I'll refrain from interest income. I've chosen to look at totals as profit has no 'price' as there no natural unit for profit like wages per hour or per person and rent per hectare per year. For the sake of comparison I did add wages per hour; differences between wages per hour and total wages are caused by increases and decreases in employment and hours worked. Looking at the recent inflationary episode, it's clear that the increase in total income which, by accounting necessity, had to take place was, in a relative sense, disproportionally distributed to an unusual concomitant increase in profits and 'land and natural resources' rents, even when total wages also showed an unusually strong rise.

[18] Weber, I. M.; Jauregui, J. L.; Teixeira, L. and Nassif Pires, L. 'Inflation in Times of Overlapping Emergencies: Systemically Significant Prices from an Input-output Perspective' (2022). *Economics Department Working Paper Series*. 340.

[19] Borio, C., Lombardi, M., Yetman, J. and E. Zakrajšek, E. 'The two-regime view of inflation: a synopsis' in: Takáts, E. (ed.) *A new age of central banking in emerging markets* (Budapest 2023). Their factor analysis method can be used to investigate the complete set of national accounts price data of 106 Dutch National Accounts product categories in: CBS, 'private consumption expenditure and price index numbers for the Netherlands 1951-1977', *Statistical studies no. 33* (Voorburg/Heerlen 1982).

Graph 6. Year on year changes of different income categories



Source: See graph 1

4. Discussion and conclusion

According to the national accounts, total nominal production equals total nominal final expenditure as well as total nominal income. Final expenditure can be subdivided into consumer expenditure, government and business investment, exports, and government consumption. Production can be subdivided into sectors (as Weber e.a. do) and in stages (as the BLS does) while income can be subdivided into labor income (wages), capital income (profit) and Land and natural resources income (rent). Even when the three major categories increase and decrease in tandem, by accounting necessity not all subcategories mentioned have to change in the with the same magnitude. In one period, inflationary tendencies might increase profits (as is often the case in wars), in another period it might increase land rent (as is often the case in periods of food or oil shortages) and in yet another period it might increase wages, as is sometimes the case in periods with tight labor markets and rapid increases of productivity. But that's the point. To understand inflationary episodes, we'll have to look at the forest as well as the trees. Which is entirely possible. Existing statistics provide a fully defined, operationalized, coherent and estimated model of the three major categories as well as of the subcategories, a clear alternative to the 'one person-one product-one price' crude approximation of a 19th-century economy which is characteristic of many neoclassical macro models.[20] The statistics can be criticized. The labor

[20] The use of the consumer price index is often defended by stating that it's consistent with ordinal utility. Al, Balk, de Boer and den Bakker however show this idea to be a distraction. Al, P; Balk, B.M; de Boer, S. and den Bakker, G.P., 'The use of chain indices for deflating the national accounts', *CBS NR reeks Wetenschappelijke discussie-nota's over het systeem der National Rekeningen 2* (Voorburg/Heerlen 1983). One of the problems of composite price indexes is the joint change of volumes and prices. The volumes (in fact: volumes times prices) are often used as weights to average prices in different periods. If volumes do not change, this leads to an estimate of average price changes with a clear interpretation as it's solely based on changes in prices. When volumes in two periods also change this procedure however runs amok as estimated price changes are the consequence of volume as well as price changes. Several kinds of price indexes have been developed to deal with this problem, which are sometimes theoretically consistent with 'constant ordinal utility' – which is supposed to solve this problem. Al e.a. show that constant utility is a void concept, as the very changes in volumes might influence individual utility (if it

income of the self-employed should be a separate category. Rent income related to patents and copyrights should be a separate category. Quality adjustments are a notorious problem for price indexes. Even when total expenditure and income and production rise by the same magnitude, elements thereof might not rise with the same magnitude and cause imbalances – the accounting identities are not an example of Say's law. When, as the data suggest, total labor income as well as wages per hour are (for whatever reason) less variable than rent and profit income, severe inflation will almost by definition lead to an increase of profit and rent income. Funding of transactions in times of price increases during inflationary periods is an interesting problem. Sectors with below-average income growth may become indebted or may have to draw down liquid savings. Looking at the Eurozone monetary statistics, debts are declining and money is shifted from payment accounts to savings accounts instead of the other way around. High inflation while the amount of transaction money decreases… Remarkable. The point: it is even possible to add the multi-dimensional inflation statistics to monetary data on debt and borrowing, resulting in an even deeper understanding of inflationary episodes: inflation is not always and everywhere driven by monetary expansion. It is, however, always and everywhere a multi-dimensional event, connected to monetary developments. This leads to the following conclusions:

- Readily available statistics enable a multi-dimensional, granular view of the inflationary process based on interconnected expenditure, production, and income data which can be analyzed using connecting monetary data.
- When it comes to final expenditure inflation, quite some differences in trends exist. For the USA it turns out that in the long run export and business fixed investment prices rose much less than consumer prices, meaning that consumer price inflation overstated total expenditure inflation. During the recent bout of inflation, all expenditure prices however increased.
- Producer prices are much more volatile than wages and consumer prices, at least in the short run they seem to drag the consumer price level up and down. The most recent data indicate a strong downward drag.
- Inflation in a monetary economy is *by accounting necessity* a distributional phenomenon. Total income increases but not all constituent elements of total income will increase with the same magnitude. Of all income prices, wages are in the short run clearly the least volatile component meaning that expenditure price shocks result in higher rents and profits, at least in the short run. This idea surely holds for the most recent period.
- Producer prices show sectoral differences while linkages of sectors to final expenditure prices differ. A strong price increase in one sector has other consequences than an increase in another sector.

One policy consideration: periods with unexpected high inflation are, to prevent unwanted changes in functional income distribution, *the* time to increase wages.

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even exists) while no aggregation procedure for individual utility exists. And even when individual utility (which isn't measured) would not change, aggregated utility would change because of demographic and other changes.

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History and origin of money in MMT and Austrian Economics: The difference methodology makes?

Phil Armstrong[1] [Gower Initiative for Modern Money Studies]

1. Introduction

This article was prompted by Per Bylund's recent critique of Randall Wray's article, "Taxes are for Redemption not Spending" (see Bylund 2022; Wray 2016). It is, however, of general interest insofar as it provides an opportunity to address some of the typical misunderstandings of Modern Monetary Theory (MMT) and to do so based on a contrast with an Austrian School approach. The majority of "informed critique" has tended to originate from post-Keynesians and, to a lesser extent, Marxism (for discussion see Armstrong 2023). Bylund's critique encompasses the state theory of money which underpins MMT's approach to the origin of money (its "money story" rooted in Chartalism). Importantly, much of the difference between Bylund's Austrian approach and MMT begins with a contrasting methodology. Austrian economics is deductivist and focuses on the implications of the agency of the individual. Focusing on deductivism places less emphasis on history and more on building an axiomatic case. In combination with a focus on individual agency in market exchange it speaks to an origin of money in barter (so money is a spontaneous solution to the problem of barter and arises as a medium of exchange in market contexts). MMT follows the state theory of money and Chartalism and begins from what history, anthropology and archaeology tell us about the origin of money. As such, its focus is the emergence of debt, of a unit of account and of the role of the state in creating the conditions in which social relations of money can emerge, not least the role of state issuance of money as a means to appropriate resources, which in turn encourages market activity in order to acquire money tokens to pay taxes (so money presupposes the development of a unit of account, takes the form of a credit-debt, and becomes a general means of payment within market exchange in response to the activity of its originators). Arguably this latter approach makes MMT a form of retroduction within an open systems ontology. This is quite a different starting point to that presupposed by Bylund.

I begin in section 2 with a brief summary of the methodological commitments of the Austrian school contrasted with my reading of MMT (which to be clear has not been explicitly acknowledged or discussed by all proponents of MMT). In section 3 I turn to the Austrian approach to the origin of money and in section 4 to that of state theory and MMT. Against the backdrop of the cumulative argument I turn in section 5 to Bylund's specific case and in section 6 I conclude with a brief reprise of key points.

[1] Phil Armstrong has been an economics teacher for more than forty years. He is an Associate at the Gower Initiative for Modern Money Studies. PArmstrong@yorkcollege.ac.uk

2. The methodology of the Austrian School contrasted with that employed by Modern Monetary Theorists

Over the course of several years I interviewed many of the best known and influential heterodox economists, published as *Can Heterodox Economics make a Difference: Conversations with Key Thinkers* (Armstrong 2020a).[2] Conducting these interviews confirmed that methodological perspective has a profound impact on an economist's work.[3] According to Murray Rothbard at the Mises Institute, praxeology is the "distinctive methodology of Austrian economics" and it:

> rests on the fundamental axiom that individual human beings act, that is, on the primordial fact that individuals engage in conscious actions toward chosen goals. The praxeological method spins out by verbal deduction the logical implications of that primordial fact. In short, praxeological economics is the structure of logical implications of the *fact* that individuals act. This structure is built on the fundamental axiom of action (Rothbard 2019 [and 1976/2011] emphasis in the original).

Not only is an Austrian approach deductivist:

> since praxeology begins with a true axiom, A, all the propositions that can be deduced from this axiom must also be true. For if A implies B, and A is true, then B must also be true… [Furthermore] all action in the real world, furthermore, must take place through time; all action takes place in some present and is directed toward the future (immediate or remote) attainment of an end. (Rothbard 2019 [and 1976/2011]).

As Rothbard makes clear deduction has important implications for the role of history in economic theory:

> We arrived at [the implications of the axiom of action] by deducing the logical implications of the existing fact of human action, and hence deduced true conclusions from a true axiom. Apart from the fact that these conclusions cannot be 'tested' by historical or statistical means, there is no need to test them since their truth has already been established. Historical fact enters into these conclusions only by determining which branch of the theory is applicable in any particular case… Mises indeed held not only that economic theory does not need to be 'tested' by historical fact but also that it *cannot* be so tested… [So economic theory is] not a statement of what usually happens, but of what necessarily *must* happen. (Rothbard 2019 [and 1976/2011] emphasis added).

Readers are no doubt aware that not all Austrian economists agree on first principles and there is a notable strand who are critical of mainstream economics understanding of equilibrium, use of mathematics, and pursuit of regularity which presupposes closed systems. Catallexy can, for example, be construed as an open systems concept and the coordination function of markets as a continual

[2] See also Armstrong (2018, 2020b).

[3] This reasoning is in line with Smithin's (2010) approach. He highlights the importance of the deeply held political views of economists to their mode of theorising and that the idea of taking an ethical stance based upon individualism (which characterises the Austrian School) as a starting point for analysis has great appeal, especially for those who consider social classes as an illegitimate starting point for analysis, having no independent existence apart from their constituent parts.

evolution. However, there is an obvious tension between praxeology and the role history plays in informing economic theory.[4]

MMT, in contrast, begins from observation of how a money system works (in order to make claims regarding how it could work if properly understood – an obvious point of contention) and with due attention to history. Though not all MMT advocates would necessarily endorse this, it can be interpreted as a form of realist social science.[5] For example, critical realism argues that all theory implies an ontology and this may be explicit or implicit and the world itself cannot be reduced to and so should not be confused with the theories we hold of it (this is an "epistemic fallacy"). The most influential version of this in economics is Tony Lawson's work, and while Lawson has his differences with MMT over theory of money, the basic points about ontology still apply.[6] Reality is stratified (so some parts build upon and presuppose others – physical, chemical, biological, social etc.), emergent (the organisation of parts produces new entities with new powers), and is continually developing through time.[7] Social reality is a combination of relative stability (since as conscious beings we plan, organise and determine our conditions of social existence for the purposes of reproduction, stability and security) and change (we organise to do things differently, we invent and innovate and evolution and unintended consequences apply to action). As such what we observe around us is the interplay of agency and structure and is only ever "demi-regular" and history matters in open system processes. To make sense of this the main tool of enquiry is retroduction rather than deduction or induction (though neither of these is irrelevant). Retroduction theorises and seeks evidence for possible underlying causal mechanisms that can account for relative degrees of regularity of outcomes and employs different ways to test out the role of such causal mechanisms (it is in various ways similar to abduction).

While some of the argument is specific to critical realism, a commitment to open systems is common to heterodoxy and in any case, critical realism merely offers an under-labouring service. It is philosophy of social science or social theory with methodological implications. It is not economic theory and there are no exclusively critical realist methods. I would argue MMT retroduces real social mechanisms. MMT contains an explicit recognition of how institutional change impacts on the real mechanisms present in an economy. For example, MMT stresses that the social structures and institutions extant under the Gold Standard determined the actual behaviour of the authorities observed by economists as policy outcomes or "events". MMT highlights the contrast between these Gold Standard institutions and the nature of contemporary institutions and mechanisms at work in monetary systems when a nation issues its own non-convertible currency where state and central bank must work hand-in-hand on a daily basis.[8]

[4] See also Caldwell (1984).

[5] See Armstrong and Morgan (2023).

[6] See Lawson (1997, 2003, 2022); Mingers (2014).

[7] See Bhaskar (2008 [1975], 2015 [1978); Collier (1994).

[8] For example, 'Advocates of MMT contend that, under the gold standard, governments were constrained in their spending by their ability to tax and borrow. If a fiscal deficit existed there would be untaxed spending in the system which could be converted into gold at a fixed rate. In this case the state would need to offer 'market-determined' rates to induce holders to buy non-convertible government debt rather than convert into gold (Mosler, 2012, p. 22) From an MMT perspective, social realities fundamentally changed in 1971 (when Nixon closed the gold window) and new structures, mechanisms and rules now apply for nations with their own sovereign currencies operating under floating exchange rates' (Armstrong, 2018, p. 21).

There are then, clear differences in terms of underlying perspective between an Austrian approach and MMT and this has consequences for the relative significance of history and thus of origin stories of money.

3. The Austrian Theory of Money

There is no role for the state in the genesis of money in the orthodox – and Austrian – money narrative. Ingham (2004, p. 19, emphasis added) considers that "all orthodox economic accounts of money are commodity exchange theories. Both money's historical origins and logical conditions of existence are explained as the outcome of *economic exchange in the market that evolves as a result of individual utility maximisation*".

When Carl Menger (1892) articulated a story of money, his ontology was deeply rooted in the presupposition "that the individual enters the world equipped with rights to the free disposal of his property and the pursuit of his economic self-interest, and that these rights are anterior to, and independent of, any service that he may render" (Tawney, 1920, p.23). Menger's theorising was based on "the subjective goal-directed actions of individual agents- a view that continues to characterise the Austrian approach to economic theory" (Hands, 2001, p. 39) and "antiempiricist deductivism" (ibid, p. 39). The story stands purely on the "a priori truth" of his presuppositions and his logical deductive reasoning.

Indeed, Menger's seminal article (1892) set out the Austrian perspective, "Men have been led, with increasing knowledge of their individual interests, each by his own economic interests, without convention, without legal compulsion, nay, even without any regard to the common interest, to exchange goods destined for exchange (their 'wares') for other goods equally destined for exchange, but more saleable" (Menger, p. 244). He develops his argument further with, "Putting aside assumptions which are historically unsound, we can only come fully to understand the origin of money by learning to view the establishment of the social procedure, with which we are dealing, as the spontaneous outcome, the unpremeditated resultant, of particular, individual efforts of the members of a society, who have little by little worked their way to a discrimination of the different degrees of saleableness in commodities" [9] (Menger, p. 245).

It is important to stress that Menger's article does not include any real-world evidence, indeed given his advocacy of logical deductive reasoning, empirical testing would have been superfluous. Kevin Dowd's phrase "conjectural history"[10] (Dowd, 2000, p. 139) is pertinent here. He points out that, ''A conjectural history provides a benchmark to assess the world we live in, but it is important to appreciate that it is

[9] Likewise, Rothbard sees the development of money as the result of individual purposeful action within a market, "In the purely free market, no one person or group can have control over money. Money arises, on the free market, when one or more commodities, in particularly intense demand and possessing such other qualities as durability, portability, and divisibility, are chosen by individuals to serve as media of exchange. Once a commodity begins to be used as a medium, the process accelerates as this makes the good all the more valuable, until it finally comes to be used as a general medium for exchanges—as a money" (Rothbard, 2011, p.709).

[10] A typical conjectural history would proceed along these lines, in "primitive" economies exchange was based on barter but as societies developed, efficiency was improved by the introduction of one commodity as a means of exchange and a unit of value. A wide range of different commodities have been used in different societies at different times, but in the end precious metals emerged as the most efficient variant and a fixed quantity of a metal (typically gold or silver) of known purity became a standard. Eventually credit was introduced as a substitute for gold, requiring less direct use of metal and improving efficiency (Armstrong and Siddiqui 2019, p. 99).

not meant to provide an accurate description of how the world actually evolved [emphasis in original]. The conjectural history is a useful myth, and it is no criticism of a conjectural history to say that the world failed to evolve in the way it postulates".

4. Heterodox Approaches: Credit and State Theories of Money

Austrian economics' place in heterodoxy is a matter of some controversy. Putting that aside, many heterodox economists, including Modern Monetary Theorists (Armstrong, 2015) support some version of credit theory (Innes 1913, 1914) and state theory of money (Knapp, 1924).[11] It is argued here that a consideration of the ontology of money – or what money *is* – should be the starting point. Modern Monetary Theory is entirely consistent with the view that money is credit and nothing but credit (Innes, 1913, 1914; Wray, 1998, 2004)[12]. Throughout history, commodities have been used as money "things" (Keynes (1930, Vol. 1, p. 14) or money "signifiers" but commodities (i.e., credit tokens to the holder and symbols of indebtedness to the issuer) have never been money *itself* and the conflation of money "things" with money itself, in this way constitutes an ontological or category error (Armstrong and Siddiqui, 2019).

Modern Monetary Theorists reject the conjectural history favoured by the Austrian School – or the attempt to deduce a history of money without the state - and stress the role of money as providing a unit of account, an approach which tends to be compatible with a focus on the importance of the role of a central authority in the genesis of money, as opposed to market forces. Ingham (2004, p. 181) contends that discrete truck and barter would lead to the production of a vast array of bilateral exchange ratios, rather than the enduring unit of account required for the measurement of relative prices critical to the operation of the market. Rather than arising from a spontaneous process, a stable unit of account is required *before* a market can function; for Ingham, "money is logically anterior and historically prior to the market".

Armstrong and Siddiqui (2019, p. 101) point out that the use of quantities of grain as a unit of account is well documented (Wray, 1998, pp. 47-8) but from a heterodox perspective, drawing directly from Keynes's work, this use is *founded on state action rather than being a market outcome*. The units of

[11] Armstrong and Siddiqui (2019, p. 108) suggest a relationship between the credit theory of Innes and the state theory developed by Knapp. This follows from Smithin (2018, pp. 194-95) who argues that "the study of money and monetary issues should follow a four stage 'schema' beginning with a realist social ontology, followed by economic sociology, monetary macroeconomics and, finally, political economy". By utilising this structure, credit theory is foundational and explains the ontology of money. The economic sociology of money, described by the state theory in the second stratum, explains how the particular form of credit we use as money was introduced and became embedded in society.

