The Serco Institute

Competitive Edge

Does Contestability Work?

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Preface

Those of us who have followed the debate over the financial benefits of contracting are aware of the warmth with which this dialogue has sometimes been conducted. I was fortunate to have known the late Simon Domberger, whose seminal work is discussed several times in this report, in the Australian phase of his professional career, and I had close friends and colleagues on both sides of the debate over his claim that contracting delivered savings of around 20%. So it was not without some trepidation that I initiated this project in late 2006.

But in speaking with public officials around the world, it had become clear that the literature on the financial benefits of competition and contracting was largely unknown. While some of them were familiar with the earlier debates, it was difficult to access more recent studies. Some of my academic friends from Australia were unaware that later research had largely vindicated Domberger in his early work on the financial savings in refuse collection. And professional colleagues from North America, who were somewhat familiar with the debate in that country over prison contracting, were unaware of the research that had been conducted in the UK and Australia.

This report – a study of the studies – was prepared with the intention of providing a window to that literature. For reasons of tractability, we decided to focus on those sectors where the quantity of research was greatest, and where the methodological debate had been most illuminating.

In addition to this report, we have published a companion document summarising the almost 200 studies that we have accessed in the course of our research. Our intention was to provide readers with an interest in conducting deeper research with a brief introduction to the literature.

As the long list of names on the front of the report suggests, this has been a collaborative project. In addition to the four authors who have undertaken the bulk of the research and writing, mention should be made of Dianyang Cai and Briony Sturgess who provided additional research over the course of the project.

Gary L Sturgess
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Executive Summary

One of the principal reasons why governments contract with private firms for the delivery of public services is to be found in the belief that competition will deliver financial benefits. To some this seems self-evident, but others have questioned the scope of these savings, insisting that even where costs have been reduced, it has only been achieved at the expense of workers' terms and conditions.

Competition and contracting have been widely used by governments for two or three decades now. What does the empirical evidence say about the financial gains from competition? This report looks at some 200 reports from 12 different countries (although mostly from the United States and the United Kingdom). It is concerned not with the relative merits of the public and private sectors, but rather with the benefits of competition and contestability (the threat of competition).

We have accessed studies from academic and government researchers covering five different sectors – defence support, health services, prison management, refuse collection and municipal services. In brief, this is what the studies reveal:

- In defence support, studies from Australia, New Zealand and the United States report savings in the range of 20% to 30%, although in some cases they have been much higher. In the UK, reported savings have been somewhat lower – in the region of 20-25%. The results from the use of PFI in the UK defence sector have been mixed, with savings varying from zero to as much as 20%.

- In health support services, financial benefits in excess of 20% have been reported in England, in Australia and in Denmark. However, in other jurisdictions, where competition has been pursued less vigorously, the savings do not appear to have been as great. The published results on PFI hospitals in the UK report cost differentials that are much lower. However, there are significant methodological problems with these studies, so they cannot be considered as reliable.

- Of ten studies of US prison contracting, all but one found positive benefits associated with contract management, and these were mostly in the range of 5-15%. The financial gains in the UK appear to have been more than 20%, and perhaps as much as 30%.

- Competition and contracting in household refuse collection has been most extensively studied, with the financial gains from the majority of the studies in North America, the United Kingdom and various European countries clustering around 20%.
- The results from the study of municipal services are more mixed, in part because of the much wider range of services involved. The range extends from 5% to as much as 25% in some studies. Results from the use of compulsory competitive tendering in UK local government indicate that savings were towards the bottom end of this range.

Overwhelmingly the evidence makes it clear that it is competition that makes the difference rather than ownership. This was evident from studies in defence support, in hospital services, in refuse collection and in municipal services. From prison management and municipal services, there is also evidence of a contestability effect – public providers do not need to be exposed to actual competition in order to deliver significant productivity improvements. A credible threat of competition is often enough.

Service levels and service quality are important to these conclusions, since these savings cannot be regarded as real if they have been accompanied by a decline in standards. While not all of the studies addressed this question, the evidence generally concludes that these financial benefits have not been secured at the expense of quality.

We also explored these studies in an attempt to ascertain the sources of these financial savings. Most of the authors found it difficult to identify the specific contribution that individual changes had made, but it is clear that productivity improvements have delivered a large part of the benefits.

There is a significant body of evidence to suggest that the process of competition opens the way for a fundamental rethink of the way in which the service is delivered. Successful service managers develop a bespoke solution tailored to the problem in hand. This process has been little documented, but change appears to come from a multitude of micro-reforms rather than from major technological breakthroughs. This probably helps to explain the difficulty that researchers have had in identifying what contribution particular reforms have made.

Another part of the answer seems to lie in better people management – putting the right people in the right jobs, and using good people better. At its simplest, this is evident in the better management of sick leave and overtime. But successful contractors seem to pay more attention to appointing staff who are more appropriately qualified for the job in hand. There is also evidence that successful contract managers enjoy much greater autonomy than service managers working under a traditional public service regime.

There is no doubt that in some jurisdictions at some times, cost reductions have been delivered in part through lower wages and benefits. But this has by no means been universal, and it is clear that, through careful design and good contract management, it is possible to ensure that these savings are secured through better service design and people management, and not through reductions in the conditions of front-line workers.

1. A Study of Contestability

To most people, it is self-evident that competition will deliver lower prices than a monopoly. Even if there were such a thing as an enlightened monopolist, that would not be enough. Most of us understand that entrepreneurs need the ongoing pressure of a competitive market to force them to keep coming up with new and better ways of winning their customers' favour, and striving to anticipate our needs.

Actually, economists have come to understand that competition itself is not necessary. The mere threat of competition is enough to force most monopolists to respond to their customers' needs – as long as the threat is a credible one. The term they have coined to describe this phenomenon is 'contestability'.[1]

If the benefits are so obvious, then why have we written a report that brings together the empirical evidence on competition and contestability across a range of public services? Because public services are different.

In some cases, such as national defence, this is because – as economists have recognised – it is difficult to exclude beneficiaries from some public services where they might be reluctant to pay. In custodial services, it is because it would be inimical to the rule of law for private providers to offer competing systems of criminal justice. In household refuse collection, public intervention is required because of the health risks associated with a failure to maintain high standards of neighbourhood cleanliness.

It is possible to introduce a measure of competition into public services by periodically tendering the right to manage a monopoly under public supervision, and the threat of contract cancellation for non-performance. In such cases, competition takes the form of a government tender, with public and private providers submitting bids with the prices at which they are prepared to deliver their solutions. It is not a question of multiple providers competing to supply goods and services to a multitude of consumers in an open and lightly regulated market. The distinction has sometimes been made between periodic and continuous competition, or between competition *for* the service and competition *in* the service.[2]

The difficulty is that competitive tendering is a highly-structured form of competition, relying heavily for its success on the rules of procurement, the capabilities of procurement officials,

and the qualities of would-be providers. Even where competition is successful in driving down prices, sceptics are concerned that the lack of adequate controls will mean that savings will only be achieved through reductions in service quality and by cutting the terms and conditions of front line workers. And the practical difficulties involved in controlling a contractor, particularly one driven by the profit motive, are (they fear) so great that any promised savings will ultimately prove illusory. From the sceptics' point of view, the scope for real productivity savings is too small to justify the risk of walking away from uncontested monopolies in most public services.

