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**Competitive tendering and contracting in the Australian public  
sector**

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# Competitive tendering and contracting in the Australian public sector

## 1. Introduction

The decision to contract out activities previously undertaken within an enterprise may generate gains comparable to the gains from trade associated with the notion of comparative advantage. A popular slogan<sup>1</sup> encapsulating this benefit of contracting out is ‘sticking to the knitting’, that is, focusing on core activities rather than seeking to do everything more or less badly.

A second benefit can arise from an appropriate allocation of risk. The central implication of the principal–agent literature is that, where possible, the party that has most control over risk should be the owner, that is, the recipient of the residual income. Where risk is local to a specific activity, therefore, efficiency gains can arise from contracting out. By contrast, where the returns to a given activity are largely dependent on the policy decisions of the enterprise as a whole, contracting out is inappropriate.

Both of these ideas are equally relevant to public and private sector enterprises. Some moves towards contracting out of public sector activities may be seen primarily as bringing the public sector into line with the standard practices of large private business enterprises. Over time, however, this limited view of contracting out has been challenged by advocates of a radical rethinking of the role of the public sector. Whereas the earlier analysis involved an implicit assumption that large private and public enterprises were very similar, the new approach took as given the superior efficiency of the private sector. As a result, the role of the public sector was seen primarily as one of purchasing services, rather than providing them. A typical slogan of this phase of contracting out is ‘steering, not rowing.’ To the extent that this view is correct, the superior efficiency of private sector production represents a third source of gains from contracting out.

In addition to net gains from contracting out, increasing attention has been paid to the transfers associated with contracting out. The fact that contracting out reduces the budgetary costs of a given agency does not necessarily imply that there is an equivalent net social

<sup>1</sup> Originally coined by the private sector management consultants, Peters and Waterman in *In Search of Excellence*.

welfare gain. Cost reductions may reflect transfers arising from sources including:

- wage reductions
- increased work intensity
- reduced service quality
- cost-shifting
- abandonment of community service obligations

A final issue that must be addressed is the idea that competition *per se* generates dynamic efficiency gains. To the extent that this idea has a theoretical basis, it lies in the X-efficiency theory of Liebenstein (1966). In this paper, it will be argued, that, although more intense competition can, on some occasions generate apparent X-efficiency gains, it can also generate efficiency losses. Following Stigler, it will be argued that the general tendency for competition to generate cost reductions may be explained in terms of increased work intensity, and does not therefore involve a net social welfare gain.

In this paper, these issues will be addressed. Finally, the Industry Commission (1995) Draft Report on Competitive Tendering And Contracting will be examined, with particular attention to the issue of net social welfare benefits of contracting out.

## **2. Comparative advantage gains**

Just as different nations have a comparative advantage in different industries, different organisations have a comparative advantage in the performance of different activities. Gains from trade may be realised by ensuring that organisations devote their resources to the activities that they are good at, and rely on markets and contracts to purchase services where the organisation is at a comparative disadvantage. Competitive tendering and contracting is one mechanism by which organisations can specialise in the activities in which they have a comparative advantage; other attempts at achieving the same goal include case-mix funding.

The analogy is not exact. International trade theory normally takes the existence and size of nations as given; a nation with an absolute disadvantage in every industry simply accepts a lower wage rate and follows its comparative advantage. By contrast, within an economy, an enterprise that is inefficient in everything can be closed down. Nonetheless, comparative advantage provides a useful way of thinking about some of the gains of contracting out.

## **3. Risk allocation and the theory of contracts**

The issue of competitive tendering and contracting (CTC) is one faced by all large

organisations, whether they are private firms, government departments or non-government organisations. Indeed, much of the current debate about contracting out touches on the issue first raised by Coase (1937) — why do firms exist at all.

As has been observed by Williamson (1975), the firm may fruitfully be viewed as a nexus of contracts. These contracts span a spectrum from anonymous market relationships (for example, when drivers employed by a firm buy petrol at a service station) through short-term or long-term contracts with other organisations (for example, a large firm arranging a contract with an oil company under which its vehicles would always use that company's service station) to full integration (a company owning and operating its own fuel depots). It is in general, impossible to define the boundaries of the organisation precisely — for example, a McDonalds outlet may be regarded for some purposes as part of a large multinational firm and for other purposes as an independent enterprise contracting with that firm. Other things being equal, the boundaries of the organisation should be drawn at the point where transactions costs are minimised. This question has been analysed by economists using the tools of principal–agent theory (Laffont 1989, Chapter 11).