[12] Anthropological studies of pre-modern societies have revealed the widespread existence of gift exchange, inter-community barter and the use of specific commodities to settle obligations under particular circumstances within societies (Polanyi, 1968; Neale, 1976). In the latter case the commodities (at least partially) possess the function of a "medium of exchange" and for this reason might reasonably described as "monies" by anthropologists (see Neale, 1976, pp. 31-45). However, from the standpoint of credit theory, the presence of commodities functioning in such a way would not be sufficient for a society to be regarded as "monetized". I agree with Keynes' distinction between a "commodity which is disconnected from a unit of account and merely used in a way to improve spot transactions and a money 'thing' which by virtue of its relationship to a standard or money of account becomes 'money proper'". Keynes adds, "something which is merely used as a convenient medium of exchange on the spot may approach to being Money, since it may represent a means of holding General Purchasing Power. But if this is all that is involved, we have scarcely emerged from the stage of Barter. Money-Proper in the full sense of the term can only exist in relation to a 'Money-of-Account'" (Keynes, 1930 Vol. 1, p. 3).

account used in early empires were almost without exception based on grain quantities and led to the establishment of precious metal standards (Keynes, 1982, pp. 236-7). If we refer to "a mina, shekel or pound, all the early money units were weight units based on either wheat or barley grains, with the nominal value of gold usually measured in wheat units, and the nominal value of silver measured in barley units" (Wray, 1998, p. 48). Wray notes that a ruler would be able establish a monetary unit by setting it equal to a particular quantity of grains of gold, but the relative value of gold represented by its market price could change without the need to change the standard (ibid, emphasis added). Thus, the value of, for example, a shekel weight of gold could rise or (less frequently) fall against the abstract standard of the shekel.

Modern Monetary Theorists consider a study of the *historical* development of money and the monetisation of economies to be very significant[13], for example, an examination of the use of cowry is enlightening and runs counter to idea that the use of "primitive money" springs from a spontaneous process. "Cowry was used as money in Dahomey despite the fact it was not produced domestically. It needed to be imported and was then issued by the monarch. Without this state-directed process it could not have been used as currency" (Polanyi, 1968, pp. 280-305). Rather than being an aspect of a market-based evolutionary process it was an aspect of state activity. "Cowrie …gained the status of a currency by virtue of state policy, which regulated its use and guarded against its proliferation by preventing shiploads from being freely imported" (ibid, p. 299)".

Armstrong and Siddiqui (2019) point out that anthropological study (Humphrey and Hugh-Jones, 1992; Graeber, 2011) supports the contention that barter had no role in the development of money. Indeed, despite extensive study, and barter's widespread existence, no society founded on the use of barter has yet been found[14], let alone a barter economy which spontaneously turned into a monetary one through individual action. "No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there never has been such a thing" (Humphrey, 1992, quoted in Graeber, 2011, p. 29).

> The nature and history of barter are separate from the nature and history of money; barter trades and monetary transactions apply in different situations. The key element that distinguishes the nature of barter from that of money is that barter involves only two parties in the exchange whereas a monetary transaction, in contrast, involves three. When a purchase is made the buyer provides the seller with a credit on a third party. This credit is money. There is no money in direct exchange; barter cannot provide the origins of money although it seems that barter exists alongside money (Armstrong and Siddiqui, 2019, p.111).

Credit Theory of Money

Innes (1913) defines money as credit, "Credit is the purchasing power so often mentioned in economic works as being one of the principal attributes of money, and… credit and credit alone is money". He explains the relationship between credit and debt and in so doing describes the nature of money, "Whether…the word credit or debt is used, the thing spoken of is precisely the same in both cases, the

[13] See Wray (2004); Henry (2004); Hudson (2004).

[14] "Whether we turn to the evidence from history or to the evidence in accounts by anthropologists, we do not find economic systems in which people depend upon bartering their labour or produce for the produce of others in order to get the necessities of daily life" (Neale, 1976, p. 23).

one or the other word being used according as the situation is being looked at from the point of view of the creditor or of the debtor". "Money, then, is credit and nothing but credit. A's money is B's debt to him, and when B pays his debt, A's money disappears. This is the whole theory of money" (ibid, 1913).

Innes defined state money as a form of credit, "Every time a coin or certificate is issued… A credit on the public treasury is opened, a public debt incurred" (Innes, 1914). Innes recognised that a debt to the state or tax liability can be paid by the return of the government's own debt instrument; in other words, there exists "the right of the holder of the credit (the creditor) to hand back to the issuer of the debt (the debtor) the latter's acknowledgement or obligation, when the former becomes debtor and the latter creditor" (Innes, 1914). Innes's work is significant since it provides a powerful critique of orthodox theory concerning the ontology of money. It highlights the weaknesses in the latter approach and provides a persuasive alternative perspective, namely *money is credit in its essential nature.*

If we accept that money is credit[15] and the monetary system is best characterised as simply a ledger of credits and debits, we are faced with a second question, namely how should we understand the history and sociology of money? Simply put, how did economies become monetised?

State theory of Money

Ingham (2004, p. 47), considers the *Methodenstreit* and the division of opinion between the German Historical School and the Austrian School, noting that the former group saw money as a means of accounting for and settling debts and regarded an approach to analysing money without a foundational role for the state as absurd. Consistent with this view, in the State Theory of Money (1924), Knapp argues that it is the state that decides on the unit of account and the "money things" that are to be used in settlement of debts denominated in this unit. Initially, the unit of account may be a weight of precious metal of given fineness. However, the state may choose to change the unit to a different metal by decree. Thus, the choice of unit is in the hands of the state rather than springing from a process involving individuals searching for the most efficient way of reducing the costs of barter. The state has the power to choose the "money things" i.e., what may be used to settle debts in the designated unit of account (Knapp, 1924, p. 15). "In modern monetary systems proclamation is always supreme" (ibid, p. 31). The role of the state is dominant in both the development of a unit account and in the monetisation of a society, rather than it being generated spontaneously by individuals maximising expected utility.

MMT follows a Chartalist perspective arguing that, logically and practically, the emission of state money is anterior to its collection. From this perspective, following the logic of Knapp's approach, taxation serves, not to fund spending but to allow the state to provision itself by the transfer of resources from the private sector to itself. The importance of sequence is stressed in the MMT money story. It begins with a powerful stakeholder, more commonly the state, desiring to provision itself by transferring resources from the private sector to itself (Mosler, 2020). The government first levies a tax liability on its population and determines the means by which that liability can be satisfied, for example in a modern context, US dollars or UK pounds. The existence of the tax obligation creates willing private sector sellers of goods and services who require the state currency to pay their tax bill. The state can spend its currency to buy the goods and services available for sale. The state always spends by the issue of new money and is conceptualised as a currency-issuer. Once the non-government sector has acquired state money it can pay its taxes and, in addition, it may well be the case that the private sector wishes

[15] Ingham (2004) points out that not all credit is money, but all money is credit.

to save state currency and so will offer sufficient goods and services for sale to the state in order to satisfy this demand.

From this perspective, government deficit spending, or spending in excess of tax obligations, simply provides the state money which the non-government sector wishes to save (see below) Consistent with the credit theory of money, MMT conceptualises the state money held as saving by the non-government as a tax credit (Mosler, 2020). It will remain as saving until used to pay taxes. Alternatively, the state may offer the non-government sector the opportunity to buy interest-bearing state debt (ibid).

5. Responding to Bylund's Critique

Per Bylund's (2022) critique is a relatively unusual engagement with MMT and my response will, I hope, give credit if credit is due, as well as providing clarification and articulating counterarguments as appropriate.

In writing a reply, I will draw upon the text above when required. I argue here that the fundamental difference between MMT and the Austrian School lies at the level of *methodology* (as described above) and I hope to follow "Dow's heuristics" in this response. Dow points to the practical implications of accepting methodological pluralism for the behaviour of economists, describing them in the form of heuristics- both positive and negative. I focus here on the former which consist of the following instructions for methodological pluralists, "[r]espect the legitimacy of alternative approaches and have an understanding of them. Be prepared to justify your own approach relative to others, [b]e prepared to adapt your approach as events unfold and as a result of debate, [b]e open to drawing on other approaches for ideas, even if they turn into something else in your approach" (Dow, 2017, p. 10, parentheses added).

I begin with a comment on Bylund's half-mistaken contention (2022, p. 148), "In the scholarly literature, interest in MMT is limited, and what attention the approach has gotten so far has been primarily critical… One reason for this is likely that MMT focuses on policy prescriptions rather than explanations which makes it unsuitable for research".

Now while it is true that, "In the scholarly literature, interest in MMT is limited, and what attention the approach has gotten so far has been primarily critical", it is *certainly not the case* that MMT focuses on policy prescriptions. Modern Monetary Theorists have produced a well-established body of theoretical work and its policy prescriptions follow from that theory (Mosler 2012, 2020; Wray 1998; Armstrong, forthcoming). MMT seeks to provide explanations of observed events which should be the case with all economic theory (as I argue above)[16]. The mistaken suggestion that "MMT focuses on policy prescriptions" is commonly made and is the result of critics' failure to take the time to establish what MMT is really saying rather than accepting how it is reported in mainstream economic media and literature (Armstrong, 2023, forthcoming). Mainstream critiques, such as Mankiw (2019), fail to take the necessary time to engage in a scholarly manner. Indeed, Mankiw's short article was easily dismissed by Mitchell (2019a, 2019b).

Bylund (pp. 148-150, parentheses in the original) gives a fair description of Chartalism and MMT's consistency with it. He then suggests a potential weakness in the MMT argument, "If the currency is valued because (and only because) it is needed to pay the taxes owed to the government, then this

[16] Mainstream (New Keynesian) theory has clearly failed to provide powerful explanation of real-world events (Armstrong 2018, 2020b).

does not also explain why actors would value it much beyond their tax liabilities". In other words, why would the non-government sector want to net save government currency? Why not just acquire as much as they need, pay their tax bill, and carry on life as before? He also asks why non-government actors might need to acquire government money before it was necessary, lose flexibility and run the risk of it losing value over time?

Why net save state money? To understand and answer this question we must reflect upon the Austrian method and money story. As noted earlier, for the Austrian school, "money" is simply a medium of exchange which develops as a cost saving development of barter. It is a private sector invention flowing from "purposeful human action" as individuals maximise self-interest. As Mises (1998, p. 774, emphasis added) puts it, "A thing *becomes* money only by virtue of the fact that those exchanging commodities and services commonly use it as a medium of exchange."

Importantly, from this perspective, private sector money *predates* state involvement; private individuals are already using money before the state attempts to "pirate the system". So, for the Austrian School, it makes sense to question the idea of net saving of state money. The introduction of coercive taxation is seen as an unwelcome and inefficient disruption to pre-existing private markets and thus, a rational self-interested individual might reasonably be expected to simply access the state money required to settle tax liabilities and then continue to trade using the more trustworthy and familiar private money. Bylund (2022, p. 153-56, parentheses in the original) returns to the same point regarding the logic behind net saving of state money when criticising Wray's cloakroom ticket analogy[17], which illustrates how a debt is redeemed by the return of the issuer's own liability, with the further question, "Why would a guest acquire more than one token? (And why would you acquire tokens before you are ready to leave?)"

However, as we noted above, this thinking is highly problematic and ably summed up by Neale (1976, pp. 8-9), "Despite the fact many a text on money says that money originated in the inconveniences of barter, that it was invented as a medium of exchange, or that a good commonly used in trade gradually evolved into a medium of exchange – despite such statements, neither historical evidence nor by argument by analogy from contemporary nonliterate societies lends support to this speculative history". Simply put, the anthropological and historical evidence suggests that money is not a private invention – the state is there at the start for good or ill (Armstrong, 2015).

From the perspective argued for here, state money's introduction *monetises a society,* rather than competing with a pre-existing private "money" (or medium of exchange). Still, the question remains as to why agents in a newly monetised society might have net saving desires for state money. Forstater and Mosler (1999) model the introduction of money into a society and note that taxpayers who do not wish (or don't qualify) to work for the state must seek other ways of obtaining state currency, "In the simplest case, individuals offer goods and services to those employed by the state in return for some of the currency originally earned from the State. *Non taxpayers, too, are apt to become monetized, as when they see goods and services for sale they, too, desire units of the State currency of denomination.*

[17] Wray (2016, p.3) first employs a "cloakroom ticket" analogy, "In discussing money, G.F. Knapp (one of the developers of the State Money Approach, adopted by Keynes and today by Modern Money Theory) made a useful analogy with the cloakroom token. When you drop off your coat at the cloakroom, the attendant offers you a token, usually with an identification number. The token is evidence of the debt of the cloakroom, which owes you a coat. Some hours later you return with the token. The attendant returns your coat. By accepting the token and meeting the obligation to return your coat, the attendant has "redeemed" herself or himself. The slate is wiped clean; the debt is destroyed". He then talks about tallies and paper money redemption as illustrations of the state theory (ibid).

They may, for example, sell their labor to those employed by the State, and then, with the currency units thus obtained, make purchases from taxpayers not employed by the State" (Forstater and Mosler 1999, emphasis added).

Here we see a pervasive logic behind the desire to net save state money. The whole population will observe goods and services being made available for sale in the state's currency. If no member of society desires the goods and services available to buy using state money, we might reasonably expect net saving desires of state money by non-state agents to be zero. Net savings desire above zero reflects a positive preference to acquire such goods and services and will require both taxpayers and non-taxpayers alike to acquire more state currency than that required to pay their taxes.

Bylund (2022, p. 150) further argues, "… selling resources to the government in exchange for currency needed to pay taxes … months or even a year later would limit the economic flexibility of the actor as resources were bound up in tax-paying tokens. This is a cost on actors accepting government currency before taxes are due. Further, if and to the extent the currency is (or is expected to be) inflationary, meaning it loses purchasing power over time, anyone acquiring currency earlier than necessary would suffer losses. Actors would be better off accepting the government currency at a later date".

Again, this point deserves attention. The desire to acquire state currency ahead of the need to pay taxes reflects an aversion to risk. The possibility of being unable to acquire sufficient state currency to pay taxes – and indeed, buy goods and services available for sale in state currency – in the future will manifest in a positive net savings desire in the present. Once a society is monetised and uses state money to settle debts to the state and non-state agents[18], it also likely that holding state money will *add to flexibility* rather than reduce it. Additionally, although all commodities and currencies can suffer unpredictable shifts in value in the future, it would be unreasonable to assume that agents would generally be less confident in (most) state money than commodity alternatives. Of course, lack of confidence in the state's ability (or willingness) to maintain the value of its currency will reduce desire to hold it but, importantly, it will not eliminate it. Indeed, MMT accepts that inflation reduces net savings desires and very high inflation can reduce it significantly (Wray, 1998, p. 85).

We now turn to a case study which examines the significance of the conflicting cultures and attitudes to money of the Bantu and the so-called "Pioneers", or conquering British settlers, in southern Africa in the nineteenth century (Neale, 1976, pp. 77-81; see also Wray, 1998, pp. 57-61)[19]. Neale describes a situation where a society unaccustomed to the use of money was conquered by an outside monetised society and was then faced with offers of work, paid in money, by the conquerors (from Great Britain).

[18] MMT recognises that banks are agents of the central bank (Mosler and Armstrong, 2019), granted the privilege of creating money in the form of bank deposits, denominated in the state unit of account, subject to strict regulatory requirements. Such "bank money" can be used to settle debts between non-government sector agents but cannot *directly* settle tax debts to the state. A taxpayer might use a credit on a bank (a deposit) as a payment to the bank (its agent), but the final settlement of a tax debt requires a reserve drain from a bank's reserve account to the Treasury account at the central bank (Armstrong, 2015).

[19] Wray (1998, p.59) argues that this experience of monetization was a "nearly universal experience throughout Africa", nevertheless, I do not suggest that because it happened that way it *must* happen that way everywhere. Rather I employ analytic generalisation. Having put forward my hypothesis based upon Forstater and Mosler's (1999) model, this case study takes the form of an "experiment". Robert Yin (2003, p.15, parentheses in the original) notes, "case studies, like experiments, are generalizable to theoretical propositions and not to populations or universes. In this sense, the case study, like the experiment, does not represent a 'sample' and, in doing a case study, your goal will be to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization)."

"In the Pioneers' view an offer of a money wage would naturally call forth a supply of willing workers, eager for the money which they could use to buy daily necessities and the other goods that make life more pleasant" (Neale, 1976, p. 78). However, the Bantu's attitude to working for money was not the same as that expected by the Pioneers (ibid. pp-78-9) and the "Bantu did not come forth to work the land". They were not a monetised society at that point.

A solution of sorts, although far from perfect (ibid, p.79), was designed. The Bantu were required to pay a head tax, paid in money but, "ran off if they dared; they left as soon as they earned the money to pay the tax". From the Pioneers' perspective the Bantu were, "shiftless, lazy, dishonest, incompetent, and irresponsible- 'childlike' in the Pioneers' phrase". The Bantu thought the Pioneers, "threatening, brutal and at least somewhat crazy" (ibid, p. 80). At this point the Bantu were resisting monetisation, they desired money only to pay tax and had *no net savings desires in Pioneers' British state money*.

However, Neale (ibid) notes that "both cultures changed". Land became scarce and the Bantu were forced to seek employment to access money in order to buy food. As tribal society's institutions were eroded, "Increasingly, the Bantu came to need, and then want, money and the things money could buy. But at the same time, they found themselves excluded from all but the lowest positions in the monetized economy" (ibid). In other words, the Bantu *developed net savings desires in Pioneers' money* (as explained in Forstater and Mosler's model). Over time, with less and less access to land, the Bantu became less able to feed themselves and more reliant on money to buy food.

> To "blame it all on the money" would be wrong. Ideas of property, of irrevocable contracts of sale, of the distribution of the products of the economy in accord with individual property rights and the wage bargain – all these were basic to the conflict of perceptions of what was and what ought to be, also were ideas of race and duty… But… money was an integral, operating part of the European system of ideas… And, for the Bantu, what money must buy (and then as time passed what money could buy) became both a necessity and a temptation in conflict with the other parts of the Bantu system of economic and social organization (ibid, p. 81).

The monetisation was destructive of tribal life and Wray (1998, p. 59) notes how taxation in the form of money in the colonies not only destroyed the traditional economies, but also drove the development of monetary economies. However, he adds, that "this is not meant to imply that taxation alone would be sufficient to induce market production for money. Colonists sometimes found it necessary to eliminate alternatives to markets, for example, by destroying crops that allowed self-sufficiency". The implication of Bylund's argument is that money arises through agents' "free choices" but, as Wray notes, monetization follows the introduction of coercive taxation and violence. "Far from a 'social consensus' to use money as an efficient alternative to barter, in reality development of a monetary economy required imposition of taxes and use of force". Importantly, "… the power to tax and define the form in which the tax would be paid set in motion the process of monetization of the economy. The important point is the 'monetization' did not spring forth from barter nor did it require 'trust'…" (ibid, p. 61).

Bylund (p. 151) asks, "why is government currency money?" and argues, following Mises (1998, 774), "A thing becomes money only by virtue of the fact that those exchanging commodities and services commonly use it as a medium of exchange… actual money is accepted in exchange *because* it is money (cf. Menger 1892). Regardless of what form money may take… we would not expect economic actors to accept it in exchange for goods if it were not already money—that is, before they knew (or reasonably expected) that others would accept it in exchange for goods. As Mises (1998, 774) put it, "A thing becomes money only by virtue of the fact that those exchanging commodities and services commonly use it as a medium of exchange."' (Ibid, parentheses and emphasis in the original).

However, Bylund's use of the term "actual money" is misleading here as it infers that a commodity which has developed spontaneously, say, coined precious metal, is "actual money" precisely *because* it has arisen by virtue of this premeditated, voluntary process whereas other "money", such as state money is somehow different in nature and is, by implication, not "actual money" but something else. From a heterodox viewpoint, money did not arise in the way which Bylund suggests. As we have noted, from a historical and anthropological perspective (rather than axiomatic deductivism) money is introduced by the state and it is *the state which confers the characteristic of moneyness on its own debt by accepting it as a means of settling tax liabilities*.