Given this scepticism, we believe that the evidence matters. The reader will have noticed by now that this report is concerned with the relative merits of contested and uncontested monopolies. We are not concerned with the comparative virtues of the public and private sectors. We take it for granted (and for the services we have studied, the evidence broadly confirms) that the public sector can manage public services at least as well as the private sector. Our interest lies in the virtues of contestability – do public service providers, from the public or the private sector, deliver better value for money when they are exposed to competition?

In this, we have adopted a different approach to the majority of the studies on the relative efficiency of public services. For the most part, the literature is concerned with organisational form – whether the private sector is inherently more efficient than the public sector at managing public services.

We have accessed this literature in the hope that it will tell us something about competition and contestability, but it is not always helpful. The fact that a public service is delivered by a private provider does not always mean that it was exposed to competition (although in the majority of cases, this will have been the case). Conversely, the fact that a public service is managed by a public provider does not mean that it has been immune from the threat of competition.

If it is competition that makes the difference, we would expect to find that, where the private sector has not faced significant competitive pressure, the financial gains are not as great. There is some evidence to support this proposition – savings are greatest where markets are deepest. In a study of one recent US prison contract discussed in this report, a private sector firm was the only bidder, and the public sector comparator was disclosed in advance. None of us would be surprised to learn that the bid price was only marginally below the comparator.

But we are not just concerned with the impact of competition. We have also tried to explore the contestability effect – what difference does the threat of competition make to the cost of public services? Regrettably, this phenomenon has not often been studied explicitly, although we were able to locate some illuminating research.

In the 1960s, a group of newly-incorporated cities in southern California were constitutionally prohibited from providing their municipal services in-house. Research has since

demonstrated that they have been able to deliver these services at a significantly lower cost than neighbouring cities that self-provide, even though, for the most part, the services have continued to be delivered by the surrounding county. The fact that these cities had the option of purchasing their services from other providers seems to have kept costs down, even though they did not often exercise that option. In Australia, the New South Wales state government has explicitly used the threat of competition to negotiate new operating arrangements at two new generation prisons managed by the public sector. Subsequent study has shown that overtime and sick leave costs have been reduced dramatically as a result of contestability.

The reader will also have noticed that this report is concerned exclusively with the financial benefits of competition and contestability. That is not because there are no non-financial benefits. Indeed, there is a significant body of research indicating that competition can be extremely useful in driving through service improvements, encouraging innovation, disseminating best practice and introducing higher levels of transparency and accountability. We propose to address these questions in future reports.

But value for money also matters. Governments are always striving to deliver more and better public services with limited resources. Even where, for reasons of economic prosperity, financial resources are not immediately constrained, human resources almost always are. One of the principal reasons why we undertook this research was to ascertain whether competition and contracting could make a significant contribution in this ongoing struggle to do more with less.

Some academic commentators have concluded that there is no clear evidence of financial benefits from competition and contracting for public services. Since little of the research is capable of rigorous statistical analysis, some have argued that there is no justification for abandoning the status quo. They argue that public provision under an uncontested monopoly should remain until the empirical evidence clearly establishes that competition almost always makes a significant difference.

For policy makers and public service managers grappling with escalating demands and limited resources, this is not an option. Faced with the need to improve on traditional delivery models, they have increasingly turned to competition as a way of securing better value for money, and the fact that they have persisted with this approach for more than two decades would seem to suggest that, for them, contestability works well enough.

We stand part way between these two schools of thought. We agree that policy should be evidence-based, and we believe that public service markets could be better designed if we understood more about what works and when. But we also recognise that, when it comes to public services, it is unlikely that governments will often invest the time and resources necessary to undertake detailed statistical analysis. For the most part, public services are complex and varied, so it is expensive to gather a body of cost and performance data that is strictly comparable across different service units organised in different ways. And no matter

how elegant the model, statistical analysis cannot assist where the quality of the underlying data is poor.

In our view, there is a mid-path. Governments do need to scrutinise the impact of competition and contestability more closely, but academic researchers need to work with them in developing agreed methodologies that are robust enough to permit disciplined analysis, and simple enough that the costs of usage are not prohibitive.

This report draws on around 200 studies from 12 countries undertaken by academic and government researchers across five public service sectors – defence support, health services, prison management, refuse collection and municipal services. We chose these sectors because they seemed to have been studied most, and (as in the case of prisons and refuse collection) they had provoked a vigorous debate over methodology.

Not all of these studies are of equal value. In some cases, they are flawed methodologically; in others they suffer from poor quality data. A number of the studies prepared by government agencies were undertaken because of a statutory obligation, and the authors were well aware of the limitations of their data. In other cases, policymakers wanted a rough and ready answer in order to make a better-informed decision, and did not have the time to wait for a more rigorous academic study.

But we believe there is a significant body of evidence capable of supporting the conclusion that competition and contestability work. In the chapters that follow we describe our journey through this literature, as we sought to weigh the evidence and identify those studies that were robust enough to provide us with meaningful insights into this issue.

We have also accessed these studies with a view to ascertaining the sources of any financial benefits. It is not enough to *know* that contestability works; we also need to understand *how* it works. We have learned something from these studies about what it is that delivers value for money, but it is evident that this is a question deserving of a great deal more attention.

2. Defence Support

Introduction

Competition and contestability have a long history in the defence sector. In countries such as the UK and the United States, an examination of the defence experience reveals some of the most extensive competition programmes and some of the largest and most complex individual procurements of any area of government.

Most of the published literature deals with the procurement of weapons and equipment. There is also a growing body of work that looks at direct outsourcing of specialised or classified services to private military and security companies. However, the focus of this review is on the role that competition plays in the provision of defence support services. That this area has received less academic attention is perhaps due to its lower visibility, or to the relatively small capital value of individual contracts (when compared with weapons acquisitions). Nevertheless, defence support is an important area of government spending, and the large-scale competition initiatives that have been pursued in some countries have attracted a degree of attention from audit bodies and other institutions interested in understanding their financial implications.

This chapter reviews some of the most significant evidence on the financial impact of competition and contestability in defence support. It focuses on the experience of three countries where competition in defence support services has been widely applied – the USA, the UK and Australia – with one revealing case study from New Zealand. The literature is sourced from academia, government and independent research institutions, and offers analysis covering a period of some 33 years, from 1973 to 2006.

From the UK, this review also includes a number of studies examining projects procured under the 'Private Finance Initiative' (PFI) contracting model (equivalent to 'public private partnerships' or PPPs elsewhere). PFI procurements typically combine an infrastructure element with a long-term operating contract. Because the operating contract involves support services, and this often represents the highest value of the two elements when measured over the project lifetime, value for money analyses of these projects are relevant to this study.

Competition in Defence Support

The scope of support service contracting in the defence sector is broad, ranging from facilities management services in accommodation projects to the maintenance of equipment and vehicles. Competition has also been used in a variety of strategic and even frontline services, including the provision of technical or communications support at military sites, and the delivery of security services, recruitment and training.