Agency problems arise when one party (the agent) undertakes a project on behalf of another party (the principal). The theoretical framework for principal–agent theory is based on the idea of a productive activity characterised by idiosyncratic risk. It is normally assumed that the agent has private information about the outcomes of idiosyncratic risk. If returns are uncertain and the agent has private information or some other strategic advantage, it will be preferable, other things being equal, for the agent to bear the risk associated with the venture. If the risk is assumed by the principal, the agent will have an incentive to shirk or to divert some of the assets to private uses, then to claim that the bad outcomes of the venture were simply the result of bad luck.

The central implication of the principal–agent literature is that, where possible, the party that has most control over risk should be the owner, that is, the recipient of the residual income. In cases where idiosyncratic risk is associated with response to firm-specific market conditions or with management skill, the implications of principal–agent theory support private ownership. However, in enterprises that are heavily regulated, either because of monopoly power or because they generate significant externalities, the principal–agent analysis implies that public ownership may be preferable.

The principal-agent analysis leads naturally to a distinction between core and peripheral operations. Core operations are those activities that must be undertaken by the owner of the project either because they are difficult to monitor or because they involve a risk of large losses to the owner. For example, the operation of generating equipment would probably be

a core activity for an electricity enterprise, whereas cleaning would be a peripheral activity. Private sector operation of core activities is inappropriate unless the project is privately owned. Until recently, the general practice has been to identify specific activities as peripheral and then consider options such as competitive tendering and contracting (CTC). More recently, however, the Hilmer process (Hilmer et al. 1994, Industry Commission (1995 a,b) has reversed this presumption; all activities are considered to be potentially subject to CTC unless they can be shown to be core operations.

#### **4. Wage reductions**

A large number of studies have found that the budgetary cost of providing labour-intensive services is reduced by contracting out. Domberger, Meadowcroft and Thompson (1986) and Cubbin, Domberger and Meadowcroft (1987, 1988) examine two such cases of contracting out and estimate average budgetary gains of 20 per cent. This figure has been very widely quoted, and appears to have some support from other studies. Although, there are may be some grounds for questioning the magnitude of the estimates, there appears to be a general agreement that on average, cost reductions are achieved.

Given the existence of these cost reductions, it is important to determine their source. If they arise from increases in the efficiency with which tasks are performed, there is presumably a net social benefit from contracting out. On the other hand if cost reductions arise from reductions in wages or from other transfers, the issues are much more complex. Because of its influential role in the literature and because of the generally high quality of the data and of the analysis, attention will be confined to the work of Domberger et al.<sup>2</sup>, who examined the contracting out of garbage collection and hospital cleaning services in Britain. In-house teams as well as outside firms were permitted to compete for contracts. Both when in-house teams were successful and when the contract went to outside firms total cost reductions were estimated to be of the order of 20 per cent.

This was lower than initially estimated gains. In the first round of contracting out of hospital cleaning services, average savings of 40 to 50 per cent were achieved, but many contractors either failed to provide adequate service or lost money doing so. To counter the potential for failure, contractors were in some cases required to post performance bonds. Because of this and the losses on early contracts, savings on later contracts were smaller. If this adjustment process was not completed at the time the Domberger et al. studies were

<sup>2</sup> The review presented in this section is based, in part, on work previously presented in Quiggin (1992).

undertaken, the total gain may have been overestimated. However, this issue will not be pursued here.

Milne and McGee (1992) re-examine the question of contracting out of hospital cleaning and catering services, using data for 1985-86. They obtain higher estimates of cost savings, primarily because they treat changes in the prevailing level of wages as a source of benefits. Milne and McGee emphasise the role of wage reductions (and also losses incurred by over-optimistic contractors) as a source of cost savings for local authorities. They observe that in-house NHS staff partially or wholly forfeited bonuses (which could amount to one-third of total pay) and that similar reductions relative to pre-existing wage levels were imposed on contract staff.

## **5. Work intensity**

Both anecdotal and formal evidence suggest that contracting out is associated with increased work intensity. The main source of efficiency gains explicitly noted by Domberger et al. is the replacement of fixed 'task and finish' payments (sometimes for tasks which have become less onerous since the time rates were set) with piecework rates. Productivity gains from such changes in payment schedules will arise primarily from increased effort. Ganley and Grahl (1988) cite a number of cases of increases in working hours or reductions in working conditions associated with contracting out of garbage collection.