Crucially, as Ingham (2004, p. 23) argues, the attempt to establish the "microfoundations of money" by showing that money reduces transaction costs, "cannot explain the existence of money and moreover, expresses the logical circularity of… methodological individualism". He points out that Hahn had already observed that "It is only advantageous for any given agent to mediate his transactions by money *provided that all other agents do likewise"* (Hahn, 1987, p. 26, emphasis in the original). Ingham stresses that the benefits of money to the individual require the *prior existence of the institution of money* rather than developing from the actions of individuals, "To state the sociologically obvious; the advantages of money for the individual presuppose the existence of money as an *institution* in which its 'moneyness' is established" (Ingham, 2004a, p. 23, emphasis in the original).

From a heterodox (and MMT) perspective, Bylund (2022, p. 157, emphasis in the original) makes a category error when he states that "…of course, IOUs *are not money*, the commonly used medium of exchange". As we have noted above, money is not a "creature of commodities" which arises as a "medium of exchange" but rather money is "a creature of the state" (Knapp, 1924; Armstrong, 2022). The idea that money is merely a medium of exchange is ontologically barren. Grierson (1977, p. 9) is right when he states, "For my part, I would insist on the test of money being a measure of value. Unless the commodities used for exchange bear some fixed relation to a standard we are still dealing with barter, or, where unilateral payments of a redistributive character are concerned, with payments in kind. The distinction seems to me to be fundamental one" (See, also, note 12). In any case, pre-modern societies' use of commodities to settle obligations should not be seen as resulting from individuals pursuing self-interest, rather it should be viewed as a feature of the traditions and institutions which developed in the society itself and characterise the interrelationships within it (Polanyi, 1968).
Bylund (2022, pp.155-56, parentheses added) adds another point of criticism, "But that argument [in favour of the Chartalist sequence of spending and taxation] is limited to whether and to the extent that the government destroys the currency. If the government reuses the currency, then the currency is no longer a token that is 'redeemed'". However, this argument reflects the same conflation of money (i.e., the government's debt or tax credit to the holder) and the signifier (or token) of the debt. Once the nature of money as credit is understood it becomes clear that the government never reuses revenue nor can it; tax revenue is merely the return if its own IOUs. Clearly the issuer of an IOU never needs to reuse it! It may reuse the *tokens of indebtedness*, but such action is of no consequence, for example, history shows us that a ruler using coin might choose to melt down all the returned coins and issue new coins, spend the coins again as signifiers of new debt (especially if they contain precious metal) or issue an entirely new token of debt for a range of reasons (Desan, 2014). It seems that, from a heterodox standpoint, the Austrian ontological error of confusing a money token, or signifier, with the money itself is again at the root of this misunderstanding.

Bylund (2022, p. 156) also criticises Wray's use of examples to support his argument (Wray, 2016, pp.3-10), "For one, that there are examples illustrating his point does not mean that all or even most historical examples support his argument". While this statement, taken in isolation, is clearly true, Bylund weakens his own case by failing to provide a single counterexample to illustrate the conjectural

history of money arising from barter. This should come as no surprise, since at time of writing, despite extensive historical and anthropological study, no such example has yet been found.

Bylund's (2022, p.162) continues with a further point, "Wray also overlooks the important fact that the government currency has a legacy of being real money. Paper notes, whether issued by private banks or the central bank, used to be accepted because they were redeemable in precious metal". Interestingly, Bylund again uses the term, "real money"- consistent with the category error of conflating money itself with its signifier but, putting that aside (see above), the idea that redeemability in precious metal was the key to acceptability is itself open to challenge. Desan (2014, p. 319) notes – with reference to the Bank of England's issue of notes redeemable in specie in its early years – that redeemability may well have appeared to be the lynchpin of the system but in reality, "… the image offered of gold or silver in the vault gave the sense that an anchor existed – even if the anchor was actually elsewhere, in the sound function of the fiscal system". Rather than convertibility into precious metals or other assets, acceptability of state money fundamentally depends on the robustness and effectiveness of the tax system. When the latter fails acceptability is necessarily adversely affected (Wray 1998, p. 85).

Importantly, while it is true that government currency (i.e., the tokens of its indebtedness) has a legacy of precious metals, especially with reference to the gold standard, this was a *choice made by states* themselves. Monetary systems have utilised tokens or "money things" such as coins, tallies or banknotes to symbolise the debt[20]. A seller receives a physical token to show that they hold credit on the debtor (the state or on a private individual or institution). Gold is not "money" because it arose as medium of exchange through private action. Rather, gold is monetised by the actions of the state under a gold standard. If the state stands by to purchase a given amount of gold for a fixed price in the unit of account the gold is thus interchangeable with the state's money.

[20] Armstrong and Siddiqui (2019, p. 114) note that, "From a modern standpoint it might seem wasteful to manufacture tokens or money things from precious metals with high intrinsic value and multiple uses instead of something with zero or close to zero intrinsic value. Why use precious metal? Minsky gives a clue when he notes, "anyone can create money, the trick is getting it accepted" (Minsky, 1986, p. 228). We suggest that in a world of uncertainty about the future, issuing debt by using precious metal tokens would have had several advantages. First, it would raise the prestige of the issuer. Any state that can access gold or silver and use it to manufacture money tokens should be worthy of at least some respect. Second, the scarcity of precious metals would give the tokens a "floor value". If the current monetary system broke down and the tokens were no longer acceptable in payment of taxes then at least they would have some residual value. Third, this scarcity would add to the acceptability of the tokens from those who might fear that the possibility of irresponsible issue of tokens by the state in the future was a real threat and might lead, in turn to a reduced value of their monetary wealth. Lack of availability of precious metal would constrain the state from such actions. Fourth, fraudsters would find it hard to find precious metal relative to, say, a common material which would reduce (although not eliminate) the chance of counterfeiting.

In principle, though, materials with little or no intrinsic value could have been (and indeed, were) chosen as money tokens, notably hazel wood tallies (Wray, 1998; Desan, 2014). However, the common choice of precious metal tokens has been the source of a great deal of confusion as category errors have proliferated in economics. Unfortunately, economists have committed an ontological error (or category error) when considering the actual nature of money and have confused 'money things' or 'signifiers' (more generally, tokens) which are producible commodities with the money itself, which is not a produced commodity (Ingham, 2001)."

6. Conclusion

It seems that a methodological approach founded on initial axioms and deductive logic has come to dominate the economics academy following the *Methodenstreit*. Advocates of alternative approaches are concentrated in heterodox economics and other social sciences. With specific reference to money, Ingham (2004, p. 197) points out that the insights of the Historical School have largely disappeared from orthodox economics, and it has become "generally accepted that that the ontology of money was adequately dealt with by the venerable theory in which money's functions were deduced from its status as a commodity". This article supports Ingham's view that this, "entailed a serious logical category error. Such functions cannot be established in this manner; rather they are institutional facts that can only be assigned in the construction of reality".

> Regardless of its form and substance money is always an abstract claim or credit whose 'moneyness' is conferred by a money of account… money is not merely socially produced… it is also socially *constituted* by the social relation of credit-debt. All money is debt in so far as issuers promise to accept their own money for *any* debt payment by *any* bearer of the money. The credibility of the promises forms a hierarchy of moneys that have degrees of acceptability. The state's sovereign issue of liabilities usually occupies the top place, as these are accepted in payment of taxes (Ingham 2004, p.198, emphasis in the original).

It is also apparent that MMT and the Austrian School face a barrier to communication which we might reasonably call "incommensurability of paradigms" (Kuhn 1962, Armstrong 2020a). This makes fruitful dialogue difficult as both schools conceptualise the world differently, the former through a realist social ontological lens, the latter via axiomatic deductivism (Armstrong, 2020c). Specifically, I argue here that that MMT and the Austrian School face "'*methodological incommensurability*', according to which there is no common measure between successive scientific theories, in the sense that theory comparison is sometimes a matter of weighing historically developing values, not following fixed, definitive rules (Sankey and Hoyningen-Huene 2001, vii-xv)".

Thus, we might legitimately ask if anything can be gained from interaction between the Austrian School and MMT? As both an optimist and a pluralist, I believe so (see Dowd, interviewed in Armstrong 2020a), provided 'Dow's heuristics' are followed. It is surely beneficial to be encouraged to think about legitimate scholarly criticism and to produce a meaningful response to it. In his critique, Bylund (2022) stays firmly "in paradigm", fails to appreciate "methodological pluralism" and finds the insights of MMT beyond his reach. In conclusion, it is important to stress that a full appreciation of this article's defence of Wray (2016) requires a scholar to look beyond the reach of praxeology to a consideration of an alternative realist methodology and also to recognise the importance, not only of logic and theory but, importantly, of history and anthropology.

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Ownership illusions: When ownership really matters for economic analysis

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Abstract:
A common unit of economic analysis is the firm. Firm owners are assumed to be decision makers seeking to maximise the value of the flow of future profits. However, ownership of firms does not map neatly to individuals who have independent incentives.
We show how explicitly examining ownership structures can change subsequent economic analysis. Such situations are referred to as *ownership illusions.*
In competition policy, the boundary of a firms and hence its incentives are blurred by firm cross-ownership, leading to questions around exactly how the incentive-driven process of competition is understood.
When assessing the economic performance of privately or government owned businesses, the capital value of ownership is often ignored when in public ownership but is a primary metric of success when private ownership. This is the result of an ownership illusion.
In retirement income policy, "pre-funded" systems rely on ownership of financial assets. The capital value of those assets is thought to represent the amount of future cashflows that can be supported. However, in "pay-as-you-go" systems, there is not comparable metric of the value of future cashflows in the system because there are no priced ownership rights for future age pensions.
In housing policy, it is widely assumed that competition amongst property owners can push down prices. However, by showing that the property system is a monopoly owned in a "location franchise" model that is similar to ownership of company shares, the validity of assumptions about competitive behaviour Is brought into question.
Identifying this class of problems in economic reasoning can help refine our economic understanding and foster more consistency in future analysis.

Keywords: ownership networks, competition, privatisation, housing
JEL Codes: B4, D01, P14, P48

Introduction

The economic discipline suffers from many *ownership illusions.* Ownership illusions describe situations where common assumptions about ownership characteristics lead to economic analysis that is fundamentally different, or contradictory, to when actual patterns of ownership are acknowledged and appropriately valued. For example, when two firms are owned by another firm, this is usually factored into the analysis by treating all three firms as a single ownership unit for subsequent analysis. There is no illusion in this case. However, when many firms are owned in part by the same small group of

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investors, this broader cross-ownership network is generally ignored in the analysis of market behaviour.

One consequence of ownership illusions is that the value of asset ownership often informs subsequent economic analysis in an ad hoc and inconsistent way. For example, the value from owning departmental services is not usually recorded in public budgets as an asset. The value of owning the right to operate the land titles system[2], or the driver's licence and registration system[3], or public parks, is ignored. But if that public service had a different private owner, the capital value of the ownership of that business would be the paramount economic concern. Ignoring the value of ownership when owned publicly, but not privately, leads to illusions that affect subsequent economic analysis and ultimately political decisions.

Ownership illusions are closely related to the "ritual of capitalisation" as understood by the Capital as Power (CasP) approach to economic analysis (Fix, 2022). Capitalisation is the process of putting a number on the value of owning property rights. The ritual nature of this process also extends to the choice when to apply capitalisation, which usually occurs under certain ownership situations, where it is a prized metric of economic evaluation, but not others, where it is ignored. The right to a public pension could be capitalised. It has a market value, that could be discovered by issuing "pension bonds" that grant the right to this future income stream and selling them on global markets. But rituals mean this right to a future benefit is not valued, even if the cost government of providing this future benefit often is capitalised when considering the "economic burden" of future public pensions.

In this paper we note how ownership illusions exist in the areas of 1) competition policy, 2) public services and privatisation, 3) retirement income systems, and 4) housing policy. In each area, we visualise ownership patterns with directed networks. This approach is similar to conventions popularised by the Open Ownership not-for-profit organisation to visualise beneficial ownership relation (Open Ownership, 2022). We do not claim that any of the ideas regarding the importance of ownership patterns to economic analysis is completely original. In fact, we draw on the work of many others. What we contribute is a way to classify these errors in economic reasoning within a coherent umbrella concept. Ensuring economic analysis is free from ownership illusions requires first asking the questions who owns what, and what is the value of those ownership rights. Clarifying ownership structures and their value can help guide further research and analysis in a coherent way.

Competition policy

Competition (antitrust) policy relies on simplified models of market dynamics to help inform policy choices intended to foster desirable outcomes of lower prices and higher output. A fundamental assumption in such economic models is that there are incentives for each firm in a market to deviate from the cooperative monopoly equilibrium and undercut each other on price, thereby increasing their own supply to compete down economic profits to zero amongst all firms in the market.

[2] Privatising land titles offices has been a recent trend in Australia. The state of New South Wales sold a 35-year lease over its land titles office for AUD$2.6 billion in 2017 (NSW Parliament, 2017). The state of Victoria sold theirs in 2018 for AUD$2.9 billion (Willingham, 2018).

[3] In 2022, Victoria sold 40-year ownership rights to its VicRoads licence and registration service department for AUD$7.9 billion, though exactly which ownership rights are held privately is unclear (VicRoads, 2022).

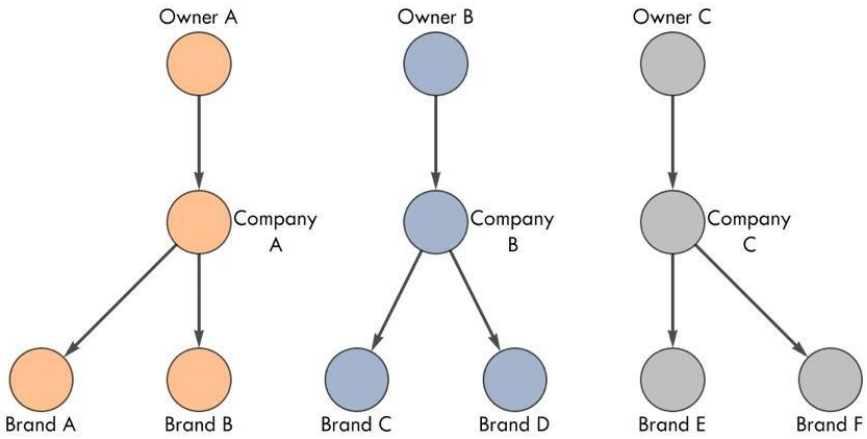
Competition policy focusses primarily on the ensuring there exists a range of potential competitors in a market though its actions of prohibiting company mergers and acquisitions, or even forcing demergers or break ups.[4]

But how exactly is a potential competitor defined? Surely a firm is defined by its ownership. Only firm owners have an incentive to compete against one another to increase profits, as they are the ones who have a claim on these profits. Employees generally do not.[5]

Direct ownership of one firm by another is generally considered to be important for determining how the boundary of a firm is defined for the purpose of understanding competitive incentives. Economists rightly realise that companies or brands that are subsidiaries of another corporate owner will not compete in a way that would undercut collective returns. However, the cross-ownership by a large group of investors of small parts of many firms is usually ignored, or in some cases assumed to be irrelevant to the process of competition (Schwalbe, 2018). Yet the past decade has seen a rise in passive investment and cross-ownership of companies, and growing awareness of the importance of cross-ownership to the competitive incentives of firms (Fichtner et. al, 2017). In 2011, Vitali et. al (2011) analysed the cross-ownership network of transnational corporations and found that the connected component of the ownership network of over 30 million entities comprised three quarters of all entities, and 94.2% of the revenue of all the entities, with companies in the more tightly connect core having on average 20 ownership ties to other firms.

We here demonstrate the nature of this ownership illusion. Figure 3 illustrates the standard way of defining firm boundaries that acknowledges direct ownership of firms, or brands, by another firm, but at the top level assumes a single owner on the financial side. Thus, these six brands would not be considered as independent potential competitors. Instead, each of the three companies would be, and hence this market would be analysed assuming three potential competitors.

Figure 3: Ownership structures that are acknowledged when defining potential competitors

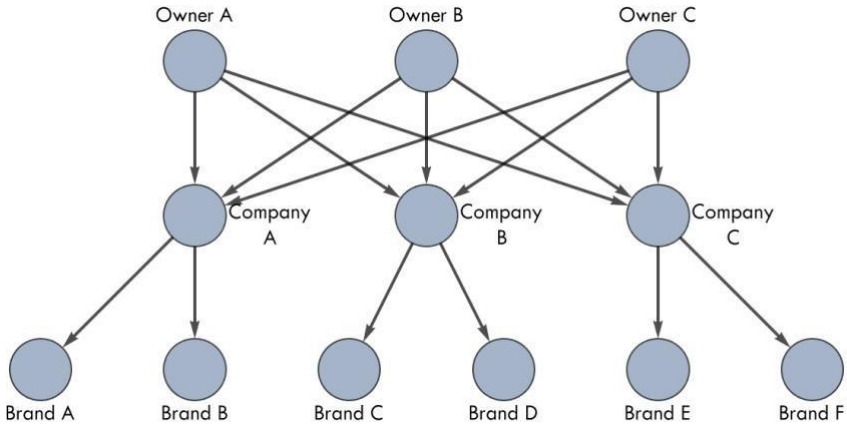


[4] See for example Blair and Kaserman's (2009) treatment of antitrust economic rationale.

[5] There is a large and growing literature on the "principal-agent problem", whereby an agent of another person, the principal, has a personal incentive that conflicts with the interests of the principal. This is common in company structures where employees may have incentives that do not align with owners. However, for the purposes here, it is worth acknowledging that employees who can make claims on all net revenues of a company prior to giving profits to owners, such as through pay rises or bonuses, may create incentives for profit-maximising that is internal to each company and independent of the structure of ownership.

However, a common outcome is that represented in Figure 4, whereby multiple owners each own minority shares of the three companies. Here there are no detached ownership units in the network with independent incentives to compete. Instead, the overarching incentive of all owners is to maximise the collective economic gains from total network of firms and brands, which is counter to standard assumptions about the process of economic competition being driven by profit-seeking independent and uncoordinated owners.

Figure 4: Broad cross-ownership of firms in a market where defining potential competitors is not clear



We are not the first to note that breaking the ownership illusion can change the subsequent economic analysis of the process of competition and competition policy (Fichtner et. al., 2017). This issue is attracting the attention of competition regulators and economic theorists (unlike, for example, the ownership illusion in property and housing policy). Indeed, passive cross-ownership is now also the subject of experimental tests on competitive outcomes (Hariskos et. al., 2022). However, the implications are yet to be broadly incorporated into the mainstream debates about competition amongst the broader economics, law and politics disciplines.

One implication of this ownership illusion concerns the economic concept of competition itself. If cross-ownership does not affect production choices of firms, then the popular economic theory of profit-driven competition seems inaccurate or flawed. It is surely not about independent incentives regarding the choice of output quantity and price that mean competitive markets deviate from the monopoly outcome.

Perhaps coordinating incentives relies on operational control more than ownership. A rise in interlocking company directorships has occurred alongside the rise of cross-ownership (Heemskerk, 2013). Is it the control exerted via these formal corporate positions that is need for cartel-like coordination to occur? Would interlocking directors have the same collusive incentives without cross-ownership? These are questions that need further examination.

Alternatively, the notion of competition being about output and price decisions may not the correct arena of competition. It is known that if individual firms use trial-and-error experimentation about their price and output decisions, a single market with many firms can converge to the monopoly outcomes without any explicit cooperation if there is no free entry (Huck et. al., 2004). If many firms producing the monopoly output through trial and error is a common, then this leads to deeper questions about the value of multiple firms or multiple ownership structures may be of limited relevance compared to other elements of competition like free entry to a market.