United States: Defence service contracting has been most widely studied in the United States, and competition is more extensive in the defence sector than in almost any other area of the US federal government. High-value weapons acquisitions have contributed to this, but Department of Defense (DoD) programmes for the competition of non-core services, as part of a government-wide drive under the impetus of the Office of Management and Budget (OMB) Circular A-76, have been the largest such schemes undertaken by any department.

A-76 competitions involve cost comparison exercises between public sector and contractor teams (it is compulsory for an in-house bid to be prepared). Contracts are awarded solely on the basis of cost, without taking into account factors such as contractor reputation and experience. In practice, the in-house bid is a proposal to reorganise the way that work is performed, using the most cost-effective structure, known as the 'most efficient organisation' or MEO.

DoD conducted two extensive A-76 programmes that spanned all Services and agencies. Although the rules that underpin OMB Circular A-76 date back to 1955, the 'Commercial Activities Program' was first launched in earnest in 1978. A renewed emphasis on 'Competitive Sourcing' subsequently began in 1995. In addition, the Department undertakes non A-76 contracting, where the in-house team is not allowed to compete. (For example, a number of the studies reviewed for this chapter deal with competition in defence depot maintenance, which was not covered by A-76 rules.)

A more recent form of contracting under the Logistics Civil Augmentation Program (LOGCAP) has received a great deal of public attention due to its use in providing logistics support for deployed military forces in Iraq, Afghanistan and elsewhere in Southwest Asia. While the LOGCAP contracts have been much scrutinised, we are aware of only one published report that provides an in-depth cost analysis of the arrangement, which is referenced in the discussion below.[3]

United Kingdom: In the UK, the use of competition and contracting in defence services is by no means new. From 1979 onwards, the UK Ministry of Defence (MOD) placed greater emphasis on contracting out support services as a route to potential efficiency savings. In 1983, the Department introduced a competition policy under which support functions were contracted-out on the basis of cost and operational criteria. The publication of a cross-government White Paper 'Competing for Quality' in 1991 sought to increase the extent of private sector involvement in the provision of public services, and the MOD embarked on the largest proposed market-testing programme of any government department.[4]

The introduction in 1992 of the Private Finance Initiative resulted in the MOD undertaking some of the earliest such procurements, and, as defence infrastructure projects tend to be some of the largest and most complex across government, the MOD experience of PFI has attracted significant attention.

Australia: The Australian Department of Defence launched a competition programme in defence support services in 1991. The Commercial Support Program (CSP) was introduced on the basis of a review that recommended that the Australian defence forces should make better use of civilian infrastructure, and that certain support services could be performed more efficiently and cost effectively through competition. Under the terms of the CSP, external suppliers were invited to compete to supply services, and, like the A-76 competitions, in-house tenders were a mandatory element of the programme. Unlike A-76 competitions, cost was not the only factor taken into account – services were transferred to the civil sector if it was considered operationally feasible, practicable and better value for money to do so than to proceed with the alternative in-house arrangement.

The Extent of Savings

If contracting for defence support services delivers benefits, then the extent of those benefits also appears to be consistently high. The magnitude reported across the literature generally seems to fall in the range of 20-30%, and in some cases it is significantly higher.

The results from Australia were consistently ranked at the top end of that scale. In 1993, the Department of Defence commissioned Ernst & Young to examine 23 activities market-tested under the Commercial Support Program and they reported overall savings (net of annualised transition costs) of approximately 30% across the sample. They found marked variations between functions and programmes, but the range remained high, from 16-70%.[5] A similar range was identified by the CSP Office at around the same time, which reported that the costs of awarded contracts were 14-70% cheaper than when those functions were previously supplied by the Department of Defence, with a median saving of more than 30%.[6]

From New Zealand, Domberger et al used two different scenarios to test savings from the outsourcing of maintenance and warehousing services at Trentham Army Base. The first, which assumed no variation in contract, identified 37% savings, while the second took contract variations into account and identified savings of 24%.[7]

Results from the US have also tended to fall towards the high end of the range, with a number of studies reporting savings well above 30%. The US General Accounting Office

analysed Department of Defense data for 53 Commercial Activities competitions completed between 1995 and 1998 and reported that they were projected to deliver average savings of 42% over the life of the multi-year awards.[8] The Center for Naval Analyses examined a smaller sample of 16 A-76 competitions over a longer period, from 1988 to 96. They found that the competitions had achieved effective savings of 34% (marginally lower than the expected savings rate, indicating that there was virtually no diminution of savings over the period). Even when all changes of workload, scope and one-time costs were included, observed savings remained high, at 24%. The sample was representative, covering all three Services (Army, Navy and Air Force) and the major types of functions available for Competitive Sourcing, including supply/logistics, facility and family housing maintenance, and aircraft maintenance. Fourteen of the competitions in the sample were contract wins and two were in-house wins.[9]

Two other US studies which reported savings of more than 30% looked specifically at personnel costs. Because personnel costs have been the major element of expenditure in most of the activities competed under A-76 rules, the findings are worthy of reference. The first, by Binkin et al, compared the relative cost of in-house and contractor operations to assess whether the use of privately employed civilian personnel to deliver certain defence services would achieve efficiency savings. The authors did not attempt to offer any broad conclusions about the relative costs of in-house and contracted operations. However, when they examined specific services converted to contract during fiscal year 1974, they identified savings of 39% each from contracting laundry and custodial services, 47% savings for waste disposal and 22% for food services, all derived from reduced personnel costs.[10] More than 20 years later, Gates and Robbert concentrated their research on personnel costs before and after A-76 competitions. They found that both in-house and contractor teams could bring substantial personnel savings after competition, ranging from 34% to 59%. This study also separated out results from in-house and contracted functions. Figures for contractor teams started somewhat higher, at 41%, but results for both in-house and contractor teams peaked at the same level, suggesting that it was the competition process, rather than the change to contractor delivery, that delivered the savings.[11]

One US study fell well outside the overall range: a Congressional Budget Office examination of the US Army LOGCAP contract for the provision of logistics support to deployed military personnel. The report assessed the relative cost over a 20-year period of using the LOGCAP contract, compared to the cost of the Army providing the same services. The 20-year projection was possible because there are very few ongoing costs associated with it – the contract is structured as a permanent retainer, with the contractor on call at all times to provide support as and when required by the Army. The study quoted CBO estimates that the total projected cost for the contract over the 20-year period would be $37bn less than the cost for Army units delivering the same services ($41bn as opposed to $78bn, or roughly 47% lower).[12]

However, the report went on to question some of the CBO's assumptions in arriving at

those figures. Changes to these assumptions could affect the estimated savings rates significantly. The study also tested a number of alternative options, to determine the cost implications of approaches that used different contractor–Army ratios, and under various wartime and peacetime scenarios. However, no final conclusions were drawn about the relative costs of the Army or LOGCAP approaches.