There is a tendency, criticised in Quiggin (1992), to regard output gains arising from increased effort as a free good. Such a view has no basis in neoclassical economic theory. The implied claim is that the wage bargain embodies excess on-the-job leisure, in the sense that both workers and employers would prefer a bargain with higher wages and higher work intensity. There is no clear reason why bargains should be systematically biased in this way.

The argument that apparent increases in technical efficiency are more likely to reflect increases in work intensity gains strength from consideration of the tasks contracted out. Cleaning is a job with very limited capacity for either technical or organisational innovation. Cleaners typically work alone or in pairs, using equipment which has not changed substantially for decades. Furthermore, cleaners are normally paid for completion of a specified task, with no direct monitoring of time spent on the task, so that there is little scope for unions to impose restrictive work practices. The claim that there exist unexploited changes in cleaning methods permitting a twenty per cent increase in output with no increase in effort or reduction in service quality seems inherently implausible.

## **6. Quality reductions**

There are a number of *a priori* reasons to expect public sector contracting out to be associated with quality reductions. First, all areas of the public sector have been subject to considerable stringency over the past decade and this has resulted in a general trend to reductions in service quality. Examples include increases in class sizes in schools and universities, cutbacks in rural postal services, shortened opening hours for public libraries and reduced frequency of garbage collection. Even if CTC had no independent effect on quality, before and after cost comparisons would be affected by this general trend.

There are, however, strong reasons to expect that CTC will be more directly associated with quality reductions. First, consider the incentives for governments faced with the need to reduce service quality and to cut costs through CTC. It seems more politically attractive to implement reductions in service quality at the time of contracting out than to reduce service quality first, then to call for tenders for the provision of service at the reduced quality level.

Second, the incentives for private contractors are clearly to provide the minimum service specified in the contract. Hence, if any services previously provided are not specified in the contract, or if there is room for interpretation regarding the quality of service required, it is reasonable to assume that the minimum quality will emerge. By contrast, although public sector providers will not necessarily be motivated to provide the socially optimal service at minimum cost, there is no general bias in favor of low quality. Indeed, public sector organisations dominated by engineers and other professionals have frequently been accused of ‘gold-plating’, that is of the provision of services which are technically excellent but, from an economic viewpoint of excessively high quality. Of course, there are many instances in which the quality of public provision is below the socially optimal quality level. However, there is no general bias.

Unfortunately, this is a prediction that is particularly difficult to test. Aspects of quality that are easy to measure and verify are also easy to incorporate into tender specifications and contractual conditions of performance. Easily measurable reductions in quality will, therefore, not take place without at least the tacit consent of the agency undertaking CTC. Rather the reductions in quality will take place in those areas that are hardest for contract managers to monitor and therefore for economists to test. A ‘natural experiment’ may however, take place in cases when those drawing up tender specifications neglect to specify quality standards on easily measurable dimensions. An example may be given from the study of privatisation, a topic closely related to CTC. The conditions under which the newly privatised British Telecom (BT) was allowed a monopoly of local phone services in the United Kingdom did not include specification of the reliability of public telephone services.

Since these services were unprofitable, the incentives facing BT were to permit the quality of service to decline, and the proportion of public phones in working order fell drastically. As a result, the regulating agency Oftel was forced to impose more detailed quality standards in this and other areas.

Some evidence on this question is provided by the Industry Commission (1995a). The foreign studies cited are unanimous in finding that quality reductions predominate. All but one of the Australian studies finding mixed or favorable results come from a single research group and the same method appears to have been applied in each case. These studies are more properly regarded as separate parts of a single study.

Further evidence may be obtained from examining a comparison between studies based on before-and-after comparisons or mean and median cross-section comparisons and those based on a multiple regression approach. The multiple regression approach takes account of measurable quality differences whereas the other approaches do not<sup>3</sup>. The fact that multiple regression estimates of gains are generally lower than other estimates suggests that on average, contracting out is associated with reduced quality.

Two issues arise here. First, in estimating the net benefits of CTC from previous studies, it seems appropriate to make some deduction to allow for a tendency, on average for quality to be reduced. Second, there are issues of transparency associated with the specification of service quality. If the quality of public services is to be reduced, this should be decided by a process of open public discussion rather than being covertly incorporated into a process of contracting out.