A second implication concerns the policy environment. Regardless of how the theoretical understanding of competition evolves in an environment of broad cross-ownership, secrecy of ownership networks is likely to inhibit progress in understanding the economic implications of this ownership illusion. In most countries, a complete mapping of beneficial company ownership is either impossible, or secret, and additional ownership layers are often being added to the network to conceal these true ownership relationships. If progress is to be made on understanding firm behaviour and competition under well-connected ownership structures, observing beneficial ownership structures is a first step towards this goal.

Our view here is generally consistent with Schwalbe (2018) who notes that the competition implications of firm cross-ownership, or what we call an ownership illusion, are not yet properly understood in terms of both economic theory and competition law. We hope to further these discussions by showing how this is one of many types of ownership illusion that occur in economic analysis.

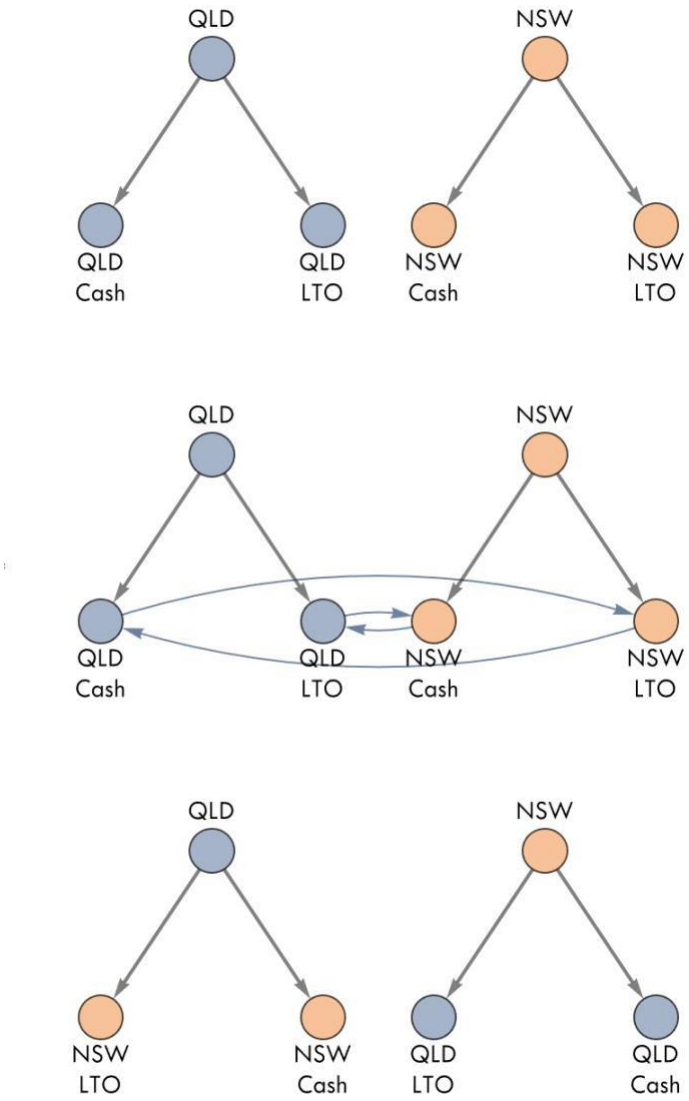
Public business ownership

Selling government businesses is commonly thought to generate additional cash revenue for general budgetary spending. However, it is also often thought, by many of the same people, that governments buying businesses in sovereign wealth funds, can make a risk margin over cash from owning those assets and hence improve the budget over the long term because of differential returns.

How can it be that selling a business for cash improves the budget, but also the reverse trade of buying a business with cash has the same beneficial budgetary effect?

The contradiction is due to another ownership illusion. Governments do not record accurate balance sheets, and like the retirement income illusion we will investigate later, the capitalised value of general businesses operations of government are not estimated and recorded. However, when the business is held in a sovereign wealth fund or other such financial entity, its capitalised market value is regularly estimated and recorded as an asset.

Figure 5: Ownership change with privatisation and public investment funds



An example can show the contradictory outcomes from this illusion. The Australian states of New South Wales and Victoria (and South Australia) have privatised their land titles office (LTO) business in recent years for AUD$2.6 billion and AUD$2.7 billion respectively (NSW Parliament, 2017; Willingham, 2018). The LTO business manages the property titles system and charges fees to users to record property sales and to access those records, generating a cash surplus. Selling these LTO businesses swapped ownership of a non-cash asset in the form of business equity for ownership of a cash asset.

Both states also run firm investment funds that invest in, amongst other things, company ownership in the form of direct ownership or equity shares.[6] It is possible that each state could sell their land titles office to the sovereign wealth fund of the other state. In this scenario, each State will believe they are better off economically, even though the ownership swap makes no difference to their combined revenue or costs. Figure 5 shows the ownership structure before such a swap, where each state owns

[6] See for example the Victoria Future Fund https://www.budget.vic.gov.au/victorian-future-fund and the NSW Generations Fund https://www.treasury.nsw.gov.au/documents/nsw-generations-fund-annual-report-2020-21

cash and its land titles office (LTO) business. It also shows the two ownership swaps. From one perspective, cash assets are traded for the LTO of the other state to put in an investment fund. Which is good. From the other perspective, there is the privatisation of a public LTO through the sale to the other state for cash. Which is also good. These are merely the opposite ways of seeing the same ownership transaction. The only reason they can both apparently make sense is because of an ownership illusion.

While much of the economic analysis of privatisation makes clear that sale price from selling public businesses does not directly create budgetary gains, since the economic gains come in the form of efficiency improvements due to competition, it is still often implied to be an additional proceed or revenue (e.g. see Kikeri and Nellis, 2004).

What is overlooked is that competition can be created in a market without necessarily changing ownership of public businesses. Norway's oil market shows that it is possible to have public and private firms compete, and for public investment funds to even buy partial ownership of private firms in the same market. In much of the world, private firms compete with publicly owned firms when it comes to schools and hospitals.

Like the ownership illusion in competition policy, highlighting the ownership illusion in public business ownership focusses attention on the aspects of the issue that are economically important, while helping to reveal contradictions of economic logic.

Retirement income policy

Another ownership illusion arises in the economic analysis of retirement income, or pension, systems. Increasingly, these systems rely on ownership of financial assets to "pre-fund" the incomes of retirees. Generally, these systems rely on compulsory savings that are used to purchase assets in range of markets, like domestic and international listed company shares, company and government bonds, and cash.

In some countries, the value of assets in these pre-funded retirement systems is a far higher than their annual value of new production, with Netherlands for example having retirement funds valued at over 200% of GDP in 2021, while Canada, Australia, Switzerland and the United Kingdom all have pre-funded pension systems holding assets valued over 100% of GDP (OECD, 2020).

The alternative retirement income system is known as "pay as you go", whereby a country's Treasury pays pensions from its account, with the government budget balance at the time being the net outcome of total spending and tax decisions.

However, the idea that a compulsory saving system "pre-funds" retiree spending, whereas a "pay-as-you-go" system does not, is another ownership illusion. The questions of who owns what, and what is the value of those ownership rights, helps illuminate the issue.

First, consider what the value of a financial asset in these "pre-funded" pension accounts represents in an economic sense. That value represents what someone is willing to pay to buy the future steam of income that asset ownership grants. It is the future stream of income that is real in the economic sense.

The value of a house, for example, comes from how much future occupancy it provides. But that occupancy is also priced during the period it is provided, in the form of rent. The fact that this future

value can be represented as a lump sum today is the result of capitalisation., or what the CasP approach would call the *capitalisation ritual*. The same is true of the value of company shares or government bonds. Those values merely represent the best guess of a seller and a buyer of the capitalised value of the future real economic payoffs.

An economically consistent approach to comparing the two retirement systems must either compare capitalised values of each system, or ongoing retirement payments from each system.

But what is the capitalised market value of future taxes, bond and seigniorage that fund "pay-as-you-go" pension systems? It simply does not exist because of an ownership illusion.

Take the author's home country of Australia as an example. The market value of assets in compulsory retirement savings accounts is AUD$3 trillion (APRA, 2022) This was down 20% during the first half of 2022, demonstrating the guesswork involved in the capitalisation ritual. This value is thought to be what is relied upon to pay for future retirement incomes, but currently only around AUD$40 billion is paid to retirees from the system as income each year (APRA, 2022).

Alongside that "pre-funded" part of the total retirement system is a "pay-as-you-go" age pension. In 2021, the age pension was about 9% of the $600 billion in overall taxes raised in Australia, or AUD$55 billion per year (ABS, 2022).

To see the ownership illusion, consider that the right to generate $55 billion per year in real economic payoffs could be converted to an asset by creating an ownership structure. The resulting financial instrument of ownership could be tied to future tax revenue. For example, a tradeable financial instrument that reflects a one billionth share of each year's future Australian tax revenue, payable at the end of the tax year, could be sold. The capital value of owning the right to future taxes would just be a matter of multiplying the market value of these instruments by one billion.

We could call these financial instruments *pension bonds* and sell them in a global market as an alternative to taxation, just like pre-funded systems but centred on this new asset ownership class.

An indicative value of the invisible right to tax and fund a retirement system can be gleaned by looking at the capitalisation rate of other asset related to government funding, like Treasury bonds. Yields (the inverse of the rate of capitalisation) on Treasury bonds are between 3% and 4% (CITE). Applying these yields to the $55 billion cash flow from taxes each years gives a capitalised value of between $1.2 trillion to $1.6 trillion.

Without the ownership illusion, the "pay-as-you-go" system seems very well funded.

This logic can be taken further. Instead of looking at only the retirement income payments, total government revenue can be capitalised to estimate a present value of the right to tax the Australian economy, which at the rates of 3% and 4% are $20 trillion to $15 trillion respectively. For perspective, the market value of all residential property in Australia peaked in 2022 at $10 trillion.

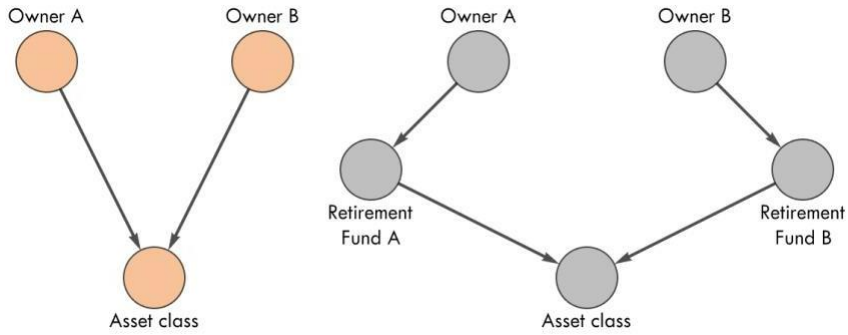
A second part of the ownership illusion in retirement income systems is that the value of financial assets in "pre-funded" systems often merely represents an ownership rearrangement.

When a "pre-funded" retirement income system "saves" by buying assets, it usually buys those assets from the current owner rather than investing in new buildings and additional real capital assets. Nothing

happens in this case except that ownership is swapped from outside the retirement system to inside it. Figure 6 illustrates the change in the ownership network when this occurs.

On the left is the direct ownership by individuals of an asset class, like listed company shares, government bonds, or property. Each owner then sells some of their assets to their retirement fund. Nothing changes about the asset class. Only the beneficial ownership structure changes to insert a retirement fund intermediary.

Figure 6: "Pre-funded" retirement system as a change in ownership accounting



Hence, comparing the value of a "pre-funded" retirement system of the value of the share market, or the property market, involves substantial double-counting. For example, in Australia, estimates suggest that 37% of the publicly traded share market is owned in superannuation (compulsory retirement savings) accounts (Myer, 2021).

The only way that a "pre-funded" retirement system increases the stock of real capital assets and hence output in the economy is if it creates conditions that lead to more spending on new capital equipment—like building and infrastructure construction or machinery and equipment—than otherwise (i.e. it does not crowd out other ways of financing this spending).

If one's view is that spending on new capital is demand-driven, then it is likely that reducing the circulation of spending in the real economy through forced savings decreases aggregate new capital investment. Even if this outcome of higher new capital spending occurs at all, it must be a relatively minor part of the system.

Overall, it is not clear whether our economic notions of "pre-funded" or "pay-as-you-go" make logical sense when ownership illusions are clarified. Some have argued that these illusions are the result of power struggles over the ownership, allocation, and control of economic assets (Kolasi, 2022). To conceal this power struggle, economic stories and analysis that contain ownership illusions are beneficial to promote. This is certainly consistent with the view here, though it is hoped that there is still some demand for coherent economic analysis.

Housing policy

A common argument in housing policy is that planning regulations limit competition between property owners to supply new housing. Absent these regulations, it is assumed that property owners would compete in a way to undercut each other on the price of new homes. However, this argument relies on an ownership illusion.

The property titles system is a register of the ownership structure for geographic space within a jurisdiction. Just like no firm can dig out the coal or iron ore reserves owned by another, because they have a monopoly property right to those minerals, no firm can make a claim to owning a location that is already claimed in the property titles system.

There can also be no competing property titles system. There cannot be multiple claims on the same location.

To see this ownership illusion, imagine that one individual was the registered owner all property titles in the system. They would clearly be a monopolist. Anyone looking to occupy a location would have to rent from that single monopolist landlord and would have no options to occupy a location outside of the system.

The relevant housing policy question is whether a different pattern of ownership of the property titles system increases competition incentives and hence reduces property prices and increases the quantity of new housing supplied.

One way to change the ownership pattern would be to divide this individual's ownership of all the property titles using a share registry, where each owner gets a fixed percentage ownership of all property in the titles system. This division would not change the fundamental nature of the owner as monopolist, regardless of any subsequent changes to the distribution of ownership of those shares.

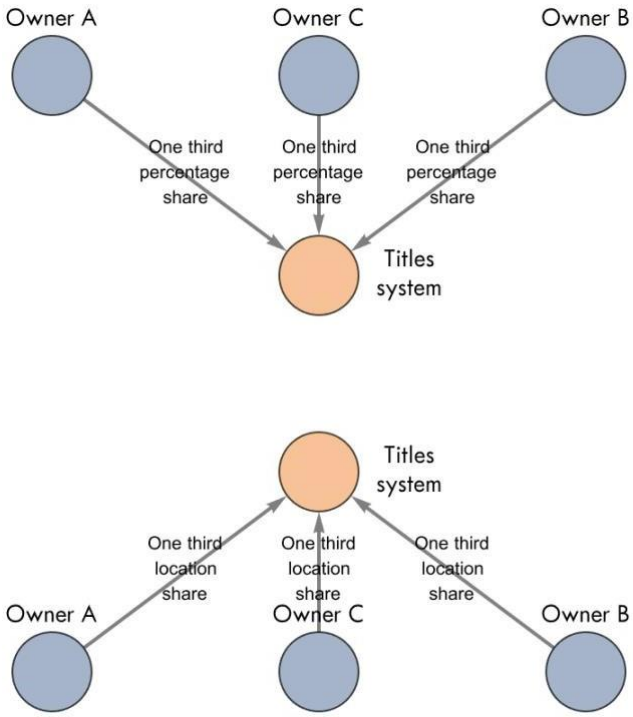
But there is another way to divide up ownership into portions, using location shares. Each owner gets a geographical portion the property in the titles system, with each part defined by cadastral mapping.

This second way of dividing up ownership of property in the titles system is like a franchise model. It is no surprise that private property ownership was historically called enfranchisement, as it was buying a share of the property system and being free from obligations to a (land)lord (and often associated with the right to vote). Today, franchise models are a way of dividing up ownership shares of larger organisations, like fast food chains, where ownership is linked to a single fixed physical part of a larger organisation at a specific location.

That property owners could in principle agree to change the structure of ownership from percentage shares to location shares (or vice-versa) shows that the pattern of ownership is not a key factor in determining competition, and hence prices, in the property market.

We can see the logic of this ownership illusion in Figure 3. At the top it shows a simple case where multiple owners have a one-third percentage share of all property in the titles system. This single connected ownership unit is monopoly by any standard definition.

Figure 7: Multiple ownership of the land titles system via percentage shares and locations shares



Now imagine that the owners decide to change the structure so that instead of taking a one-third share by value, they take a one-third share but allocated ownership by locations. They vote to swap all their one-third stakes of all property for ownership of an area equal to one third the value, which we see at the bottom of Figure 5.

If you believe the argument that property markets can be price competitive when there are multiple different owners, this should result in a dramatic reduction in prices and rents and a huge burst of new housing construction as each owner shifts from coordinating as a monopolist to undercutting each other as an independent competitor.

However, it is not clear that the new ownership structure is competitive. The property titles system of ownership over locations still exists and the same owners still own the same share of its value.

Pointing out the ownership illusion in housing policy helps to focus the economic debates about price competition in property markets, particularly the role of regulations in enabling or curtailing it. If the property titles system is a monopoly, then the pattern of ownership has little bearing on the incentives for price competition. Hence, changing the number of potential property owners who can build housing may not have much effect on the overall monopoly output of housing.

The only argument that supports the idea that a change in land ownership from percentage shares to location shares increases competition and reduces prices rests on the idea of coordination. In the initial situation, where each person owns a percentage share of all locations, they can coordinate with others because of an overarching organisational structure. In the latter situation, where each person owns a single location share, they are thought to have an incentive to slightly under-price their neighbour at each opportunity, and as that process iterates, prices for access to locations fall.

Like competition policy, this process relies on miscoordination of discrete ownership units. But the single property titles system retains the coordination role in both situations. The property system is a monopoly, but with many part owners.

What makes this case different from the general case of cross-ownership is that there is never free entry. There is always a single monopoly property titles system.

Conclusions

Economic analysis often relies on understanding the incentives of owners of firms, financial assets, and property. Yet often it is the case that explicitly examining ownership structures changes subsequent economic analysis. We call this class of problem *ownership illusions*.

In policy areas from competition, to retirement, to public businesses, to housing, a closer look at the structure of ownership, and the value of that ownership, reveals that many popular economic positions are contradictory when complete ownership accounting is considered.

While we do not offer prescriptions about how to respond to ownership illusions, acknowledging this class of problem in economic analysis helps highlight where inconsistencies in reasoning occur, and suggests further avenues for research that retain consistency in reasoning.

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From original institutionalism to the economics of conventions and *Inventing Value*: An interview with Dave Elder-Vass

Dave Elder-Vass and Jamie Morgan[1]
[Loughborough University, UK; Leeds Beckett University Business School, UK]

Dave Elder-Vass is an Honorary Fellow of the School of Social Sciences and Humanities, Loughborough University. He is a well-known social theorist and author of four books, the third of which, *Profit and Gift in the Digital Economy*, brought his work to the attention of the Society for the Advancement of Socio-Economics (SASE).[2] His most recent book, *Inventing Value,* was recently awarded the Cheryl Frank Memorial Prize and provides a novel perspective on the contentious issue of how value is produced.[3] It takes as one of its points of departure the (mainly French) economics of conventions (*economie des conventions*) which in turn takes its inspiration partly from a novel reading of Keynes's work. The publication of the book provides an opportunity to discuss interesting and innovative work that may be unfamiliar to readers of *Real-World Economics Review* (see, however, contributions to Fullbrook (2002)) and to tentatively compare this to more familiar ones, notably original institutional economics (OIE).

Dave's work can be accessed at: https://eldervass.com

He is interviewed by Jamie Morgan for *RWER*.

Jamie: When a reader of *RWER* thinks of conventions they likely think of the various ways in which economics has over the years since the 1870s contested, modified or provided alternatives to the standard "neoclassical" economic agent: a calculative optimising entity, able to process infinite information instantaneously and without cost to achieve given ends (and able to do so within a system reduced to a utility function, a production function and an equilibrating mechanism, whose fundamental frame of reference is "the market" conceived as an environment of price signalling information processing under perfect information) – an ahistorical entity applicable anywhere and anytime – a bit of a mouthful, I know.