In the UK, savings from support service contracting have been slightly lower overall than for the other three countries. Reported savings from competition in defence support services were in the region of 20-25%. The NAO reported that the Ministry of Defence had estimated savings of around 24% on activities market-tested between 1987 and 1991, and Uttley found that the cost reductions from MOD initiatives between 1979 and 1993 were comparable with the levels of 20-25% reported in studies of other UK sectors from the 1980s.[13] Although, Hartley, referencing a 1989 'Statement on the Defence Estimates', suggested that market testing led to savings of 20-30%.[14]

Estimated savings from individual PFI projects varied between zero and 20%. These figures were calculated by comparing the price of the PFI contract when let with the estimated cost of delivering equivalent outcomes if a traditional procurement method was used – a public sector comparator. At the top of the scale, a Treasury review of a 1997 PFI contract for the provision of aircrew training for the Royal Air Force Support Helicopter force reported that the project would cost 15-20% less over the full 20-year term than the public sector comparator.[15] One project offered no savings – a 30-year contract signed in May 2000 for a new Ministry of Defence main building. The NAO concluded that the financial benefits of the deal would be similar to that of conventional procurement, but that other factors tipped the balance in favour of the PFI route.[16]

Are the Savings Real?

Although the immediate evidence of savings from competition in this sector seems unequivocal, questions about the reliability of these figures have frequently been raised. Three key areas of debate have emerged. Firstly, the quality of the data used to calculate real or projected savings from competitions or programmes; secondly, the methodology used to compare different delivery options; and thirdly, the way cost savings are calculated.

Quality of data: The GAO has repeatedly expressed reservations about the quality of the cost comparison data used by DoD to calculate projected savings from its A-76 programmes. Concerns have included errors in the information entered into the Department's electronic database, use of standardised assumptions instead of the best available data, and limitations in the available information about administrative costs.[17] However, few of these studies have cast doubt on the existence of savings – what emerges is a critique of DoD's management of the programmes. For example, a review of A-76 savings data reported to the Office of Management and Budget for fiscal year 1988 concluded that improvement in oversight of the competitions and the reliability of reported data should help

to resolve the differences between proponents and opponents of the programme.[18]
An equally contentious issue has been the inadequacy of the available data about the costs and performance of in-house functions prior to competition. Carrick's review of Navy A-76 competitions reported that it was not always easy to obtain information about an activity's in-house cost, and that agencies often did not have a suitable cost accounting system for connecting the cost of inputs with outputs.[19] UK reports on the success of early compulsory competitive tendering programmes noted that accounting changes were often introduced following competition, which made before-and-after comparisons more complex.[20]

Poor pre-competition data can also affect the quality of the competition process itself, and thus the success of the outcomes. One of the few studies to show cost increases rather than savings following an A-76 competition was a GAO examination of a support services contract at Fort Eustis Army Base, awarded in 1982.[21] The report is interesting because of the explanation it offers as to why the savings were not realised. Factors such as contract administration and fees, and the choice of a cost-plus-award-fee model for the contract contributed to the increases associated with the project. (A fixed-price model was more commonly chosen for A-76 contracts because of the cost certainty it offered.) Fort Eustis justified the choice of a cost-plus contract on the basis that it was the first time the function had been contracted out and adequate information was not available to develop a suitable specification for a fixed-price approach. This problem is not unique in newly competed projects, and it illustrates the potential impact of poor quality information on both delivery efficiency and service outcomes. Better information and increased accountability are some of the recognised benefits of the introduction of competition in public services.[22]

Comparative methodology: The process used to compare different delivery options is equally controversial. Within the UK, this issue has been raised in connection with PFI procurements. The limitations of the public sector comparator are widely recognised: the comparison is made at an early stage, when the final costs associated with the project are not always known, and the comparator is based on assumptions rather than actual cost data, so there is always a degree of uncertainty associated with it.

However, the PSC was used because it offered the best comparative information available to decision makers, for what were usually large, complex, one-off capital procurements. The National Audit Office and Public Accounts Committee produced a number of reports on Ministry of Defence PFI projects. The most informative of these cast some light on how the PSC was constructed, but also tested the original assumptions. The NAO's report on the 1998 PFI for the design, construction, financing and operation of a combined Services training college is notable. In this case, the NAO reviewers assessed the MOD's calculations, then further tested the outcome of the project by using a hypothetical public sector comparator that took into account the cost implications of delays that occurred during the procurement process. The report concluded that savings were still likely under this alternative comparator scenario.[23]

The US A-76 competitions rely on a comparative approach that has some similarities to a public sector comparator, in that the relative cost to government of the winning contractor bid is compared with an in-house alternative based on a proposed 'most efficient organisation', rather than an established alternative. The process has long been the subject of debate amongst supporters and critics of the A-76 procedures, attracting claims from detractors that it does not accurately reveal the true costs and benefits of the different options.[24]

In a 1977 report, the GAO identified three problems with Services' cost estimates in the competitions: the apparent understatement of costs 'to justify continuance of in-house performance'; unsupported assumptions used to obtain cost estimates; and unreliable estimates based on informal quotations. The liabilities associated with state pensions was one of the principal reasons why in-house costs were sometimes understated.[25]

A number of adjustments have since been made to the A-76 comparison process. Since 1996, the rules have required an overhead rate of 12% of direct labour costs to be added to in-house bids to reflect the higher benefits and support costs relating to the employment of military personnel. On the other hand, a 10% bidding advantage is given to in-house teams in the cost comparison exercises, which is designed to cover the government's personnel termination costs incurred as a result of contracting out. In addition, 4% is added to the contractor's bid to account for government administration costs.

Few of the studies reviewed the effectiveness of A-76 cost comparisons in practice. The majority of the literature assessed real or projected 'savings' from the competitions across multi-project samples. These 'savings' figures are, for the most part, based on a comparison between the baseline costs for delivering the function prior to competition, and the contract or delivery price for the winning bid. Overhead and administrative adjustments allocated during the bid process are therefore taken into account in the calculation of these figures. As the vast majority of the studies identified significant savings, it seems likely that even when possible shortfalls in the available data and cost comparison methodology are taken into account, the competition process is largely effective in driving down costs.

How savings are calculated: Another significant issue in the debate about the financial impact of competition is the treatment of transaction costs (in other words, costs associated with conducting the procurement), which are not always taken into account when 'savings' are reported. This subject forms part of a wider academic discussion about the methodology used in secondary statistical analysis (the way the reported data on cost savings are analysed by commentators, and how their conclusions about comparative costs and savings are reached).

Several analysts have undertaken comprehensive cost-benefit studies of defence service contracting, taking various transaction costs into account. The studies continued to report significant savings after the costs were included.