## **7. Cost shifting**

A second source of gains which is likely to appear in the measured improvement in technical efficiency is that arising from cost shifting. Cost shifting between levels of government has been a common practice for many years, but the emphasis on cost minimisation associated with competitive tendering and contracting creates new incentives for cost shifting. An obvious way of minimising costs at one level of government is to make extensive use of services provided by another level of government on a free or subsidised basis.

Another source of cost shifting is tax evasion. The opportunities for evasion and avoidance are increased by contracting out. Public sector wage employees have less opportunities for evasion than any other group of income-earners. By contrast, contractors

<sup>3</sup> Note that, nonmeasurable aspects of quality, which are most likely to decline, will not be captured by either method.



and their employees are in a very good position to evade taxes, especially if, like cleaners and garbage collectors, they work non-standard hours. The evidence reported in Tanzi (1982) indicates that evasion is insignificant among government employees and highest in the small business sector. This is, of course, what would be expected given the incentives and opportunities faced by different groups.

## **8. Community service obligations**

A more fundamental difficulty with CSOs is the need for an exhaustive specification of the objectives of organisations which have historically been seen as serving the public interest in a generalised fashion. For example, the post office has long played an important role in the life of country towns, over and above the provision of standard letter services to country residents at a uniform rate. Contracting out of postal services is often an important step in the decline and death of small towns. The CSO for Australia Post is specified as requiring the provision of standard letter services, but not the maintenance of a network of country post offices. This amounts in effect to a policy change; the result is to reduce the resources allocated to the objective of maintaining a decentralised population. Similarly, the behavior of many government business enterprises indicates the presence of an implicit objective of promoting employment.

The assumption behind competitive tendering and contracting is that government business enterprises are inappropriate instruments for the achievement of diffuse policy objectives. The idea, which may be traced back to Tinbergen, is that it is best to assign each instrument of government policy to a specific target. This reasoning appears compelling when it is possible to specify an effective instrument for each target. In the case of employment policy, however, it is obvious that no adequate instrument exists. It is therefore difficult to predict the consequences of abandoning the employment policies implicit in the actions of government business enterprises prior to corporatisation.

It is possible to require outside contractors to meet prespecified CSOs. Alternatively, it is possible to adopt a 'two-envelope' system in which tenderers bid on both price and on nonprice benefits their tender will provide to the community. The latter suffers from the difficulties of multicriterion decision making, but it may be argued that these are unavoidable when objectives themselves are diffuse.

## **9. Dynamic benefits of contracting out**

In most cases, the hypothesized dynamic gains represent some version of the notion of

X-efficiency (Liebenstein 1966), who argued that firms exposed to the bracing atmosphere of competition will respond by eliminating internal inefficiency and seeking out opportunities for innovation. The X-efficiency idea is necessarily an idea about labour markets. The prospect of scrapping cannot make an engine work more efficiently or a ton of iron ore yield more steel. Hence, if the X-efficiency hypothesis is to be made explicit, it must represent a claim that labor markets work more efficiently in the presence of competition. There seems to be plenty of anecdotal evidence to support the idea that the pressure of competitive tendering and contracting may lead to a breakdown in internal rigidities and an improvement in the efficiency of enterprises. Similar anecdotal evidence may be found concerning the response of manufacturing firms to the removal of tariff protection. To pursue this idea a little further, suppose that there are two possible contractual structures, one of which involves considerable dissipation of resources in the process of dividing the associated rent and one of which does not. In a situation of limited competition and high profits, both contracts are consistent with the continued existence of the firm. When competition becomes more stringent, the second contract is sustainable but the first is not. The X-efficiency argument might then be restated as an argument about the existence of multiple equilibria in the contracting problem. However, there is no reason to preclude the possibility that an external shock might lead to a jump in the other direction, from a Pareto-superior to a Pareto-inferior equilibrium. The fact that most of the anecdotal evidence concerns favorable shifts tells us little. Enterprises that experience both adverse external shocks and Pareto-inferior internal changes are unlikely to survive, so there will be no-one left to tell the tale. Against the success stories in the manufacturing sector, we must set the many firms that have disappeared altogether. It may be that among these firms, there are many that could have survived but for adverse internal responses to competitive stress.