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[1] Contact: D.Elder-Vass@lboro.ac.uk and j.a.morgan@leedsbeckett.ac.uk

[2] See Elder-Vass (2010, 2012, 2016, 2022a).

[3] Visit: https://www.criticalrealism.org/post/winner-cheryl-frank-memorial-prize-2023 Dave would like to acknowledge the generous financial support of the ISRF: https://www.isrf.org/fellows-projects/dave-elder-vass/

Note, for a recent and ongoing project exploring the influence of different groups in French economics see the work of Serge Benest, https://sbenest.eu/index.php/projects/

Dave: To a modern mainstream economist your summary of the neoclassical tradition may read like a caricature, but I think that conception remains the baseline for much of economics today. It is by *loosening* assumptions rather than dispensing with them that much of mainstream economics proceeds. Even when economists drop one or another of the assumptions, they often take the rest as read, as part of an unthought ground. As Steve Keen has pointed out mainstream teaching is still dominated by that sort of thinking (Keen 2011).[4]

Jamie: And conventions theory is different…

Dave: The central theme of the conventions tradition is that everything that occurs in the economy depends profoundly on socially influenced beliefs and normative commitments – influences that are largely ignored by the mainstream. Conventions theory departs both from the concept of the agent as a purely asocial individual and also from the idea that the systemic context is nothing more than a set of price signals. Having made that first step, to make sense of economic action, according to conventions theory, we then have to look at the ways in which people understand what they are doing and how that varies depending on the cultural context.

Jamie: Still, use of the term "conventions" evokes a whole host of related terms: beliefs, rules, regulations, laws, behaviours, routines, habits, practices etc. i.e., the many ways in which the grounds of economic activity might be *constructed* and thus vary. Few readers will be familiar with the French conventionalists but many will have some familiarity with the institutionalists…

Dave: It should already be clear from my very brief initial description of conventions theory that it has a great deal in common with institutionalism. From very early on, theorists saw conventions as providing an institutional framework for the economy (Jagd 2007). And at least some of the conventions theorists also acknowledge a relationship with institutionalism as a tradition. For example, the work of Ronald Coase, Oliver Williamson and J K Galbraith is discussed in Favereau (2019).

Jamie: These though, are on different sides of a divide in institutionalism between original (old) institutional economics (OIE) and new institutional economics (NIE). J K Galbraith is usually

[4] Note from Jamie: on the core aspects that are in various ways "loosened" see the classic paper by Arnsperger and Varoufakis (2006) and perhaps consult entries in *The New Palgrave Dictionary of Economics*, which now has a continually updating online version. The dictionary has been in existence in various guises for over a century. Entries are not definitions. They are mainly short state of the field essays that take the form of discussions and surveys of key concepts and many are written by prominent experts (who typically view an invitation to pen an entry as a matter of prestige). Visit: https://link.springer.com/referencework/10.1057/978-1-349-95121-5 This, in turn, raises issues regarding use of terms such as mainstream, orthodox and heterodox. According to Dequech, for example, mainstream simply means "that which is taught in the most prestigious universities and colleges, gets published in the most prestigious journals, receives funds from the most important research foundations and wins the most prestigious awards." (Dequech 2007: 281). There is, of course, a debate regarding use and misuse of the term neoclassical, and what it has come to mean in different contexts for different purposes, see essays in the edited text, Morgan (2016).

categorised as the former and the other two as the latter.[5] Geoff Hodgson is probably the best-known living proponent of OIE.[6]

Dave: As readers no doubt know, Geoff Hodgson has sought to refute the claim that OIE is "antitheoretical" and to provide his own clarification and systematisation of OIE, drawing on Veblen and others. On the theoretical side, most economists are familiar with the dominance of methodological individualism in the mainstream (which denies the influence of structural forces) and with the accusation that institutionalism tended to methodological holism (which ignores the influence of individual human agents). Among other things, Hodgson's institutionalist theory has argued for a reconciliation that recognises the influence of both agents and structures (e.g. note the subtitle to Hodgson 2004a). As such, it has various affinities and crossovers with the work of critical realists in economics, such as Tony Lawson, though there have also been various disputes with realists. For example, over the role of habit and the appropriateness of evolution as metaphor and concept, and over the nature of possible theorisations of the agent structure problem.[7] For those who don't know, I am a critical realist myself and much of my early work dealt with the question of structure and agency, with a special interest in causation, emergence and social construction (e.g. Elder-Vass 2010, 2012).

Without going into the finer distinctions between them, conventions theory seems closer to old than to new institutional economics. Certainly, conventions theory steps away quite radically from the standard neoclassical agent and sees institutions – in the form of conventions – as having a very strong influence. In one fascinating recent paper, leading representatives of conventions theory, the French regulation school, and the French anti-utilitarian tradition in anthropology came together to endorse what they called institutional political economy, and argued that "the differences between the various non-standard economics schools are much less important than what they have in common" (Boyer et al 2022).

With that in mind, I think it might be more productive to see institutionalism as a larger family of overlapping approaches rather than a binary pair, especially if we recognise that in addition to OIE and NIE, sociology is waiting in the wings with a whole bunch of other perspectives that might also be seen as institutionalist. What's fascinating to me as someone who has come through sociology is that the core themes of institutionalism are intensely sociological. Both OIE and NIE at times seem to reinvent the debates we find in sociological theories and some of the solutions developed there at least partly reproduce similar attempts at reconciliation of structure and agency in sociology (e.g. Archer 1995; Bourdieu 1990; Giddens 1984).

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[5] Note from Jamie: one should also note Douglas North as among the best known NIE proponents. See Dequech (2015).

[6] Note from Jamie: Hodgson is founding editor of *Journal of Institutional Economics* (published since 2005), and a prime mover behind the European Association for Evolutionary Political Economy (EAEPE, founded 1989) and the World Interdisciplinary Network for Institutional Research (WINIR, launched 2013). He recently published *Is There a Future for Heterodox Economics?* (Hodgson 2019), a book that created some controversy (see Chester and Jo 2022), and also led to a symposium in *Journal of Economic Issues,* https://www.tandfonline.com/toc/mjei20/55/3

[7] See, for example, Hodgson's essay in *Ontology and Economics* and Lawson's reply (Fullbrook 2009); Chapter 5, "An Evolutionary Economics? On borrowing from evolutionary biology" and Chapter 8, "Institutional Economics and Realist Social Theorising," in Lawson (2003). See also Hodgson (1999; 2004b); Collier (1999). On institutions see also Elder-Vass (2008); Fleetwood (2008a, 2008b).

Jamie: I take your point, though I guess the obvious response is that "intensely sociological" takes as its point of departure exactly the disciplinary demarcations that OIE in particular and, I take it, conventions theory, would contest (and "reinvent" does imply chronological priority which I guess is something else that is arguable). In any case, before moving on it might be worth for the purposes of comparison just briefly itemising Hodgson's summary of the characteristics of the institutional approach, which he suggested, twenty five years ago, distinguishes it from the then mainstream and makes it a candidate for a future mainstream (Hodgson 1998: 173-174):

1. An emphasis on institutional and cultural factors not found in the mainstream.
2. An open interdisciplinarity that recognises insights from politics, sociology, psychology and other social sciences.
3. No recourse to the rational utility maximising agent. Institutionalism emphasises the prevalence of habit but also the perpetual potential for novelty.
4. Mathematics and statistical analysis as servant rather than essence of economic theory.
5. Inquiry starts from stylised facts and conjectures concerning causal mechanisms rather than mathematical models.
6. Extensive use is made of historical and contemporary comparative empirical material concerning socio-economic institutions.

Clearly, much of this is shared within heterodox economics and is found elsewhere rather than just in Hodgson's work…[8]

Dave: On that basis, I think we can welcome the conventions tradition to the family!

Jamie: In any case, we still haven't said much about conventions theory so we should start to turn more explicitly to that. Who would you say have been the most prominent of the conventions theorists?

Dave: Over the years prominent figures associated with the tradition include Alain Desrosières, Francois Eymard-Duvernay, Olivier Favereau, André Orléan, Robert Salais and Laurent Thévenot. But perhaps it would help to say a little about where conventions theory first came from. It originated in the 1980s when a group of French economic statisticians, partly under the influence of the sociologist and anthropologist Pierre Bourdieu (so interdisciplinarity was baked in from the start), became critical of some of the positivist assumptions of traditional statistics (Desrosières 2011). Statistics were widely seen as objective neutral reflections of self-evident facts about the world. The conventions theorists, however, recognized that statistics reflected judgements about what should count and thus what should be counted, judgements about how to count, and in particular judgements about how to classify (or "qualify") the things being counted. Once statistics had been produced in a particular way, this tended to embed and be perpetuated. Judgements were repeatedly re-used in further work and became stabilised as

[8] Note from Jamie: also, institutionalism already had the Association for Evolutionary Economics (AFEE, founded in 1965) and the *Journal of Economic Issues* (published since 1967). Ann Mayhew, former editor of the journal has, like Geoff, published quite a bit in RWER. Bill Waller, current editor of *Journal of Economic Issues*, has closer affinities to Cambridge Social Ontology and another well-known contemporary institutionalist, Mary Wrenn is a former Joan Robinson Research Fellow in Cambridge (see e.g. Wrenn and Waller 2021)

taken for granted assumptions. The conventions theorists took the essentially social constructionist view that these assumptions represented somewhat arbitrary choices, yet once made they became stabilised by social use, but those choices could have been made differently (Diaz-Bone and de Larquier 2020: 5–6). This core concept of conventions then came to be extended and applied in different contexts beyond statistics.

Jamie: As I briefly mentioned in the introduction one of the main sources of the conventions concept was John Maynard Keynes…

Dave: That's right. Conventions theorists typically focus on just one small part of *The General Theory of Employment Interest and Money,* found in Chapter 12, "The state of long-term expectation", notably §IV:

> In practice we have tacitly agreed, as a rule, to fall back on what is, in truth, a *convention.* The essence of this convention – though it does not, of course, work out quite so simply – lies in assuming that the existing state of affairs will continue indefinitely, except in so far as we have specific reasons to expect a change. We know from extensive experience that this is most unlikely… (Keynes 1936: 152)

Jamie: Chapter 12 follows on from the chapter on marginal efficiency of capital, the scale of investment, uncertainty and the rate of interest etc. Your quote continues:

> The actual results of an investment over a long term of years seldom agree with the initial expectation. Nor can we rationalise our behaviour by arguing that to a man in a state of ignorance errors in either direction are equally probable, so that there remains a mean actuarial expectation based on equi-probabilities. For it can easily be shown that the assumption of arithmetically equal probabilities based on a state of ignorance leads to absurdities. We are assuming, in effect, that the existing market valuation is uniquely *correct* in relation to our existing knowledge of the facts which will influence the yield of the investment, and that it will only change in proportion to changes in this knowledge; though philosophically speaking, it cannot be uniquely correct, since our existing knowledge does not provide a sufficient basis for a calculated mathematical expectation. In point of fact, all sorts of consideration enter into the market valuation which are in no way relevant to the prospective yield.
>
> Nevertheless, the above conventional method of calculation will be compatible with a considerable measure of continuity and stability in our affairs, *so long as we can rely on the maintenance of the convention.* (Keynes 1936: 152)

The quote seems to be doing several things. It highlights that convention is a response to limitations of knowledge of, and uncertainty in, the world, that convention provides a basis for practice, and that one major focus of concern is valuation of assets.

Dave: Yes, Keynes wanted to explain how investors assess the value of financial assets under conditions of "extreme precariousness" of any knowledge of future income flows from them. As the previous quote suggests, his answer was that they fall back on "what is, in truth, a

convention" – the assumption that affairs will continue much as they are at the moment. Keynes's well-known "beauty contest" model of valuation can also be regarded as a convention, although he didn't call it one himself in *The General Theory.* This is the practice of valuing financial assets on the basis of how much we think other investors will think an asset is worth:

> [P]rofessional investment may be likened to those newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs. The prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole; so that each competitor has to pick, not those faces which he himself finds prettiest, but those he thinks likeliest to catch the fancy of the other competitors, all of whom are looking at the problem from the same point of view… [Ultimately] We have reached the third degree where we devote our intelligence to anticipating what average opinion expects the average opinion to be… (Keynes 1936: 156).

Jamie: Still, while conventions theorists often quote these passages, they tend also to highlight that their use of Keynes is atypical…[9] As I understand it, conventions theorists discuss Keynes in various contexts – some highlight that disciplinary knowledge (essentially the sociology of knowledge) is itself conventional and so economics writ large is a domain of "convention", some argue that Keynes borrowed aspects of former economics in order to convey his general theory in a format that would be acceptable (so his use of equilibrium etc. is an example – in part – of following convention despite his many criticisms of economic theory and his many innovations)….[10]

Dave: While this is true it is also important to emphasise that the use conventions theorists make of Keynes to address particular problems has been creative, combining it with other sources of inspiration to develop their own concepts. For example, Andre Orléan has developed a conventions-based approach to financial markets, where he stresses the central role of what he calls *mimesis* – the way in which investors copy each other's investing practices (Orléan 2014). He draws not only on Keynes for this but also on René Girard, who sees mimesis as a fundamental psychological tendency, and on (original institutionalist) Thorstein Veblen's exposé in *The Theory of the Leisure Class* of attempts to demonstrate social status by mimicking consumption habits marked as prestigious.

Jamie: Presumably there are other influences…

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[9] Note from Jamie: this is a matter of degree. Joan Robinson and various others place great emphasis on the general significance of the claim that the outcome of investment does not agree with the expectation and that real historic time is a matter of process that implies some degree of construction as part of open ended consequences. In the case of theory of the firm, for example: "To move from one point to another we would have to rewrite past history or to embark upon a long [period] future. In dynamic conditions, changes in the composition of demand, changes in technique, and changes in costs of specific factors of production are continuously going on. Investments are always made in less than perfect knowledge of present possibilities and less than perfect confidence in expectations about the future. The stock of capital in existence today is not that which would have been chosen if the future, that is now today, had been correctly foreseen in the past" (Robinson 1971: 104).

[10] Note from Jamie: the issue of the role of equilibrium in Keynes's work is another that has attracted attention from various sources.

Dave: I mentioned the influence of Pierre Bourdieu previously and while conventions theorists do not often mention Pierre Bourdieu, Orléan's argument is very "Bourdieusian". There are others. Olivier Favereau, for example, has pointed to the influence of the social theorist Michel Foucault (governance, power etc.), as well as to philosophical work on hermeneutics and by American pragmatists such as Richard Rorty (Favereau 2019: 27). The main common philosophical inspiration, though, and the second widely quoted source on conventions, is the work of David Lewis.

Jamie: This is David Lewis, author of *Counterfactuals* (Lewis 1973), and perhaps best known for philosophy of "possible worlds" (see also Lewis 1986)?[11]

Dave: That's right, though the main source here is *Convention: A Philosophical Study* (Lewis 1969). Lewis was interested in cases where there were multiple different ways of doing something, and no obvious reason to prefer one over another, but benefits arising from everyone doing it the same way. The paradigm case was the development of language, and Lewis sought to show that this could occur without the pre-existence of language itself through imitation and conformity with precedents (Diaz-Bone and de Larquier 2020: 8–9). So, for example, it is quite arbitrary what sound pattern we use to represent any given concept, but language only works if all the members of a given group use a recognisably similar pattern for the same concept. Lewis offered the concept of a convention to describe how this could be achieved.

Jamie: Though to be clear, no less than in the case of Keynes, conventions theorists critique and creatively use Lewis. The book is philosophically quite formalist and according to critics Lewis adopts a behaviourist approach (focussed on external or observable action). His book opens with 11 "coordination problems" in which the development of a convention eventually solves the problem of coordination and as Favereau notes, 9 of these "coordination problems" refer to simple everyday problems whereas the other two (money and language) are different and don't easily follow a behaviourist format… which is one reason why Lewis later abandoned his work on conventions.

Dave: Yes, the examples of money and language brought to the fore that some conventions are not solely about actions, but also beliefs. A convention exists, according to Lewis, when everyone conforms to a particular way of doing something, everyone expects everyone else to do so, and everyone prefers everyone else to continue doing so, even though it would be possible for there to be an alternative way to achieve the same outcome, but only if everyone adopted it (Lewis 1969: 76). For Lewis, as soon as one group settles on a certain convention, it makes sense for others to conform too, and for the whole group to keep the convention in place. Because the convention co-ordinates activity successfully, there is no need for meta-communication, for example about what convention to choose, to achieve this outcome.

Jamie: You might want to just explain here what you mean by "meta-communication" and since conventions theorists have moved on from the more "behaviourist" version of Lewis, you might want to explain what behaviourism is and also the importance of belief to convention….

[11] Stanford Encyclopaedia of Philosophy is probably the best first port of call source for issues and prominent people in philosophy. See: https://plato.stanford.edu/entries/possible-worlds/

Dave: By meta-communication I mean communication about the basis of communication and co-ordination. For example, if we all grew up in a society where we greeted our friends by kissing them on the cheek, there would be no need to communicate about how to greet a friend, but as soon as we mix with people from another society who greet friends in a different way, then the situation becomes potentially problematic and we have to start talking about it with each other. Lewis's version of conventions doesn't require any of that sort of communication because the conventions are taken to be universal. Children born into that kind of society don't even need to have conventions explained to them – they can just observe them and imitate them. By assuming that kind of context, Lewis can be behaviourist about conventions, meaning that we can explain the behaviour simply by observing it, and indeed the participants can adopt it simply on the basis of observing it. He thought he needed that kind of model because he was trying to explain language without presuming the prior existence of language… but once we do have language we can form complex ideas and those start to become important to our motivations. I would argue, for example, that we conform with conventions (and other norms – perhaps we can come back to that) partly because we believe that we are expected to and that if we don't we will suffer adverse consequences. So, to explain conventional behaviour in contemporary society we need to look into the systems of beliefs that underpin it.

Jamie: Something behaviourism would struggle with (as Lewis came to realise). To clarify then, conventions theorists take from Lewis that a convention is a "kind of rule with four distinctive features: [it is] implicit (no canonical expression), arbitrary (multiple alternatives), of unknown origin, and not legally enforced" (Favereau 2019: 35), but conventions theorists also reject behaviourism. Since we mentioned him earlier, it might be worth quoting Geoff Hodgson on institutions and conventions to highlight any similarity. Hodgson refers to conventions as a type of institution:

> [W]e may define *institutions* as systems of established and prevalent social rules that structure social interactions. Language, money, law, systems of weights and measures, table manners and firms (and other organizations) are thus all institutions… [W]e may usefully define a convention as a particular instance of an institutional rule. For example, all countries have traffic rules, but it is a matter of (arbitrary) convention whether the rule is to drive on the left or on the right. So in regard to the (say) British institutional system of traffic rules, the specific convention is to drive on the left (Hodgson 2006: 2).[12]

Dave: This is obviously a coordination problem and Hodgson emphasises its arbitrary nature.[13] Similarly, if we refer back to Keynes, both of Keynes's conventions consist in many investors sharing a set of beliefs about how to make decisions in a situation where there is no rational basis for making an optimal decision. In both of Keynes's examples conventions help to bring a kind of order to financial markets.

Jamie: And, again, just to be clear, conventions theorists found this way of thinking helpful first in studying the production of statistics…

[12] Note from Jamie: on conventions and their use see also Dequech (2012a, 2017). For a different approach see social positioning theory (Lawson 2019).

[13] Note from Dave: though clearly the issue of "not legally enforced" is a divergence.