In their review of 16 A-76 competitions undertaken between 1988 and 1996, Clark et al compared expected savings from the competitions (based on the difference between costs prior to competition and the price of the winning bid, including all administrative costs to the government) with observed savings (what DoD actually spent on the provision of the services, including any adjustments arising from changes in scope, workload and other factors). After accounting for all adjustments and any one-time costs, savings levels reduced by 11 percentage points, but remained significant at 24%.[26]

The GAO undertook a number of studies that looked at the impact on reported savings levels once various associated costs were taken into account. One 1985 report examined, among other elements, the hidden costs, such as welfare payments, associated with the displacement of federal employees as a result of contracting out. The GAO surveyed DoD personnel across a sample of contracted functions and found that the total cost of public assistance for individuals displaced following competition was $215,000. This would have had little impact on DoD's estimated savings from the competitions in question of more than $65m.[27]

Ernst & Young's study of the Australian experience for the Department of Defence did not examine all transaction costs associated with the competition and contracting process, but the reported savings figures did include transition costs (the up-front capital payments required to undertake the competitions). These transition costs averaged around 13.2% of the final contract value, which the authors felt to be relatively small in the context.[28]

Without a doubt, the most comprehensive analysis is the 2002 case study by Domberger et al of the outsourcing of base support services at Trentham Army Base in New Zealand. The value of this study is that the researchers were able to access detailed cost and performance data before and after contracting, allowing them to explore in some depth the true extent of the savings, once all costs associated with the outsourcing process were included. As noted elsewhere in this chapter, after including transaction and transition costs, and adjustments relating to contract variations, savings of some 24% were still realised.[29]

Do Savings Persist?

Analysis of the persistence of savings over time is limited. Only three studies covered this question in detail, and three different approaches were adopted.

Gates and Robbert tested whether savings were still realised after cost changes relating to post competition adjustments were taken into account. They traced the implementation of six projects across the three Services (Army, Navy and Air Force), over periods of one to ten years, and concluded that savings were maintained. However, they commented on the poor quality of the available data and reported that they found it difficult to evaluate whether or not changes made after competition, which incurred cost implications, were appropriate.[30]

The second study, by Hynes, examined a small sample (five Air Force A-76 competitions) to assess persistence of savings throughout a succession of contracts. It concluded that, following the initial competition, savings endured in subsequent contracts, even with two changes of contractor. This assessment was based on a comparison of the baseline costs of delivering the service at the time of competition with the costs after each re-competition.[31]

Clark et al reviewed a larger sample of 16 competitions. To assess whether savings were sustained over time, they looked at the expected results at the outset of each competition (comparing pre-competition costs with the price of the winning bid) and then tested those estimates against post-competition savings under two scenarios – (i) taking changes in contract scope and other cost adjustments into account (a similar approach to that of Gates and Robbert), and (ii) looking at what it would have cost DoD in practice to deliver the same set of services (effectively testing whether the pre-competition cost estimates were accurate). The authors concluded that savings endured under both these scenarios. Taking in all post-contract adjustments in scope and other costs incurred, savings fell from the expected rate of 35% to 24%. However, the second scenario delivered 34% savings, suggesting that the level had decreased only minimally over the intervening period.[32]

A fourth way to assess the persistence of savings would be to compare baseline costs at the time of the first, and each subsequent, competition with the cost of delivery after that competition. This approach was not used in any of the studies reviewed for this research. However, it is reasonable to assume that savings levels when competition was initially introduced would be the highest, whereas once those first efficiencies had been achieved, the level of savings from subsequent competitions would be comparatively lower as it became harder to identify new areas for improvement.

Controlling for Quality

A true test of whether competition delivers financial benefits requires the quality of delivery to be held constant. This is made difficult because of the limited availability of objective and comparable measures of quality against which an assessment can be made. Without access to quantitative data, the obvious means of assessment is through personal interviews and direct observation. Therefore, some of the most useful insights come from case studies or small samples.

Domberger et al controlled for quality in their study of the support service contract at Trentham Army Base. The authors regarded it as significant that the incoming contractor had maintained the ISO 9002 accreditation won by the Army workshop prior to the competition, even though there was no contractual requirement to do so. In addition, the contractor was obliged under the terms of the agreement to produce and implement a quality plan, and to provide indications of the maintenance of equivalent standards of service.[33]

Stolzenberg and Berry also attempted to examine quality in their study of the impact of A-76 on motor vehicle maintenance in the US Air Force. Although they were unable to draw strong conclusions from the available information, they were able to access quantitative data relating to vehicle-out-of-commission (VOC) rates. Their conclusions were unrevealing where performance before and after competition were concerned. First, because the authors felt that while the VOC rate served as an indicator of performance, as a measure of quality, it might mask certain maintenance shortcomings. Secondly, because the other available evidence on quality, derived from testimonials, was mixed, depending on individual perceptions or the experience at specific Air Force bases. However, the analysis did suggest that, while increased expenditure brought higher performance (lower VOC rates), large increases produced only small improvements.[34]

Clark et al interviewed key stakeholders involved in 16 A-76 competitions to assess whether performance deteriorated after competition. They found that overall performance was ranked between neutral and satisfied.[35] Similarly, the GAO found that, of 18 DoD contracts awarded under A-76 rules between April 1978 and October 1980, the majority of these cases did not result in performance shortfalls after competition.[36]

A more detailed assessment from the US experience was provided by Reeger, who examined the outsourcing of maintenance for the Navy's training aircraft in a study that spanned three successive contracts for the function. The contracts were let to different suppliers, in 1985, 1989 and 1993. Reeger compared the performance of in-house maintenance with that of each of the subsequent contractors. To do this, he examined the available data on the amount of time that the aircraft were fully ready and able to fly and complete a mission, and the amount of maintenance completed for every hour flown. He concluded that, in almost every case, contractors performed at least as well, if not better, than in-house teams.

Interestingly, Reeger's study also revealed that, at the beginning of the initial contract, performance declined, taking another two years to reach previous levels. This decline might have been attributed to the shift from an experienced in-house team to a new contractor team, were it not that the decline only occurred when the contract was first let from Navy to contractor, and did not recur with subsequent changes of supplier. This suggests that the dip in performance was not the product of change per se, but, that it somehow related to the initial handover.[37]

One study from the US examined the occurrence of 'reduced work scope' under A-76 competitions. Gates and Robbert identified instances of 'down-scoping' in two competitions from among six that they analysed. They found that, in those two cases, the level of service post-competition had been explicitly reduced by writing lower-level requirements into the performance work statement. The decision was made consciously, probably with the explicit intention of lowering expenditure. The authors did not draw firm conclusions about post-competition delivery standards in the other four cases, because the available information on performance was limited to the testimony of individuals

involved in developing the MEO and monitoring the contracts. However, they reported that, in some of those cases, perceived performance shortfalls might have arisen as a result of implicit downward scoping – for example, if errors in the drafting of the contract or the calculation of costs led to unintentional performance reductions.[38]

Sources of Benefits

What, then, are the sources of these rather significant gains? A broad conclusion that emerges from a majority of the reports is that financial benefits come from the introduction of a competitive process, and that this holds whether an in-house or a contractor team wins the competition. This claim is widely tested across the literature on defence support services, because the extensive programmes undertaken in the US, UK and Australia all involved competitions open to both contractor and in-house teams.

The specific sources of efficiency improvements achieved by the winning bidders vary depending on the service in question and the nature of the competition. One commentator suggested that, in the case of A-76 competitions, the cost differential between the winning bid and the next most efficient alternative was often so significant that the winner seemed to have had some kind of 'unique insight' into the delivery of the service.[39] However, it seems clear that the most significant sources of efficiency gains in defence support services emerged from better workforce management and business process improvements.