The idea of X-efficiency has been criticised by neoclassical writers such as Stigler. Stigler argues that what is represented as a gain in X-efficiency is in fact simply an increase in the intensity of labour or, equivalently, a reduction in on-the-job leisure. At an empirical level, Stigler's critique has a great deal of force. In many of the recent cases where labour productivity has increased following competitive reforms, it is easy to produce evidence of increased work intensity. Even where formal evidence is not available, the connection between competitive reforms and increased work intensity has become part of our commonsense knowledge. One of the most unfortunate effects of the X-efficiency debate has been to keep alive the fallacious idea that increases in working hours or work intensity represent a costless method of increasing output, an idea which has always had a strong

appeal for employers, if not for employees.

## **10. Assessing the benefits of contracting out**

The Industry Commission Draft Report on Competitive Tendering And Contracting (Industry Commission 1995a, hereafter referred to as the *Draft Report*) includes an attempt at assessing the welfare benefits of a comprehensive program of competitive tendering and contracting. This study updates earlier estimates presented in the Industry Commission (1995b) study of the benefits of Hilmer and related reforms, hereafter referred to as *Hilmer*. In both studies, the Commission assumes, on the basis of work undertaken by Rimmer, and earlier work by Domberger et al., that Competitive tendering and contracting (CTC) will yield cost savings of 20 per cent. The procedure adopted is to estimate the proportion of government activity potentially open to competitive tendering, subtract the proportion currently contracted out, and apply the 20 per cent figure to compute the reduction in costs. The extent of CTC envisaged by Rimmer is very substantial. For example, the Rimmer envisages contracting out 20 per cent of recurrent expenditure in primary and secondary education and 40 per cent to 50 per cent of recurrent expenditure in higher education. In both cases, this corresponds to the great majority of the budget, with the exception of teaching staff. In recognition of this, *Hilmer* bases estimates of gains on the assumption that only half the estimated potential for CTC will be achieved.

There are a number of difficulties with the estimates of potential gains. First, the extrapolation of previous estimates of gains to a comprehensive program of CTC is unjustified. On average, the areas that have been characterised by the highest rates of CTC in the past will be those where the cost savings are greatest. Activities like garbage collection and cleaning, which have formed the basis of the studies yielding the 20 per cent estimates are dominated by unskilled labour and admit relatively easy monitoring of quantity (as well as substantial potential for wage cuts, tax evasion and work intensification). They are by no means typical of the public sector as a whole. For example, contracting out of fire protection services raises much more complex issues of accountability and quality control than does contracting out of garbage collection. It follows that studies of cases where governments have chosen to contract out a very limited subset of their activities are of little value in assessing the benefits of the procedure. The only real basis for comparison is a comprehensive program of compulsory competitive tendering of the kind now in place in the United Kingdom. However, even this program is far less ambitious than that envisaged by the Commission.

The Commission estimates direct savings of \$2.7 billion or nearly 0.7 per cent of

GDP from compulsory competitive tendering of current expenditure and \$1.2 billion or 0.3 per cent of GDP from tendering of capital expenditure. As noted above, however, in recognition of the scope for error in these estimates, only half of these gains are incorporated into the analysis, implying a net gain of 0.5 per cent of GDP. Allowing for the costs of the tendering process, the apparent over-optimism of the 20 per cent estimate and the fact that at least some of the apparent gains are actually transfers, it is estimated that the true cost saving is closer to 5 per cent. This implies a gain of around \$400 million or about 0.1 per cent of GDP.

The estimates presented in *Hilmer* have subsequently been modified in the *Draft Report*. Although some important difficulties remain, the analysis in the second report represents a considerable advance on that of the first. In particular, the need to distinguish between pure efficiency gains and transfers arising from wage reductions or increased work intensity is accepted. Also, the estimates for the potential scope of competitive tendering appear less optimistic than those of *Hilmer*.

The *Draft Report* presents a range of eight simulations, implying GDP benefits of between 0.3 per cent and 1.7 per cent for a program of competitive tendering and contracting. All of the simulations allow for some element of transfer. The key distinguishing points between the simulations are

- (i) Assumed cost savings take the values 10 per cent and 20 per cent;
- (ii) The component attributed to pure efficiency gains takes the values 50 per cent and 75 per cent; and
- (iii) In Scenario A it is assumed that CTC will be pursued to the maximum extent deemed feasible. In Scenario B the assumption used in *Hilmer*, that only 50 per cent of the maximum potential for CTC will be realised, is adopted.

The most optimistic assumption for each case is presented in Scenario 1A, yielding gains of 1.7 per cent. The least optimistic is Scenario 4B, yielding gains of 0.3 per cent.