Dave: It's not hard to see how Lewis's work, suitably modified, might apply to the case of statistics. Once one statistician has calculated national income in a particular way, for example, then it makes sense for others to do the same, so that comparable figures can be obtained over time and for cross-national comparisons, even though other ways of calculating national income might be equally (or even more) useful. Of course, statisticians do engage in meta-communication, but they do also establish conventions about how to measure things, and the meta-communication is largely about whether to prefer one possible convention over another. Something like Lewis's model of convention, in other words, can still apply even when people do communicate with each other about their practices.

Jamie: One might also note that there is a more complicated history to the measurement of "national income". For example, there is a history to the development of GDP (see Masood 2016) and numerous disputes regarding the significance of measures of GDP, especially in development economics (e.g. Ghosh and Morgan 2022) and in terms of consequences for climate and environment (McNeill 2001; Moore 2015).

Dave: That being said, the example I gave was illustrative rather than actual. The earliest applications of the concept in the economics of conventions tradition were to labour markets, and more specifically to the question of how people are classified into socio-professional categories, initially for statistical purposes (Jagd 2007: 76). Conventions theorists have adopted the term "qualification" to refer to this kind of categorisation process, and soon started to apply it more widely, notably to the ways in which we classify goods for sale. Mainstream economics tends to ignore such processes, or take them for granted, but the conventions theorists showed that they are fundamental to the mainstream conception of a market. That conception rests on the assumption that a certain set of goods is equivalent and thus freely substitutable. The conventions theorists point out that equivalence between any two items is not an objective matter, but rather depends on us following what Desrosières calls conventions of equivalence that we use to assess what is equivalent and what is not (Diaz-Bone 2017: 242).

Jamie: And this is important because….

Dave: For anything like the mainstream conception of a market to exist, participants in it would have to share such a convention about what counts as an example of the good exchanged in the market.

Jamie: This seems like an approach that lends itself to anthropological and sociological research…

Dave: Yes and no. One focus has been to look at disputes between economic actors, on the grounds that this can help to reveal the conventions that they are employing and arguing for (Jagd 2007). Clearly, that sort of focus is amenable to empirical sociological research, but proponents of conventions theory have not always used typical sociological methods. More importantly, despite the origins of the core concept in philosophy (Lewis) and economics (Keynes), conventions theory is a far more sociological approach to making sense of how the economy operates than we find in mainstream economics.

Jamie: Just to be clear though, conventions theorists can be found across the social sciences…

Dave: Indeed. For example, the tradition has also developed an important presence in sociology. Here the key work has been Boltanski and Thevenot's book *On Justification* (Boltanski and Thévenot 2006, published in French in 1991). This applies a version of the conventions approach to the issue of how people make judgements and resolve disagreements in social disputes. Boltanski and Thevenot suggest that we make judgements by applying what they call "orders of worth". An order of worth is a set of normative standards organized around a central principle, and different orders of worth (or "worlds" or "cities") apply in different contexts, with many disagreements hinging on which order of worth should be applied to a specific case.

Jamie: And, to reiterate, like any other approach conventions theory exhibits dispute and diversity...

Dave: That's right, and as a result the concept of a convention has been used in a variety of rather different ways in the tradition, making it difficult to provide a clear and unambiguous definition. Diaz-Bone and de Larquier, in the introduction to their *Handbook of Economics and Sociology of Conventions* (still under construction), describe them as "institutional logics for the valuation or valorization of goods, actions, and persons" (Diaz-Bone and de Larquier 2020: 1–2). That has the merit of being loose enough to accommodate the full range of cases, but at the inevitable cost of leaving it rather unclear what would count as a convention.

Jamie: Still, before moving on to discuss your recent book *Inventing Value* and how it relates to conventions theory, it might be worth here just summarising what conventions theory "is"…

Dave: Well, I can't guarantee to be any more definitive than Diaz-Bone and de Larquier, but perhaps I can give a definition that complements theirs: conventions theory is a trans-disciplinary tradition that focuses on how stabilised shared understandings shape our classification, evaluation, and valuation practices and as a result influence our social interactions, including our economic interactions. In a sense it therefore provides a more socialised and realistic alternative to the mainstream view of decision-making as purely a process of the rational calculation of self-interest. So, for the statisticians for example, shared understandings of different classes of labour are employed to generate labour statistics. Or for Boltanski and Thevenot, shared understandings of standards of judgement are used to resolve social disputes. Or for André Orléan, shared understandings of how we should value financial assets, like Keynes's conventions, shape outcomes in financial markets, which I hope we can discuss in more depth shortly. From a critical realist perspective, I would want to extend the argument a little further: we should see decision-making as multiply determined by many different causal mechanisms, so that a fully realistic account of it would take into account both conventions and rational calculation, but also other factors, such as the habits or dispositions we take for granted (as stressed by some institutionalists) and our emotional commitments.

Jamie: And just before we turn to valuing financial assets it might also be worth situating conventions theory to heterodox economics, assuming that this is where one might categorise it… You've already suggested that it might comfortably be described as "institutional", but given

it also draws on Keynes, would any of its proponents describe themselves as Keynesian, Post Keynesian etc…[14]

Dave: On the whole, the conventions theorists don't take much interest in the parts of Keynes's work that might be more familiar to your readers, because they aren't as focused on macroeconomic questions like the levels of unemployment, national income or interest rates as Keynes and most Keynesians. So it would be more accurate to describe them as "influenced by Keynes" rather than as "Keynesian" in the usual sense of the term. I suppose in a strict sense that automatically makes them post-Keynesian, but again their focus is less macroeconomic than the work that usually goes under that label, and less shaped by dialogue with earlier debates within the discipline of economics.

Jamie: OK, turning to your recent book. Given that conventions theory tends to be associated with American pragmatism and there is a significant strand that one might describe as social constructivist, it might seem odd that a critical realist has taken an interest in it.…

Dave: I think it's important to recognise that different academic traditions are not mutually exclusive but instead often overlap significantly in the ideas they employ. That doesn't just apply to critical realism and conventions theory but also to critical realism and both pragmatism and social constructionism. Pragmatism and critical realism, for example, share quite a few core beliefs, such as fallibilism and the idea that the self is fundamentally social (Elder-Vass 2022b). Critical realists have sometimes drawn on pragmatist work, including Margaret Archer, the leading critical realist sociologist. Archer drew explicitly on the work of the classic pragmatist George Herbert Mead in her work on the reflexivity of human agents (Archer 2003). This social understanding of the individual is explicitly opposed to the neoclassical notion of *homo economicus*.

Similarly, critical realism is implicitly social constructionist, in the sense that it sees many social phenomena as depending on what we, collectively, think about them. A banknote is only money, for example, because we collectively accept that it can be used as a means of payment. If we stop accepting that, then the banknote continues to exist as a physical piece of paper but it ceases to be money.

Jamie: Or at least ceases to be a carrier of the set of powers that money has…[15]

Dave: Money, in other words, is socially constructed. But both I and other critical realists have distinguished between moderate and radical forms of social constructionism, and argued that critical realism is compatible with moderate forms, but is in conflict with more radical forms (Elder-Vass 2012). It was the radical variant that led postmodernists, for example, to deny our capacity to know anything about the material world, even that it exists! But we can reject that variant while recognising that some things – social things, in particular – do depend on what humans believe about them. Once you recognise these kinds of overlap between traditions of

[14] Note from Jamie: typically distinguished from mainstream appropriation of Keynes by an emphasis on dynamics, historical time, uncertainty, effective demand and the role of diverse demand for money. See, for example, Dequech (2012b).

[15] Note from Jamie: accepting that there are longstanding debates about the nature of money and these remain unresolved… See, for example, Peacock (2013).

thought, you can be much more open to the possibilities of finding synergies with ideas that grew out of other traditions.

Jamie: When you first became interested in the subject of value, valuation and pricing was it immediately obvious that your work and conventions theory overlapped?

Dave: No, it took me a while to realise (or perhaps *decide*?) that the work I was doing on value fell within the conventions tradition as well as the critical realist one. It had struck me that the concept of value, in the sense of the monetary value of assets and commodities, was central to the operation of our contemporary economy and yet it had almost disappeared from view, in the shadow of two enormously powerful misconceptions of value and its origins: the neoclassical sense of value as the equilibrium price of a good and the Marxist sense of value as a quantity of socially necessary labour power. I recognised that we only buy things because we ascribe value to them, and hence the commodity and asset economies depend utterly on the processes through which buyers (but also sellers) come to ascribe and quantify monetary value. But the Marxist analysis ignores that, and the neoclassical analysis collapses the whole question of the prices people are willing to pay to the exogenous preferences of buyers, thereby ignoring many of the most important factors that shape what prices people are willing to pay for things.

Jamie: Well, I imagine that Marxists at least would want to contest the way you represent Marxist theory of value and what it ignores (see, for example, Fine and Saad-Filho 2018), but it probably makes sense to start with what is in your book rather than what isn't. In brief then, what do you argue?

Dave: In the book *Inventing Value* (Elder-Vass 2022a) I argue that people apply what I originally called *lay theories of value* to help them determine the prices they are willing to exchange at. These are guidelines, often very simple ones, about what makes a price fair and/or reasonable. For example, we generally feel that if something is damaged, its price should be lower, or that if it cost more to produce the price should be higher. Not all lay theories of value are so simple. For a while, for example, traders of financial options appear to have believed that options should be priced in accordance with the Black-Scholes formula (MacKenzie 2006).

Jamie: In standard form, a European call option version of Black-Scholes is stated as:

$$C_0 = S_0 N(d_1) - X_e^{-rT} N(d_2)$$

This is a calculation of the (probability adjusted) stock price minus the (probability adjusted) call option price. Put simply, if the S side of the equation is larger than the X side, then the call option is valuable (the exercise price of the derivative is less than the stock price)…[16] This is quite technical, and at first sight precise, this is "lay" in the sense of…

Dave: It is "lay" in the sense that it is employed in practical valuations, rather than only being an academic theory that seeks to describe the world. The economic sociologist Donald MacKenzie famously used it as an example of the "performativity" of economics, since the

[16]For a full explanation visit: https://www.khanacademy.org/economics-finance-domain/core-finance/derivative-securities#put-call-options

original formula was quite inaccurate as a description of option pricing practices, but then it was adopted by derivatives traders and for a number of years the formula did accurately describe what they did – because they were using it! After a while they moved on to using other lay theories (though many of them were loosely based on the Black-Scholes formula) and the original formula also ceased to work as a description of their practice as a result (MacKenzie 2006). This is an unusual case, though, in the sense that relatively few lay theories of value – the vast range of theories that people actually employ in their valuation decisions – are derived directly from academic theories. I realised after a while that these lay theories of value were quite a similar thing to *valuation conventions*, which have occasionally been employed in the conventions tradition, which is when I started connecting my work with theirs.

Jamie: So, your approach begins from "lay theories of value", what people think they should pay contributes to the determination of what they do pay…. Value as valuation… No doubt you are aware of many relevant considerations that might immediately occur to a reader of *RWER*: systems of production and the formulation of relative prices, the difference (if any) between pricing and value, and so on, but perhaps we can come back to those shortly. It's not yet entirely clear what the similarities and differences are between your argument and conventions theory…

Dave: Well, there are certainly differences between lay theories of value and some of the iconic ways in which conventions theory has been applied. I'm most familiar with Boltanski and Thevenot's version, where conventions appear in the form of "orders of worth", each of which is an ethical principle from which a set of related social norms derives, and where judgements are negotiated by discussing and agreeing which one of these conventions should apply to a case. By contrast, my lay theories of value are much more fine-grained, more like individual norms than wide-ranging principles. And when judgements of price are made, we may well balance multiple different theories. Let's say an item is damaged but rare, for example – we need not price it on the basis of only one of these factors but rather we can take both into account. This is the sort of trade off we would expect to see in any process of settling on a price, whether in the context of a negotiation, an auction, or even price-setting in a fixed price context and the buyer's subsequent decision whether or not to purchase at this price.

Jamie: Just to be clear, would I be correct in suggesting your focus is on the effect that conventions (or at least "lay theories" propagated by those in a position to do so) have, insofar as they influence what people think something is worth, which in turn, affects the price they are prepared to pay for any given thing? A position that implies an absence of a systematically determined value to which prices converge or around which prices vary… but which somehow also differs from mere given preferences of a rational calculative agent engaged in a standard price signalling process…[17]

Dave: Yes, exactly. I certainly don't deny that there are systemic *influences* on prices, but for most goods there is not a single market price that all goods of the type concerned exchange at – and we all know that! Otherwise, for example, why would we go looking for the best deal on something we want to buy, or spend time evaluating what a fair price might be for something? So the opinions we form about what something is worth *matter* in the sense that they influence what we are prepared to pay. One contrast with the model of the rational calculative agent is that in making those assessments we don't just consider our personal preferences but also

[17] For a different approach to this see Fullbrook (2019).

normative social standards about how to value the things we are interested in buying. We don't just consider how much we want something but also, for example, how much it would be fair and reasonable to pay for it.

Jamie: It might be worth taking a step back here and explaining what a norm is and whether it differs from a convention…

Dave: Norms are guidelines for behaviour that we tend to follow because we believe we are expected to. Those expectations arise from our prior experience of normative pressures, which leads us to believe that we face a system of rewards and sanctions depending on whether or not we conform to the norm. For example, in the workplace we are expected to cooperate with our fellow workers. If we don't conform with this norm we are likely to face a variety of sanctioning behaviour, from relatively subtle forms like our colleagues ignoring us or excluding us from social conversations, through to more serious sanctions such as our managers denying us promotion or even dismissal. Once we have experienced those sorts of pressures (either directly, or by observation, or by hearsay) we tend to discipline ourselves to avoid the discomfort and pain of future sanctions. In other words, normative sanctions create an environment where we tend to observe the norms. This is something I've discussed at length in my books on social structure (Elder-Vass 2010) and social construction (Elder-Vass 2012).

Given that background, we can think about how norms relate to conventions. I take the view that all conventions are norms, because they are established and supported in the way I've just described – by learning from interaction with others what sorts of standards of value are considered reasonable or acceptable. Those processes are not particularly prominent in the traditions that conventions theory draws on, which are focused on the coordination functions of conventions – their effects rather than their causes - and perhaps have been neglected in conventions theory as a result. But some conventions theorists have explicitly acknowledged the normativity of conventions (e.g. Favereau 2008; Al-Amoudi and Latsis 2014). On the other hand, perhaps not all norms are conventions in the sense adopted by this tradition. Still, the recognition that conventions are normative led me to conclude that my lay theories of value had enough in common with at least some of the existing formulations of conventions that I could call them *valuation conventions* and draw on conventions theory as I developed my argument.

Jamie: As I understand it, your main applied focus in the book is the valuation of financial assets…

Dave: That's right. The applied chapters in my book are focused on financial markets, and I develop three extended examples with a chapter each: shares in the businesses promoted by venture capitalists, Bitcoin, and the subprime mortgage backed structured securities at the heart of the 2008 global financial crisis. Let's just look at the first one here, using the case of Snap, the social media company behind the Snapchat app, which was floated in an Initial Public Offering in 2017. In 2016, the last year for which figures were available at the time, Snap had revenues of just over $400 million and made a net loss of just over $500 million. Its prospectus said that "[we] expect to incur operating losses in the future, and may never achieve or maintain profitability... We have a short operating history and a new business model, which makes it difficult to evaluate our prospects and future financial results and increases the risk that we will not be successful" (Snap Inc. 2017: 6). At the end of the first day of trading the company's share capital was valued at over $28 billion. How was this possible? Part of the story is that the company's founders, the venture capitalists who had taken a share in it, and the investment

banks underwriting the launch had all pushed narratives designed to connect Snap to a specific interpretation of a rather loose valuation convention. The convention, known as *relative valuation*, is that new companies can be valued by comparison with similar existing companies. Snap's "value entrepreneurs" argued that Snap was comparable to Facebook and so should be valued on the assumption that it would be able to raise as much revenue per user as Facebook. The plausibility of this narrative was based primarily on the prestige of its backers and in particular on the symbolic power of the investment banks underwriting the IPO, indeed this is one of two key reasons why venture capitalists in the U.S. consistently use a very small group of high status banks to run their IPOs.

The other reason is that underwriters play a leading role in assembling what I call an asset circle for the stock. All financial assets depend on having an asset circle: a group of investors that are open to buying and/or holding the asset, subject to its current price. This might sound odd to a mainstream economist since the standard model assumes that every economic agent is aware of and potentially open to acting in every market and indeed has full information about every market. This aspect of the standard model is patently false, but like so many other problems with the model this is widely assumed to be unimportant. Instead, I look at what is involved in overcoming one aspect of this problem in practice, and what is involved is that value entrepreneurs actively recruit potential investors into the asset circles for the assets they wish to promote. The process of underwriters approaching institutional investors prior to an IPO is one of the more obvious examples of this process (I give several more in the book). Again, their reputation is fundamental to the possibility of success but so is their network of deep connections with these investors.

Jamie: And is this then, an attempt to replace neoclassical price theory with a theory of price as determined by conventions?

Dave: I'm certainly trying to take price theory beyond neoclassical models, and to do so without following the typical mainstream theory approach of just loosening some assumptions, but I don't suggest that price is determined *only* by conventions. The prices paid in exchange transactions are actual events in an open system. As the leading critical realist economist Tony Lawson has repeatedly stressed, economic systems are open systems in the sense that we can't reduce the explanation of economic events to just a few factors that interact in a convenient model (Lawson 2003). Instead we have to recognise that every event is caused by a different complex of multiple interacting causal mechanisms, and we can never be sure in advance of investigation exactly what mix of mechanisms might influence any particular event. That takes us beyond neoclassical models in at least two respects: first, neoclassical models and variations don't seem to be even trying to explain prices as actual events, but rather as some sort of idealised abstraction of a price in a closed model that implies the same price ought to be paid in all transactions in a given market at a given time. Once you step away from the idea of prices as equilibrium phenomena, you have to give up the notion that there is necessarily one price that applies right across a whole market and start to treat the price paid in each individual transaction as a separate phenomenon with its own unique causal explanation. The explanatory challenge, then, is to identify the classes of causal mechanism that generally interact to produce individual pricing outcomes. There's a sense in which neoclassical models do that, but they limit the mechanisms at work, loosely speaking to consumption functions and production functions and their interaction to produce a hypothetical equilibrium price.

Jamie: And just to be clear are you equating pricing with value insofar as pricing is a process of valuation? Price and value are not distinct concepts?

Dave: Pricing and valuation are intimately intertwined, but I do think that price and value are distinct concepts. Price is used to refer to multiple different things. I tend to use it to refer to a property of an exchange transaction: the monetary amount that is actually transferred or promised as part of the exchange agreement, or to put it more simply, the realised price. That's what I think theories of price should be oriented to explaining. But in everyday life we also use the term to refer to the monetary amount that is being asked for in exchange for an as-yet-unsold item – for example the amount shown on a price ticket or label. Price tickets operate in conjunction with a valuation convention: that the price shown on the ticket is the price that should be paid for an item. That convention, though, operates differently in different contexts, and it is rarely quite as inviolable as it might seem. It is, incidentally, one of the many reasons that prices don't converge on system-wide equilibria. Shoppers in one supermarket, for example, will frequently pay a higher price than those in another do for the same good, and one part of the reason for that is that the two shops have different prices on the tickets and shoppers believe that if they want to buy the item in that shop they have to pay the price on the ticket. Of course, the full set of causal mechanisms is much more complex, but it should be clear that ticket prices operate in conjunction with a valuation convention and that between the two they have a major influence on the actually realised price in cases like these. Stepping back a little, we can think of this as another example of the complexity of the valuation processes that contributes to the determination of realised prices. Value also appears in that process, but in a third guise: as subjective views of the price that should be paid, which enter into buying, selling, and pricing decisions.