Workforce-related improvements: In defence support, a significant source of cost savings lies in the shift from using military to civilian personnel. Military personnel are more expensive to employ because they are generally more highly trained and because they are often diverted from the workplace to spend time in military training. A predominantly civilian workforce which spends the vast majority of its working time on the job is therefore more productive.[40]

A more productive workforce contributes to lower staffing levels, which means overall wage bills are reduced, even before a shift to less expensive personnel. The in-depth analysis undertaken at Trentham Army Base revealed a number of factors that enabled the contractor to reduce workforce levels at the site. First, the contractor reduced labour slack, particularly among middle management, through improvements in working practices. Secondly, the contractor teams worked a slightly longer week and received a lower holiday entitlement than military personnel on the same site. However, employees were also able to work overtime, something that had not been possible for military personnel, and this meant additional staff could be drafted in according to need, without the requirement to maintain the same staffing levels during quieter periods.[41]

The ability to employ a more flexible workforce appears to be an important source of financial gains. A study by Handy and O'Connor looked specifically at how winners

achieved the most efficient bid in A-76 competitions, identifying workforce flexibility as a key factor in their success. Flexibilities included the use of working supervisors, who not only supervised but performed direct labour themselves, and multi-skilling, so that workers could undertake tasks outside their usual responsibilities in order to help reduce a backlog, or so that lower-skilled workers could be upgraded, freeing higher-skilled staff for other tasks.[42] Another study of DoD competitions, by the GAO, found that contractors had the flexibility to use temporary or seasonal workers to meet periodic work peaks, or to pay overtime or higher wages to lower-grade workers to have them temporarily perform higher-grade tasks. The authors noted that this flexibility was harder for government to achieve because it required the cooperation of employee groups.[43]

Handy and O'Connor also suggested that the clarification of goals and increased accountability which arose from defining an activity for competition helped to motivate workers, and that this was another source of improved productivity.[44] Studies in other public service sectors have argued that increased accountability flowing from the process of competition is a benefit in itself.[45]

A prevailing criticism of competition and contracting is that financial benefits may come overwhelmingly from a reduction in workers' terms and conditions. In defence support, the evidence to support this hypothesis is limited. While lower personnel costs are often cited as a source of savings, this does not necessarily equate to reductions in pay. Rather, personnel savings seem to come from the use of lower-cost civilian personnel and workers with skill levels better suited to the tasks in question, as well as the productivity improvements described above.

In A-76 competitions, employees' terms and conditions are protected by floor rates and comparative criteria set out in *The Service Contract Act*.[46] Domberger et al also tested this question in the Trentham study. While 19% of the savings came from reductions in wages, the majority came from reduced workforce numbers (58%) and technological change (23%). Where personnel costs had been reduced, this was achieved through changes in employees rather than paying the same workers less.[47]

Process improvements: Another source of improvement is the use of better working practices. Domberger et al found that the contractor at Trentham Army Base reduced workshop inefficiencies and improved coordination efforts between different elements of the team by changing the layout of the shop floor to better meet operational needs. Performance benefits also resulted from this change, such as reduced delays in ordering spare parts.[48]

Benefits also arose from the introduction of better equipment and from the more efficient use of existing technology.[49] Again, this was explored in the greatest depth by Domberger et al, who concluded that technical changes in one facet of the workshop's activities (the construction of mobile kitchens) appeared to have played an important role in the achievement of significantly increased output. In the storage warehouse, the contractor invested in labour-saving storage facilities which were controlled by a computerised inventory.

This made it easier for staff to locate and deliver required items, and significantly reduced the number of personnel required to manage the workload effectively.[50]

Prior to the outsourcing of support services at Trentham Army Base, the Army assumed that one source of efficiency gains from the process would be the introduction of 'commercial work practices'.[51] This appears to have been borne out in practice. A US study explored the commercial impact of contracting somewhat further, suggesting that the reason why successive private sector contractors made more efficient use of resources in the delivery of maintenance services for naval training aircraft was that the incentive to cover costs probably encouraged companies to make investments to improve efficiency. By contrast, Navy teams may have been content with outdated equipment and facilities, provided they were able to meet minimum requirements.[52]

Competition type: A third source of benefits relates to competition type. A number of studies on the US A-76 competitions addressed the question of what type of competition produced the most financial benefits. The general conclusion seemed to be that a higher level of savings resulted from competing larger-scale functions.[53]

UK PFI procurements (and other competitions following a similar approach) draw benefits from very specific sources. The transfer of risk to the contractor under the terms of these contracts aims to ensure that the financial consequences of any cost or time overruns that occur during construction of the asset are borne by the contractor. This provides increased budget certainty for the customer, as well as acting as an incentive for the contractor to ensure the project is completed on time. In addition, the use of output specifications in PFI contracts, rather than the detailed specification of inputs, should provide more scope for the contractor to innovate in the delivery solution, and help to deliver value for money improvements throughout the project lifetime.

Similarly, in assessing the pros and cons of the LOGCAP contract used by the US Army, the CBO has reported that there are non-financial benefits associated with the approach. One of the key advantages of the model is the flexibility that it offers – the CBO noted that the contractor could deploy to a wartime theatre more quickly than would have been possible for Army Guard and Reserve units. In addition, personnel flexibilities would be available under the contract model that would not exist within Army units. On the other hand, it was suggested that the contract model might also impose its own inflexibilities.[54]

Conclusion

The defence experience of competition in the delivery of public services is revealing, owing to the sheer scale of some of the programmes that have been undertaken and the long history of competition and contracting in this sector. These factors have generated a wealth of material worthy of analysis. While more research could be done, the insights uncovered by existing studies offer a useful starting point.

It is clear from the evidence that competition in this area of government services is capable of delivering financial benefits, and that these benefits are generally significant. Although few of the existing studies have explored the scale of the net savings to the taxpayer, (taking transaction costs into account), those studies that have suggest that savings remain substantial.

A true test of savings requires quality to be held constant. Here the analysts have been constrained by the limitations of the available data. But where the information did exist, they concluded that, in the majority of cases, quality appeared to be broadly equivalent.

In the defence service, there is little evidence to suggest that financial gains from competition are related to reductions in workers' terms and conditions. Instead, they appeared to derive predominantly from changes in workforce composition, greater workforce flexibility, and more productive working.

3. Health Services

Introduction

Health services are different from most other services covered in this report, since, in economic terms, health is not fundamentally a public good. The economic rationale for state provision of services such as national defence and provincial road-sweeping is that these are non-rival and non-excludable, and provision is organised centrally and funded via taxation so as to avoid free-riding.

By contrast, health services are almost invariably rivalrous and excludable*. State provision is justified on the grounds that consumption levels would otherwise be too low; specifying an alternative, optimal level of provision demands evaluation of multiple ends, and these are often subjective in definition and measurement.

There is a wealth of literature on the relationship between competition and quality, as well as theoretical and empirical analysis of choice, equity and responsiveness.[55] With regard to the financial consequences of contestability, there is a growing literature around hospital ownership and management. Under these models, government continues to finance the provision of services, but private firms operate (and in some cases, own) the hospitals, typically with restrictions on pricing and provision.