There is a strong case for focusing on Scenario B. The estimated scope for CTC in total is \$35 billion. By contrast the fairly comprehensive program undertaken in the United Kingdom is estimated to have subjected expenditure valued at only 7 billion stg (around \$A15 billion) to CTC even though its economy is around three times as large as that of Australia (against this, it should be noted that the UK estimates cover only general government expenditure). Similarly, the US program of \$US 300 million is substantially smaller in relation to the US economy than that proposed here. The estimate used in the Scenario B, implying total scope for CTC of \$24 billion (around \$12 billion of which appears to apply to general government) would appear to be an upper, rather than a lower, bound. The

average 5 per cent net efficiency gain of Scenario 3B is most consistent with the arguments presented above.

The sectors of the economy dealt with in the *Draft Report*, namely general government and government business enterprises, account for direct gains of 1.85 per cent of GDP and total gains of 3.6 per cent of GDP in *Hilmer*. This is around two-thirds of the total benefits estimated to arise from Hilmer and related reforms.

In the government business enterprise sector, there are gains projected beyond those that might be achieved through CTC. However, in most sectors, it seems reasonable to attribute at least half of the attainable gains to CTC. Most government business enterprises have an estimated potential for CTC around 30 per cent of total expenditure (Table G.1). Assuming that unit savings from competition policy in areas where CTC is feasible are twice those in areas where it is not, CTC would account for half of the total gains in these sectors. Electricity, where only one-third of the savings projected in *Hilmer* relate to labour is an exception to this pattern, and it seems reasonable to suggest that for this sector, the *Draft Report* estimate covers one-quarter of the total possible savings. Using these assumptions, the reforms modelled in the *Draft Report* account for about 1 percentage point of the direct savings modelled in *Hilmer* and 1.85 percentage points of the final savings.

Thus, the estimate presented in *Hilmer*, is quite close to the upper bound estimate presented in the *Draft Report*, Scenario 1A. The close agreement between Scenario 1A and *Hilmer* reflects the fact that the very optimistic estimates of Scenario A for the scope of CTC are offset by the recognition that at least some of the measured cost savings represent transfers.

Acceptance of any Scenario other than 1A implies a significant scaling down of the total benefits of Hilmer and related reforms presented in *Hilmer*. Scenarios 3B and 4B, especially if modified to take account of unemployment effects, are fully consistent with the analysis presented above, with direct benefits of around 0.7 per cent of GDP from Hilmer and related reforms, with final benefits falling to 0.5 per cent of GDP as a result of unemployment effects.

## **11. Concluding comments**

The Draft Report on contracting out in the public sector makes a number of useful contributions to the debate. In particular, most of the key issues which would lead to a qualification of the widely publicised estimate that ‘contracting out saves 20 per cent’ are acknowledged and discussed. In addition, the presentation of ORANI modelling estimates based on a range of possible assumptions is useful, though on some points, notably the

scope for competitive tendering and contracting (CTC), even the 'conservative' estimates appear somewhat optimistic.

There are, however, a number of problems. First, on some issues where evidence is sufficiently strong to yield a general conclusion (eg wage reduction and quality effects) the Draft Report takes an agnostic stance. Conversely, whereas this evidence would suggest that the question of the optimal extent of contracting out is unresolved, the Draft Report takes the view that a net extension of contracting out is clearly desirable. Finally, the modelling exercise undertaken in the Report fails to take appropriate account of unemployment effects, though these are recognised.

After reviewing the evidence, I suggest that benefit estimates at or below the low end of the range presented in the Draft Report are appropriate. These imply consumption gains of between 0.1 and 0.2 per cent of GDP. While such gains are large in absolute terms (between \$450 million/year and \$900 million/year) they would not imply a perceptible change in living standards for the average Australian. It is important, therefore, that CTC processes should not be applied in a manner that conflicts with higher priority policies; for example, CTC policies should be treated with caution in periods of high and rising unemployment.

It should also be noted that the estimated gains are based on the assumption that CTC is applied only in areas where, on average, the benefits are positive. That is, even though *ex post* some CTC exercises may prove not be worthwhile, it is assumed that the scope of CTC is limited to those areas where there is a reasonable *ex ante* expectation of positive net social benefits. In view of the redistributive and cost-shifting effects of CTC, this requires that budgetary cost savings should not merely be positive, but should outweigh any transfers/ If CTC were extended by fiat into areas where net social benefits were generally negative, the estimated gains would be dissipated.

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