In any case, I argue that *some* of the causal mechanisms that have historically been squeezed into the neoclassical framework are indeed relevant to pricing outcomes. Firms, for example, do sometimes withdraw from supplying a certain product when they cannot cover their costs of production, and consumers do sometimes switch from one product to another – or from one supermarket to another for the same product – when their relative prices change. But that doesn't mean that we can reduce the explanation of prices to the intersection of demand and supply curves. Rather, it means that we have to understand price as the outcome of a much more complex interaction that may include factors like those but also includes factors like the conventions that economic actors bring to bear in determining what prices they are willing to pay or accept.

Jamie: Though one might put this slightly differently and suggest that there are various pricing conventions from the point of view of the practices firms adopt in relation to costs, in order to set prices for market purposes and from which other economic actors can then make decisions regarding what they are willing to pay. Not all post Keynesian theory is macroeconomic along the lines you referred to previously. Fred Lee, for example, rejects the neoclassical theory of pricing and explores the evidence provided for three "pricing doctrines": normal or full-cost pricing, administered pricing and mark-up pricing (Lee 1999; Lavoie 2016).[18] For Lee, changes in quantity were (empirically) a more important information source than price.

[18] Note from Jamie: see Sraffa (1926) for an early well-known critique, which among other things inspired Joan Robinson's work on imperfect competition (before she decided to focus on other things).

Dave: The strength of Lee's approach is that, like the argument I am developing, it is focused on how prices are determined in the real world. I suggest that we can see strategies like full-cost pricing or mark-up pricing as valuation conventions. Clearly these conventions are producer oriented and help to ensure that prices usually cover the costs of producing the goods concerned, which is essential if production in commodity systems is to be sustained over the long term. But there is a multitude of cases where these conventions don't hold. As I said in one paper, "Stable cost plus pricing may be the norm for manufacturing producers, but it is not for financial assets, auctions, large retail businesses with strong competitors, stock clearance, products made to fulfil one-off negotiated orders, automated pricing on sites like amazon.com, state-regulated prices, fine art showrooms, or prices subsidised as loss leaders, for example" (Elder-Vass 2019: 1490). In these other institutional contexts other conventions come into play, on both the supplier and buyer sides, and the dynamics that affect pricing outcomes vary. The way causal factors interact to influence pricing outcomes differs, for example, between a traditional town marketplace, on eBay, and on the New York Stock Exchange, because those institutional contexts make a difference.

Jamie: And situations like the recent "energy price shock" and the massive profits of oil and power companies can be accommodated here?

Dave: Yes, different mechanisms have different degrees of influence in different cases, and in that case we saw a fascinating interaction between the effect of supply shortages, which energy suppliers were able to exploit to raise prices, and government intervention in various forms. Arguably both of those were linked to conventions: perhaps "charge what the market will bear" on the supplier side, and "prices should be set at a level that ensures people have access to necessities" on the government side. But the key question here is what power these different players have to make their preferred conventions count. That is always an issue in price determination, but it's expressed particularly clearly in this case, and helps to remind us that price determination is always the outcome of many interacting forces.

Jamie: As, I guess, is inflation if we take Isabella Weber's argument.[19] And presumably the interaction involves an agent structure approach that rejects both methodological individualism and methodological holism (if we refer back to where we began with discussion of institutionalism)?

Dave: Absolutely, and that's also very much in line with critical realism, for example, Margaret Archer's argument that all social events are caused by a mixture of individual, social and cultural factors (Archer 1995). Critical realists argue that both individual human beings and also social structures have a causal influence on events, and explain that using the concept of emergence. To summarise briefly, the argument is that social structures depend on the ways in which people and things interact, and as a result they have causal influences that wouldn't exist if it wasn't for those interactions. Organisations like banks and governments, for example, may consist of groups of people and perhaps buildings, computers and the like, but they have causal powers that all of those people and things would not have, even collectively, if they weren't organised in the particular ways that make them, collectively, into banks and governments. Different critical realists have different but broadly compatible variations of this argument. For

[19] For a brief discussion of the discriminatory knee-jerk reaction to her claims about the potential of price controls in the context of corporate profiteering visit: https://www.newyorker.com/news/persons-of-interest/what-if-were-thinking-about-inflation-all-wrong

example, Roy Bhaskar, Margaret Archer, Tony Lawson, Bob Jessop, myself and others (e.g. Bhaskar 1975, 1989; Archer 1995; Elder-Vass 2010).

Archer's morphogenetic cycle, in particular, is very much about the processes through which structural powers come about and develop as a result of individual actions and interactions. That suggests that once we recognize that valuation conventions are an important part of the causal mix, we must also ask how the set of conventions that influence outcomes has itself come to be the way that it is.

One of the more important arguments I develop in *Inventing Value* is that valuation conventions, and value narratives that are used to connect individual assets and commodities to particular valuation conventions, are strongly shaped by deliberate discursive work, in particular work done by people I call value entrepreneurs (I mentioned this with the Snap example if you recall). Value entrepreneurs, usually operating on behalf of larger structures like corporations, actively seek to influence how the assets or commodities in which they have an interest are valued by influencing the discursive environment. The luxury goods industries, for example, have gradually but cumulatively built a sense that the goods they produce have status because they embody heritage and heritage should be valued – as Boltanski and Esquerre have argued in their recent work on enrichment (Boltanski and Esquerre 2020). One extraordinary example is the way in which the guitar company Fender, having recognised that worn guitars have a prestige arising from the sense that they have served expert players well for many years, have started to produce pre-damaged new guitars and sell them at a premium.

Jamie: These are interesting examples, but they seem to rest on physical qualities of commodities. Your main focus though is financial assets…

Dave: Because they don't have clear material consequences for our well-being on which to hang valuations, conventions are even more significant for financial assets. Their value rests entirely on future revenue streams, which of course takes us back to your quote from Keynes. As Keynes said, financial valuations rest quite heavily on the thoroughly unreasonable expectation that things will continue as they are, and hence that future income streams can be taken as read for the purpose of valuing assets. But what does it mean for things to "continue as they are"? Does it mean, for example, that a stock will continue to yield the same percentage dividend indefinitely or perhaps that internet firms will be able to extract a certain number of dollars of advertising revenue per user per annum, or...? What versions of "continuing as they are" are going to be transformed into conventions, and which one of them (or which ones) is going to apply to any given asset? Each of these is a different way of imposing a sense of predictability on an inherently uncertain future, and the prices that can be achieved for financial assets are highly sensitive to which of them is applied. Just as in commodity exchange, firms have a powerful interest in influencing the conventions applied to assets and so engage in shaping value discourses. Financial value entrepreneurs are in the business of developing favourable conventions for the assets they are marketing and producing a sense that this is the natural and obvious way of valuing the assets concerned. But different conventions could have been applied, with the result that investors would have valued the assets concerned quite differently.

Jamie: Though this implies a capacity to persuade, a position and power from which to persuade (or at least disseminate) and some basis for persuasion to be possible in the first place… since the world does not reduce to stories we (or any given group with power) tell about

financial assets… In any case, though we may live in a world which continually reinvents "too good to be true" stories (as captured in the general sense of "this time will be different") financial crises continue to occur and assets fail to perform… value invention does not escape this… I take it you don't deny this…

Dave: On the contrary, one part of my argument is that the value stories told by value entrepreneurs are fundamental to the processes through which financial asset values are over-hyped, leading to bubbles and crises. One of the chapters in *Inventing Value* is devoted to the rise of mortgage-backed securities and how investors were persuaded to value them as safe investment-grade securities, which led directly to the 2008 global financial crisis. Financial asset values, in other words, do not simply reflect underlying revenue streams but rather are manipulated to serve the interests of those with discursive power in this institutional space.

Jamie: Is there a difference between "over-hyped" and over-valued? Isn't what a structured credit security like a CMO, CLO or CDO can be "worth" dictated in then end by the income streams attached to it and the scope for defaults within the sources of income… I take it you are not denying that there is a structured and in some sense systematic set of relations that affect potentials in the world and influence whether valuations can be sustained in the given case…

Dave: We have to tread a careful path here. On the one hand, the value of a security does depend on the terms of the contract that constitutes it. In the case of a municipal bond issued by a stable and cautiously managed city government, for example, the terms of the bond guarantee a given stream of payments with very little risk of default, and the price of the bond is unlikely to vary much from the net present value of that payment stream at the currently prevailing risk-free interest rate.

Jamie: Both of which (net present value and risk free interest rate) might be described as concepts within statistical conventions, whose relevance is as methods to incorporate the future for the purposes of fixed income valuation practices, and both have their critics…

Dave: Quite right. While the risk free rate of interest is in principle a theoretical quantity, it is conventionally measured as the inflation-adjusted rate of interest currently priced into U.S. Treasury bonds (or sometimes the local equivalent outside the U.S.). Although the convention might be controversial, once we accept the convention, that rate is an objective fact in the sense that anyone who knows the convention can go and check what the current rate is and as long as they follow the socially established methods for doing so they will come up with the same answer as anyone else who does the same. At any given moment, in other words, the rate exists at a certain level regardless of what any of us thinks about it. Similarly, the use of net present value to evaluate future income streams is a convention, because other techniques are possible. Nevertheless, once we accept that convention, the techniques for calculating net present value are well known, and anyone who applies them competently to the same set of numerical inputs will come up with the same answer.[20] Given that, we can say that these bond prices are largely based on objective facts, and if they rose significantly above the net present value of that income stream it would be reasonable to say that they are over-valued: there are

[20] To be clear, Dave's point assumes use of the same discount rate and formula. The concept of net present value is highly sensitive to discount rates. For a simple explanation which is not about sovereign debt visit: https://propertymetrics.com/blog/npv-discount-rate/

systematic relations here that affect potential payment streams and thus whether valuations can be sustained.

Jamie: And, of course, valuations change as the whole context of sovereign debt changes (otherwise yield curves would not have the significance they do in the world of finance)…[21] In any case, you seem to be working up to a contrast….

Dave: In contrast, the payment streams arising from many types of security are radically uncertain. The price of Apple stock, for example, depends massively on the belief of investors that the company's revenues will continue to grow reliably – one version of Keynes's convention! But that belief, like most of our beliefs about the future, does not express an objective fact – Apple's sales, for example, could collapse over the coming years. Despite that we cannot *objectively* say that Apple's stock is over-valued, because Apple's stock does not have an objective value, because the future revenue streams it generates are thoroughly unknowable, and all estimates of it are subjective. Again, there is a sense in which Apple's stock price reflects systematic relations because it does depend on the company's earnings, but the relation between the two is highly elastic, because of the uncertainty of future earnings, and as a result it is indeed influenced by hype and by the valuation conventions that investors have adopted. Among other things, therefore, my work provides a contrast to mainstream financial economics, and in particular the efficient markets hypothesis, which implies that financial assets are thoroughly rationally valued, purely on the basis of the best available information about their future revenue prospects.

The efficient markets hypothesis is part of the contemporary ideology of financial markets. One of the reasons it is popular with finance sector actors is that in the context of mainstream models it can be read as implying that the financial markets allocate capital perfectly to its most productive potential uses. If all financial assets are priced in accordance with their future revenue streams, and those revenue streams represent the profits that would be made by this use of capital, and those profits correspond to the social benefits created by the investment, then with a bunch of further assumptions about how markets work, you can claim that the financial markets lead capital to flow towards its most productive possible uses. Of course, just about every step in that argument is full of holes, but it adds up to a story that justifies the kind of finance sector we have, and so those who benefit from that kind of finance sector find it convenient to assume away the holes.[22] My book adds one more hole: if the prices of financial assets do not reflect some sort of objective knowledge of future revenue streams but rather are manipulated by financial entrepreneurs who tell self-interested stories about how we should value them, then the whole argument that the finance sector allocates capital to its most socially productive uses falls apart. The book therefore gives us yet another ground to challenge the legitimacy of contemporary capital allocation.

Jamie: It does, though this perhaps also makes some ways of opposing the power and consequences of finance more problematic. If the focus is value formation in terms of norms that influence what we think things are worth, then the difference between value creation and value extraction becomes problematic…

[21] Visit: https://www.bankofengland.co.uk/statistics/yield-curves

[22] Note from Jamie: see, for example, Guerrien and Gun (2011); Shabani and Toporowski (2015).

Dave: Well, yes, as our discussion indicates I think the whole distinction between value creation and value extraction *is* problematic. This pair of concepts is used quite commonly in critical discussions of the economy, for example by Marianna Mazzucato in her otherwise excellent book on value (Mazzucato 2018). But it rests on a version of Marx's theory of value that assumes labour value or something like it is somehow embedded in commodities when they are produced and then available to be appropriated later. That's incoherent – labour is a process that produces changes in goods, but there is no labour substance that somehow gets embedded in them. So there is no inherent value in goods available to be "extracted". On the contrary, value depends on evaluation, and it varies depending on who is doing the evaluating, how they are doing it, and what their objective is.

Jamie: I take it though you do not deny that practices can be more or less amplifying of wealth and income inequality, more or less damaging to the financial viability of an organization (e.g. private equity use of leveraged buyouts in some cases), and involve dubious justifications for the payment of, for example, special dividends to investment funds to the detriment of the finances of the target firm…[23] You just have a different way of thinking about warrants and critique…

Dave: I hope you don't mind if I answer the middle part of that question by promising to write about it in my next book, which focuses on profit. I've focused here and in most of *Inventing Value* on how transactors assess what prices they are willing to pay or to accept in exchange, but there are other kinds of evaluation too, which provide warrants for other kinds of critique. Notably, we can make assessments of the *social value* of things, or at least of using things in particular ways, and those assessments inevitably draw on ethical values to which we are committed, such as hostility to excessive inequality or commitment to minimum standards of flourishing for all human beings. The social value of a pile of bricks, for example, does not depend on what labour went into them, but on what they are going to be used for and how we evaluate those uses against our ethical commitments. The social value of the bricks will vary depending on whether they are used to build, say, a hospital, a prison, a mansion for a billionaire, or a block of social housing. That reaches towards a *politics* of value, and in the end the point of the book is that we must escape from the objectification of value by both the labour theory and neoclassical economics and recognise instead that value is political. That in turn means rejecting the neoliberal nightmare of allocating resources purely based on market processes and reinstating democratic debate about the *social* value of alternative choices.

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[23] Note from Jamie: for context see the interviews on private equity and hedge funds, Batt and Morgan (2020); Fichtner and Morgan (2023).

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Some questions to Edward Fullbrook regarding his book *Market-value. Its measurement and metric*

Oliver Schlaudt [Hochschule für Gesellschaftsgestaltung (HfGG), Koblenz, Germany]

Measurement should be a major and important topic in any quantitative science – and it is, except in economics. The reason for this gap was pointed out by Leontief a long time ago: Prices are actually part of economic reality. Unlike other social and natural scientists, economists (in most cases) do not need to make the measurements themselves, but find the measured values already present as part of the reality to be studied (Leontief 1982, cf. Schlaudt 2021).

A few years ago, Edward Fullbrook dedicated a book to the question of economic measurement – to my knowledge, the first systematic study on this topic.. The book's cover shows the famous rabbit-duck illusion that serves to illustrate the Gestalt switch. Depending on one's predisposition, one recognises a rabbit or a duck in the picture. Once you understand this, you can consciously switch between the two interpretations. Edward Fullbrook's thesis is that neoclassical equilibrium theory is the duck whose rabbit turns out to be nothing other than measurement. Then and only then, when equilibrium has been established in the market, does price formation meet the requirements of proper measurement:

> "A market which clears and is in equilibrium defines a market value equivalence relation $=_e$ such that the market-value of the quantity of a good exchanged equals the market-value of the quantity of money exchanged for it." (p. 56)

The surprise now is that what may appear to be a minor theoretical question for specialists actually has fundamental consequences for our understanding of economics. The book mentions the following central insights:

- economic reality has an irreducible macro dimension
- market value and distribution of income and wealth are ultimately the same thing
- markets are endogeneously dynamic, and thus there cannot be a general equilibrium.

The recommendations on the spine of the book by distinguished colleagues indeed suggest that Edward Fullbrook has laid the foundation for a significant theoretical development in heterodox economics with this book – and I personally share this impression. For all my admiration, however, I have to admit that while reading the theoretically very demanding book, which draws on such fields as economics, epistemology, mathematics, measurement theory and political philosophy, it did not become completely clear to me what premises the argument is based on and how exactly its individual steps proceed. I therefore take the opportunity to address some questions to the author, the answers to which I hope may be useful to all readers.

Probably Fullbrook's most important methodological step is that, in contrast to orthodox theory, he does not simply postulate a domain of value in a deductive manner whose structure corresponds to the mathematical equations of neoclassics (the infamous "utility"), but rather tries to determine inductively which metric structure economic value has. Fullbrook calls this approach "empiricist".

I welcome this approach, but would like to point out that the word "empiricist" can be misleading. Let us note that value is not simply given in experience. As Fullbrook himself points out, value exists only in the field of forces of the market, just as weight is a meaningful physical quantity only in the earth's gravitational field:

> "Just as a physical object only has weight in a gravitational field, so too a good only has market-value in the context of a system of markets, with its 'forces' of supply and demand." (p. 62, see also p. 114)

But the market is a historical reality. In some societies or epochs there have been no markets – and consequently no (economic) value. I find this notion very valuable, but it may lie outside the horizon of a philosophy associated with the word "empiricism".

Elsewhere, Fullbrook makes the point that in order to operationalise the concept of weight, we also need a scale (p. 50). The market, in this analogy, would be both the gravitational field *and* the scale. Here we approach a position known in epistemology as "constructivism". Constructivism is a variety of empiricism that points out that data are not simply given in bare experience, but that historically developed technology, e.g. measurement technology, also enters into their construction. This perspective makes it easier to understand the historicity of value. But the word "constructivism" may embroil one in other, irrelevant discussions, and therefore may be no more appropriate than "empiricism".

But let us return to the argument of the book. Fullbrook's first fundamental observation is that in the market, due to the law of demand, value does not have a "linear", "Euclidean" or "simple additive" structure, i.e. n pieces of a commodity do not generally have n times the value of a single traded copy of that type of commodity. The reason for this is simply the law of demand with its downward slope. Such non-additive structures are known, for example, from the theory of relativity, namely the composition law of velocities. Since the speed of light constitutes an absolute limit, composite velocities are corrected by the Lorenz factor, so that, for example, $0.5c$ plus $0.5c$ does not equal c, as one expects in a classical perspective, but only $0.8c$.

In contrast to speed, no general formula can be given for the value of commodities, since the shape of the law of addition depends on the respective law of demand, which can have a different shape in each individual case. A downward slope of the demand curve always leads to a downward correction of the total value. As Fullbrook further explains, inelastic demand even describes a situation in which the value metric becomes, in his words, "negatively non-additive", i.e. an increase in the quantity of goods reduces the total value. Fullbrook considers this relationship to be "self-evident" (p. 58). When I studied physics, it was a common joke that these words in a textbook were equivalent to two hours of extra work in reconstructing the proof, and so, unfortunately, is the case here. I will therefore try to describe the connection in other words so that it may be easier to understand. In a situation of inelastic demand, unit prices fall faster than the quantity of goods increases. So the increase in quantity is overcompensated by

the falling price, which is reflected in the fact that the aggregate or total value of the quantity of goods actually falls. In this way it becomes plausible, and on this basis the algebraic proof is also easy to carry out.