In the UK, Independent Sector Treatment Centres (ISTCs) have provided competition for NHS providers in relation to elective surgery since 2003. The Bahia state government in Brazil has financed private-sector management of 12 public hospitals, while in Sweden, the Stockholm Council has leased St Göran's public hospital to a private provider since 1999. Throughout the 1990s, several Australian states experimented with small public hospitals built, owned and operated by private firms.[56]

In all these cases, a key aim of reform has been to foster efficiency, choice and innovation through competition. The results have been mixed, and the literature on cost savings from

*Rivalrous services are ones where the consumption of the service by one person reduces the amount available to others, while excludable services are ones where non-paying individuals can be effectively excluded from using them.

these developments is patchy.[57] Where expenditure reductions have been reported, in Sweden and Australia, the results are hospital-specific.[58] The sources and the significance of such improvements are a matter for future debate. There is also a mature literature relating to the US health market.[59] The conclusions are both ambiguous[60] and of limited relevance to alternative systems that rely more heavily on state funding and provision.[61]

A second key policy initiative in the hospital sector that has some relevance to service contracting lies in the development over recent decades of case-mix funding (also known as 'payment by results' or 'diagnosis, related group reimbursement').

This is a system for classifying cases according to the demand they place on hospital resources, with the aim of ensuring a more efficient and equitable distribution of budgets. It seems likely that 'payment by results' will play an increasingly influential role in hospital resource management but this is not a primary focus of this section. Diagnosis-related group reimbursement (or DRGs) originated in the North American market, where private health insurance plays a dominant role. In jurisdictions where the state plays a central role in the ownership and management of hospitals, DRGs are primarily a performance management tool used by central planners to exercise tighter control throughout the healthcare system. While 'payment by results' is capable of being used as a kind of benchmark competition, the literature does not suggest that it is often used in this way.[62]

Against such a backdrop, this review aspires to a modest aim, namely the measurement of efficiency effects following the introduction of competition into hospital services. In doing so we examine the financial impact of contestability in two non-clinical fields: (i) hospital support services; (ii) the construction of new hospitals and the supply of facilities management services through the UK Government's Private Finance Initiative (PFI).

Support Services

In those countries where government has traditionally provided hospital services, contestability has most widely been implemented in support functions: domestic, catering, laundry, portering, grounds and building maintenance, IT support and postal services.

For the United Kingdom's National Health Service, this process began in earnest in September 1983 when the departments of health† published guidance asking health authorities to test cost-effectiveness by subjecting the award of contracts for provision to competitive tender. District Health Authorities (DHAs) were instructed that, unless there were exceptional circumstances, all competitive tendering programmes were to be completed by September 1986.

Elsewhere the use of tendering has been more *ad hoc*, and rarely compulsory. While the majority of published cost-benefit analyses on contestability in health support services has

† In England, the Department of Health and Social Security (DHSS) provided a framework for these processes for local authorities. The Scottish Home and Health Department (SHHD) and Welsh Office provided their district health authorities with guidance along the same lines.

come from the UK, there have also been interesting studies elsewhere, notably Denmark and Australia.

The section is structured as follows. First, we examine before-and-after studies to compare the basic service expenditure costs before and after competitive tender. Secondly, we examine the statistical analysis to question the true significance of these raw figures and, where possible, the sources of any expenditure reductions. Thirdly we review anecdotal research in the hope of filling in some gaps.

Before-and-After Comparisons

It is reasonable to expect that expenditure on a service will reduce as a consequence of introducing competition in provision where none previously existed. This expectation is a reflection of rudimentary economic theory, but theory itself provides us with no way of estimating the magnitude of those reductions. The value of before-and-after studies is therefore that, while dealing in raw data, they provide a measure of that magnitude: simply, how much the state authority paid for the service before competition, and how much it paid after.

In the UK, research on compulsory competitive tendering (CCT) in local government had identified savings of around 20%.[63] The earliest work on health reiterated this trend. Hartley and Huby reported via survey the financial consequences of the earliest CCT contracts, with local authorities reporting expenditure reduction of 26% across various health and municipal services. With 68% of a typical winning tender price made up of personnel costs, cost reductions were found to flow from reduced employment, increased use of part-time staff, lower rates of pay and fewer fringe benefits; survey respondents also cited modern equipment and more efficient organisational methods. There is evidence of all factors contributing to expenditure reduction, but the authors were unable to separate and quantify their individual contributions.[64]

The self-reporting nature of this study and the low response rate precluded generalisation of these findings, but the earliest indications were that substantial cost-savings had been made. It was too early to make a meaningful judgement on the policy, for the authors also found that competition had been applied ineffectively. Despite bids being for specified, non-negotiable service costs, contracts had not always been awarded to the lowest bidder. They were also unable to detect a consistent effort from authorities to encourage competitive conditions, with in-house teams not subject to the same penalty clauses as outside bidders and a lack of transparency in publishing tendering process details. In short, market conditions were imperfect and there were further cost savings to be made.

Two years later a clearer picture began to emerge with the National Audit Office's examination into the cost effects of tendering across all health authorities in Great Britain.[65] Although it had been the ambition of the Department of Health and Social Security to achieve universal CCT by this time, the English health authorities had sought tenders for only 68% of support services by value – 43% having been awarded and invitations to tender

having been issued on a further 25%. This failure to meet targets was attributed to two constraints: widespread underestimation in health authorities of the effort required to operate a successful tender, and trade union opposition.

Despite these hindrances, the NAO report estimated annual cumulative savings as a consequence of CCT at £73 million, representing average savings of 20%, although these varied according to service type. These were in line with findings elsewhere in other sectors. Costs of the tendering process had been excluded, and were estimated at £15 million. Moreover, inflation had not been included in these before-and-after calculations. The overall net effect of these two ought not to have been large, but their omission offers a telling insight into the robustness of methodology at this stage of the debate. The sources of the savings echoed those of Hartley and Huby. These were identified as rationalisation of existing operations, less favourable conditions of employment, greater use of part-time staff, changes in working practices, and increased productivity.

Although these cost reductions were undeniably large, there was already a concern over their sustainability. Savings had already begun to fall over time with a marked downward trend in cost savings from domestic services noticeable even in the period from 1983 to 1986: 32% to 18%. Savings generated by the private sector were found to be larger than those from in-house teams.[66] But the savings generated by private contractors fell from 34% in 1984 and 1985 to 21% in 1986; this 21% was comparable to in-house figures.[67] Additionally, the proportion of contracts awarded to private-sector bidders was initially high – 55% in the five quarters to March 1985 – but had fallen dramatically to 8% in the September 1986 quarter.[68]