In my opinion, Fullbrook is right in his claim (even if it is not self-evident, at least for me). For a better understanding, however, I would like to ask a question. If I understand it correctly, the argumentation is based on an interpretation of the law of demand as a causal relationship with an unambiguous and one-sense direction of determination, namely the quantity of goods as the independent variable and the price as the dependent variable ("increasing the size of the market exchange set decreases its value", p. 58). Is this a legitimate reading? A quick look at the literature - from the perhaps first mention of the Law of Demand by Alfred Marshall and Mary Paley Marshall (Marshall and Marshall, 1897, p. 69) to today's standard textbooks (such as Samuelson and Nordhaus 2009, p. 26-7) shows a surprisingly nonchalant approach to this question. Sometimes quantity (demanded or offered) influences price, sometimes vice versa. Fullbrook cannot afford to be so lax. Is it legitimate, then, to commit oneself to the reading with the determination direction quantity-price, as the Gestalt-switch seems to demand? And how does one then deal with the case of completely inelastic demand, where only the reverse reading seems permissible, namely that price changes have no influence on the quantity demanded?

We can even go one step further at this point and ask in principle about the status of the Law of Demand. Can we assume that this law exists? Does it represent a truth that heterodox economists can trust – or does the Gestalt switch prove to be too conservative, burdened with too much neoclassical heritage? (This is a question I allow myself to ask as an economic layman.)

This was the simpler part of the argument in Fullbrook's book. In what follows, the argument becomes more complicated and its results more subtle. This brings me to Fullbrook's second fundamental observation, which follows immediately from the first observation that value only exists where the commodity in question can actually be exchanged in principle. From this, it can indeed immediately be deduced that one cannot measure the value of the entire quantity of all commodities, and even of any quantity of a particular commodity that accounts for more than half of the value of the total quantity of all commodities, simply because in this case by construction there can be no market exchange and thus no equilibrium situation (p. 62). A way out arises if the value of each quantity of commodities is expressed on a scale from 0 to 1 as a fraction of the value of all commodities, as is known from probabilities (I will return to the analogy later).

What seems to be a trick of only formal importance in fact entails a methodological revolution, since we are encountering a connection between the micro- and the macro-level that is not compatible with the programme of micro-foundation. Later in the book this is clearly stated:

> "Mass, for example, is an additive function of micro-masses. But with market-values, as with probability, micro magnitudes depend on macro ones." (p. 119)

Fullbrook first shows this in the book with the phenomenon of inflation. From the perspective of measurement, the value of the total quantity of money is equal to that of the total quantity of goods, and the value of each unit of money is determined in a macro-micro-determination as a fraction of this total value (p. 67). Inflation presents itself as a formally simple case of non-

additivity with constant elasticity. The previous step indeed has already shown that economic value can actually only be represented as a fraction of the total value of all goods – which corresponds to an absolute scale that works without conventionally chosen units. I am not sure whether Edward Fullbrook shares this view, but I am tempted to say that the introduction of such a unit, which is formally possible and concretely implemented in money, always creates the illusion of additivity in the structure of value.

At this point I would like to make a comment and ask a question. First the comment. It is presumably this dependence of market value on macro states that leads Edward Fullbrook in chapter 2 to the conclusion that value is something inherently and irreducibly relative, just as motion has been understood in physics since Galileo. In order to establish this point, Fullbrook draws on the "little-known" economist Samuel Bailey, who in 1825 accused Ricardo of transforming value from something relative into something absolute ("entirely to lose sight of the relative nature of value, and [...] to consider it as something positive and absolute" – Bailey 1825, p. 40). I share Fullbrook's thesis of the relativity of value as it results from the previous analysis, but I am not sure whether Bailey is the right warrant for this position. Karl Marx, in his 1863 *Theories of Surplus Value*, accused Bailey in a lengthy discussion – as I understand him – of simply confusing value and price (as the numerical expression of value in money or some other commodity as a measure of value) (Marx 1989, 312). Price of course is inherently relative, but it expresses something that is not affected at least by this kind of relativity, viz. value. The interesting thing about Marx's critique is that he himself does not advocate an absolute concept of value. In particular, Marx, like Fullbrook, did not accept value without a market. So the question here is not whether value is something absolute after all, but only to understand its relativity properly, and Bailey may not have succeeded in doing this. But this is only a side note.

My question at this point concerns the exact meaning of "depend on" when it is said, "with market-values, as with probability, micro magnitudes depend on macro ones". In any mechanistic system, as we know them from physics, this is easy to understand. Mechanism means that we can derive the properties of the system from the properties and interactions of its parts, which exist independently of the system (e.g. the properties of a gas from the molecules). In the simplest case, there are no interactions and we are then dealing with mere additivity, as in the measurement of mass in classical physics (subatomic is a more complicated case). The mechanistic model has well-known limitations. In organisms, the parts do not exist independently of the system and they appear to perform a function defined with reference to the whole. Explaining such a system requires a roundabout route via evolutionary theory. In economics, if we follow Fullbrook, we seem to have a third case. Macro-dependence first slips in by a purely formal path (values, so the thesis goes, cannot be measured independently of the whole, but only as its fractions). We thus encounter a *conceptual* irreducibility of the macro level. Then, however, this purely formal relationship unfolds a *causal* meaning, translating it into an interdependence of markets, which ensures that the various markets cannot reach equilibrium at the same time (p. 84). I find these theses of the book convincing, but nevertheless there seems to be a gap that needs to be filled. What exactly is the nature of this dependence on the macro level? What causalities can be identified here? How does the conceptual irreducibility of the macro-level translate into a top down causation?

Let us go on from here. At this point in the book, a technical step follows that is the most intricate in my understanding. It is based on the two observations that, firstly, the power sets of the traded goods and the money used in the process (i.e. the sets of all subsets of these two sets) form a Boolean algebra under the three operations of union, intersection and complement, and

secondly, by exploiting the properties of the money set, an absolute value *e'* can thus be defined, which also forms a Boolean algebra (p. 71-2). With the Boolean structure of value, its true metric is said to be discovered. This is also how Sheila Dow summarises the main thesis on the book's spine: "Edward Fullbrook argues that understanding market value's metric as Boolean (rather than Euclidean as economics has heretofore assumed) could provide a common foundation for the heterodox approach."

Let's proceed slowly here in order to understand all the individual steps. The first thing I want to emphasise is that the Boolean structure first appears, not for value, but only for the set of commodities as the material bearers of value. Thus, at the beginning of the argument, what is at stake is not the metric of value, but the ontology of commodities. The analogy between value and probability becomes useful here, since in probability theory, this distinction is explicitly made. For instance, Roman Sikorski writes in his book *Boolean Algebras*:

> "the set of all events is always supposed to form a Boolean algebra A_0. The probability is a normed measure μ_0 on A_0, i.e. a measure assuming the value 1 at the unit element of A_0." (Sikorski 1969, 208)

A distinction is thus made here between the events on the one hand and the measure of their probability that is to be constructed on the other, and it is the set of the events which forms a Boolean algebra. The fact that events form a Boolean algebra however has nothing to do with the question of the measure of probability μ_0, but is a trivial consequence of the fact that, first, sets form a Boolean algebra under the set-theoretic operations and, second, events are well-defined and identifiable elements from which sets can be formed to which these operations can be applied. – And the same is true of commodities.

This first step is therefore trivial and unproblematic. It concerns only the ontology of commodities, not the metric of their value. Next, Fullbrook argues that the money exchange space (i.e. the quantity of all money spent) is "uniform or equivaluable", since all money units have the same market value (p. 72). From the uniformity of the money exchange space, Fullbrook draws a conclusion that then becomes the basis of the metric of absolute values: If the money exchange space, which by definition has a value of 1, consists of *n* money units, then the market value of any subset of *g* money units will be *g/n*. On this basis, an absolute market value *e'* can now be introduced with the two important properties that, first, the absolute market value of the union of two disjoint sets of money or goods is equal to the arithmetic sum of their absolute market values and, second, the sums of the absolute market values of any set and its complement always add up to 1 (p. 72, Axiom D3 and D4).

Unfortunately, the book does not say this explicitly, but I assume that the absolute value *e'* is meant to formalise the measurement by fractions of the total value of all commodities that was suggested a few pages earlier (p. 67) (is this so?). However, I find these implications confusing, and I have a number of questions. The central insight of the first step of the book was that economic value is non-additive. Now, suddenly, an absolute value is introduced which is, after all, additive! (Note: if *A* and *A'* are two disjoint sets of commodities, but of equal value, then the value of their union is twice the value of each of them – so we are dealing with an additive structure!). Where does this property come from and how is it to be understood? I have the suspicion that the additivity in fact does not follow from the uniformity of the money exchange space. It is true that each monetary unit has the same individual value. But does this entail the linear relationship that the value of *g* money units is equal to *g/n*? Doesn't the law of demand

apply here, which, as we saw, destroys additivity? Do we not ultimately fall victim here to the illusion of additivity that money always creates, but of whose falsity we allowed ourselves to be convinced in the first part of the book? I urgently need an explanation in order to understand the introduction of *e'*, and this might be useful for all readers.

Regardless of how this question is answered, a second question follows. Even if one can introduce *e'* as suggested, I am not sure that it is appropriate and helpful to call this metric Boolean. We have seen that trivially the set of commodities forms a Boolean algebra under the set-theoretic operations of union and intersection. Now, what about *e"*? For *e'* only one operation appears, arithmetic addition. The interesting thing about Boolean algebra, however, is precisely the interplay between two operations (union and intersection in set theory). When applied to formal logic, this tool allows us to understand, for example, the fundamental duality of the operation of *And* or *Or*, which then structures the entire system of logic. I do not see at all how one could meaningfully speak of a Boolean algebra in the case of *e'* with only one operation! It is important to note that my criticism at this point does not refer to the insights of the book, but only to the question of whether the concept of Boolean algebra is a suitable expression for them, something I have doubts about.

However, if I am not wrong the only finding that seems important for the aims of the book is the fact (which is correct and not affected by the criticism) that the absolute values of any given quantity of goods and its complement add up to 1. Because this fact implies, firstly, the irreducibility of the macro level and, secondly, the interdependence of different markets that cannot reach equilibrium at the same time. The problematic additivity of *e'* is, if I am not mistaken, not needed anywhere in the rest of the book.

Let me sum up my questions to Edward Fullbrook:

1. Does the Gestalt switch commit us to a reading of the Law of Demand as a one-way determination of price by demand, and is this interpretation legitimate? And, more fundamentally, can the Law of Demand be accepted as an established truth in heterodox economics?

2. What is the exact meaning of "depend on" when it is said, "with market-values, as with probability, micro magnitudes depend on macro ones"? How does the conceptual irreducibility of the macro-level translate into a top down causation?

3. Does the uniformity of the money exchange space really entail the linearity or additivity of *e"*? How does the additivity of *e'* relate to the fundamental insight of the non-additivity of value?

4. Is it appropriate to call *e*' a Boolean algebra, given that is contains only one operation?

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Hopefully Schlaudt's questions about *Market-value* are the first of many[1]

Edward Fullbrook

Nothing pleases a writer more than to have a reader who gives what they have written a deep read. Oliver Schlaudt has done that for my book *Market-value: Its measurement and metric*. For this I am especially grateful because his questions lead to an area where economists, unlike modern physicists, are extremely reluctant to venture, namely, one's discipline's elementary concepts.

I ventured there long ago, but only because of the unusual intellectual life I had led in the years before I came to write the longer unpublished book on which *Market-value* is based. For over a decade I had had no interest in or connection with economics. But living in London in the mid-70s, I accidentally got drawn into a group of philosophers of science centered at University College. Under their influence I read almost all of Popper and then numerous other contemporary epistemologists. This for me was a welcome new interest, and soon it intensified. One afternoon strolling through Hyde Park, it occurred to me that as well as reading how philosophers understood scientific advance, it might also be illuminating to learn how the scientists who had brought it about understood how they had done it. I discovered they had written a lot about it, and soon in my leisure I was reading them even more than the philosophers.

But it was neither the philosophers nor the great natural scientists who brought me back to economics; it was Joan Robinson. One of the main reasons why I had given up economics was that as a graduate student I and a few others had been strongly encouraged to attend an off-the-record series of seminars to teach us how to game statistics. Thinking about that, I had decided economics was not for me. But in 1976 at a small Cambridge social gathering, I met Robinson and, with me sitting on the floor at her feet, she said a few things and with a look in her eyes that ultimately led me to reconnect with the dismal and not always honest "science". [My recent short memoir, *The Mystery of the Two Margarets: Margaret Bezan and Margaret Atwood*, includes accounts of my experiences with the philosophers and Joan Robinson.[2]]

Three years later my living situation had changed partly for the better – I no longer needed to earn a living – and partly for the worse – I was living in rural isolation on the edge of England's

[1] Schlaudt, Oliver (2023) "Some questions to Edward Fullbrook regarding his book *Market-value. Its measurement and metric*", *Real-World Economics Review* 105.

[2] Fullbrook, Edward (2022) *The Mystery of the Two Margarets: Margaret Bezan and Margaret Atwood*, Literary Fiction.

vast unfenced, uncultivated Dartmoor. Beside climbing tors, what should I now do with my time?

I decided to seriously reconnect with economics, and I began with a plan. For exactly one year I would read economics 44 hours a week and natural scientists and epistemologists for 6. The latter reading was to protect me from being sucked into economics' scientism. During that year, with one exception, I would not allow myself to write. The exception was: whenever I came across something that potentially raised a theoretical question for me, I would write a note and hide it at the back of a desk drawer.

On day 366 I opened that drawer and read its eleven question-raising notes, and I was hugely disappointed. The purpose of my notes had been to give me topics to explore deeply and to write about, but among the eleven I found none that pointed toward a serious intellectual adventure. But a week later, catching my breath at the top of a tor, it dawned on me that between three of my notes there was possibly a deep theoretical interconnection.

My year's reading of economics had been structured unconventionally. It was focused on neither orthodox nor heterodox economics nor some school of the latter. Nor was it focused on any real-world economic problem, like inflation or unemployment. Instead, it was centered on the conceptual foundations that had shaped economics, orthodox and heterodox, from Adam Smith onwards. My reasons for setting it up like that came from my reading how physics had made its major advances through the centuries. Whereas economists, orthodox or heterodox, are loath to find shortcomings in their basic concepts, theoretical physicists dream of finding them because they know that it is how physics makes its major advances. It seemed improbable to me that economics as a science was more advanced than physics. Hence the focus of my year's reading.

In so far as a scientific theory is founded on a particular concept, if that concept is found not to correspond to reality, then that science needs a new theory to replace the ill-founded one. Following such discoveries, large questions start to appear that are unanswerable by existing theory, thereby making new theoretical development immediately needed. This is why creative theoretical natural scientists dream of the discovery of mistaken concepts. But in economics, which is often more an ideology than a science and where billionaire money plays an increasingly wide role, such questions are rarely asked.

The real-life procedures of the natural sciences are radically different. When reading natural scientists' accounts of how their science had advanced, I repeatedly came across the same underlying story. A theoretical science had leaped forward when it had spotted and then scrutinized an assumption, often an implicit one that for generations had imperceptibly but inexorably determined both what it explained and what it didn't. This made a strong impression on me because it echoed Keynes. Just as Einstein and others had enormously extended physics' power of understanding by dropping its assumption that its empirical domain could be entirely explained by micro-reduction, Keynes, but without such a deep understanding and with huge opposition from ideologists and the rich, had done the same – at least potentially – for economics. Hence when after noticing that three of my eleven reading notes seemed inexplicably connected and in a way that suggested an irreducible macro dimension, the prospect of an intellectual adventure glimmered irresistibly in front of me.

The possibly deep interconnection that I saw between my three reading notes was market-value's metric. In so far as economics is quantitative, it has no concept as structurally deep as market-value; and just as physics had for centuries been mistaken about the underlying metrics of mass, time, and length, for me it was conceivable that economics could be similarly mistaken about market-value, and blind to what its metric entailed in the real world. For example, should an overnight jump in stock market indexes be reported as an increase the economy's market-value or as a redistribution of its market-value? In other words, is market-value an absolute quantity or a relative one?

One of my three notes between which I sensed a deep conceptual connection referred to an obscure paper by Gary S. Becker.[3] Its attraction for me was not its author's renown, but that it questioned in a causal and quantitative way the law of demand. Another of my notes referred to Patinkin's 1965 "discovery" that a numeraire can represent only a part of the market-value of the aggregate endowment.[4] Patinkin offered a solution for model builders, and my third note, having realized that his solution in a real-world context was bogus, pointed to one that was both empirically possible and logically consistent with his discovery. The realization that each of these three notes implicitly raised questions related to the structure of market-value as a quantitative order led me to ask myself for the first time ever **"What exactly is market-value's metric?"**

I had no answer. Nor could I find anyone who had an answer to my question. I found mathematical models whose assumptions included a metric for market-value, but they of course were totally irrelevant to answering my empirical or real-world question. Several major 19th-century economists had flirted with answering the empirical question but had lacked the technical skills – then largely still non-existent – needed to describe a metric. And I found no one in the 20th-century who had even asked the question.

I soon realized that I had accidentally stumbled onto a huge unanswered question, but that whereas I had been hoping to find a large theoretical question, I had found a purely empirical one. And, of course, I also realized that if the answer were found to be non-Euclidean it would – if it were ever taken on – have enormous consequences for economic theory. But no economic theory was needed in answering it. All that was required to identify market-value's observable structure was to use abstract algebra to describe its real-world existence. I did not have that vocabulary, but I set about acquiring it. I also studied the concepts and methods of measurement developed by natural scientists.

When the time came that I was able to apply both this knowledge and abstract algebra to market-value, it meant that I was now perceiving economic reality through a perceptual lens whose use I had not previously had. And using it, I was soon fascinated by two things I had not knowingly seen before, things that were at the level of foundational concepts. One was that market-value's metric was indeed both non-Euclidean and entailed an irreducible macro dimension to the economy. The other was that – unlike mass, length, and time – it is only through its measurement that market-value as a real-world quantitative order comes to exist.

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[3] Becker, Gary S. (1962) "Irrational Behavior and Economic Theory", *The Journal of Political Economy*, Vol. LXX, No. 1, February , pp. 1-13.

[4] Patinkin, Don (1965) "The Value of Money", *The Quarterly Journal of Economics*, Vol. XXXII, Nov. pp. 38-65.

Soon I was dedicated to detailing and enunciating my findings and then considering their implications for economics.

But why was I dedicated? At the time I had no career ambitions, nor desire for public recognition, nor obligations and connections with any "school" or sub-school of economics, nor even much hope that what I might find and write-up would be published. My only reason for pursuing the project was the pleasure it gave me to first-hand explore what for me was unknown. Pure hedonism, in other words, was my project's driving force.

So much so that when years later I finished my first book, I was sad my project was finished. My attempts to get it published were as expected unsuccessful, but I did take the time to summarize my findings in a series of papers which I managed to get published in non-mainstream journals. That done, I moved on to another intellectual adventure in a different field and that, unlike the former, soon came into the public eye.[5]

Meanwhile decades have passed, and the historical situation in which economics exists today is not only increasingly hugely different from what it was forty years ago, but also different in ways that, with reflection, relate to the findings of *Market-value*. When I began that project the global ecological crisis was still only on the back-pages and the enormous upward redistributions of income and wealth were not yet readily visible. Those redistributions, which both accelerate the ecological crisis and increasingly spread anti-democracy, come about not because of gigantic increases in the marginal products of billionaires but because, as my book begins to explain, financialization and globalization have made it increasingly easy for the ultra-rich to manipulate market-value measurement.

So it is that today I find it conceivable, although still not probable, that my hedonistic indulgence of decades past will find a substantial readership. More important, I wish for economists who allow themselves to be, like me, perplexed but intrigued by all the real-world questions that arise when we change the analytical gestalt through which we perceive today's economic reality**.** And so it is that I am grateful for Oliver Schlaudt's questions and which along with hopefully many others I leave for younger generations to answer.

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[5] For a short summary see, Fullbrook, Edward (2022) pp. 142-154.

End Matter

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