There were a number of plausible explanations for the diminishing cost savings. First, the private sector may have suffered from information asymmetries against the public provider; underbidding was thought to have been widespread in the early days of the market as firms underestimated the cost and complexity of their task. Secondly, some private firms may have deliberately underbid in order to capture market share and safeguard future profits ('cherry-picking'); once they had secured a foothold they would have ceased this policy. Thirdly, District Health Authorities may have increased their efficiency once faced with competition and improved their bid preparation and tendering. Finally, there may have been less competition as interest from private firms dwindled on account of tight margins. Milne later reported that, of more than 50 firms that entered the cleaning market in the mid-1980s, only a handful remained by the end of the decade. He estimated that only a few had made a profit.[69] In concluding, the NAO's verdict on the introduction of competition in English health services was that it 'is a useful financial discipline which will certainly continue to generate savings' but also noted that 'there now appears to be the possibility of some lack of trade interest in NHS work'[70]. As such, 'The Department accept that when current contracts fall due for renewal further invitations to tender are unlikely to secure savings of the order generated to date'.
Adopting similar methodology to the NAO, a case study examined six of the earliest contracts following tendering – three awarded in-house and three outsourced – in the same

(unnamed) region.[71] The author measured average savings of 44%, which were attributed mainly to rationalisation and re-specification of services, as well as reduced wage rates and increased use of part-time staff. There is no way to distinguish decisively between efficiency of public and private provision in such a small sample but nominal averages showed higher savings among in-house providers (around 48%) than outsourced services (around 40%). This might have been attributable to in-house management using CCT as an implicit threat to implement reforms that would have been unthinkable without competition. However, there were also at least two inherent biases that may have favoured in-house bidders: (i) redundancy benefits associated with the costs of contracts going outside had no bearing on relative efficiency, yet were included in calculations; (ii) access to NHS machinery was sometimes needed by private contractors yet was difficult to organise. On the other hand, concern was raised over the possibility of private-sector collusion – there were low numbers of firms, and trade associations existed or were formed to help firms 'form common approaches to common problems'.[72]

In Scotland and Wales at this time, CCT progress was negligible (8% and 2%) due to trade union opposition, non-compliance and limited private sector capacity.[73] A later treatment of Scotland reported that, despite issuance of the same 1983 advice, 98% of cleaning services in reporting hospitals were provided in-house and not put out to tender in 1986-87.[74] By 1990-91 this share had shrunk to 19%; 63% of services had been won by in-house teams and 17% by private contractors. A related report observed that this was a consequence of departmental circulars not being fulfilled; only with the appointment of a new, politically forceful Parliamentary Under-Secretary in the Scottish Office did authorities make their changes.[75]

In summary then, before-and-after appraisals of the early impacts of CCT indicated that the initiative had provided a significant driver of expenditure reductions. The magnitude of these reductions in the earliest tenders – 30% to 40% – had not been maintained in subsequent contracts, but in-house teams and private firms alike achieved further reductions of 20% once the market stabilised. Moreover, there remained scope for further reductions from as-yet-untendered contracts in England, Scotland and Wales. These unexploited opportunities could largely be attributed to the immaturity of the market – CCT was very ambitious in geographical and temporal scale, requiring two capacities that could not simply be created instantaneously: collaboration from local authorities and expert private sector providers ready to enter the market. Nevertheless, where the capacity and the political will did exist there were substantial savings to be made.

This conclusion was further evidenced by case studies from Australia and Denmark. Hall and Domberger presented three case studies of cleaning services in New South Wales hospitals following the introduction of competitive tendering pilot projects in 1989.[76] The tendering process, winning bid and contract outcome were examined in each case. In two of the three hospitals, the competitive tender produced results in line with those in the UK. In Hospital A, the in-house team won the bid and provided an improved service 21% cheaper than previously; in Hospital B, an outside firm won but also provided an improved service at significantly lower cost – 30% in this case. Significantly there was a marked

similarity of approach between successful public and private contractors – a bipartisan approach, delineated management, and open dialogue with conflicting parties. This was in marked contrast to Hospital C, where an outside contractor won with the lowest bid, promising large cost savings, but the quality of service deteriorated to such an extent that the contract was terminated. In this case problems could be traced, among other things, to confrontational management approaches on both sides and a poorly specified contract.

In Denmark, Jensen outlined the contracting out of cleaning services in the National Hospital in 1992.[77] The winning bid for the four-year contract was that of a private company, over 43% cheaper than the public sector in-house bid previously providing the service.[‡] Monitoring during the contract life showed that quality of service improved. The sources of savings were not investigated in depth but two stood out: a reorganised, streamlined workforce and a highly detailed contract arrangement extracting the best possible outcomes for the hospital from the private provider. Furthermore it was noted that 'Denmark has a very competitive private sector market for building cleaning activities'.[78] This heightened competitiveness, experience and capacity offers a possible explanation for the huge expenditure reduction with improved quality.

Statistical Analysis

There is little doubt that the introduction of competition into the provision of health support services had resulted in significant cost reductions. The magnitude varied from the commonly reported 20% to more than twice that amount in several studies. However, these results are themselves insufficient to recommend competitiveness as a driver of efficiency. Where expenditure is shown to be lower, three potential counter-costs need to be studied in order to assess the true value of any reductions: the costs of the tendering process itself, the costs of reduced service quality and the costs of reduced labour welfare.

This is of particular concern with regard to the UK data. Hall and Domberger (in Australia) and Jensen (in Denmark) each analysed the impact on service quality, but this was absent from the before-and-after studies in the UK. Significantly, only in 1991 did the government introduce the concept of value for money in a White Paper which stipulated, 'Competition does not mean invariably choosing the cheapest service: it means finding the best combination of quality and price which reflects the priority of the service'.[79] By contrast, advice from the Department of Health and Social Security had explicitly stated that the contract should go to the lowest acceptable bid, unless there were 'compelling reasons endorsed at District Authority level' for not doing so.[80] In other words, the sources of cost savings were not subject to rigorous examination, and the value for money savings claimed by the NAO in 1987 would not meet a post-1991 burden of proof for demonstrating value.[81] This burden has been taken up, in part, by a handful of academics. Domberger, Meadowcroft and Thompson performed the first econometric analysis, comparing the costs

[‡] On a before-and-after measure the savings may well have been higher than 43%, since this was the differential between the in-house team's bid and the winning bid, and not the pre-tender cost and post-tender cost. However, details were not provided.

of domestic service provision in those hospitals that had subjected services to tender with the costs of those that had not.[82] They found that savings of around 20% arose as a consequence of tendering. Early savings were considerably larger, but these magnitudes were attributable to unsustainably low bids from private sector firms. These fitted with a pattern of 'winner's curse' behaviour (in which the winners bid an uneconomic price), and subsequent prices rose to a more realistic level. The authors attributed this growing realism to an erosion of information problems and evolution of contract specification. They also reported that there was no evidence of diminished service quality, but were unable to offer detailed analysis of the sources of savings since the services under examination were complex in terms of service specification and measurement, and provider expertise. Further, with regard to quality, they examined the issue of contractor failure – a common citation for opponents of contestability – and showed that the proportional incidence of contractor failure diminished over time.[83]

The Domberger et al study advances the UK debate considerably from before-and-after studies. If the NAO provided the superficial accounting facts of the matter then Domberger et al began to drill beneath the surface. Competition was shown robustly to have yielded significant cost savings, as the raw NAO accounting data indicated. Two substantive questions on the policy relevance of these findings stand out. First, are the cost savings authentic or are they outweighed by costs transferred elsewhere? Secondly, if the cost savings are not transferred, what more can we learn about their sources and magnitude?

The first question was answered by Milne and McGee.[84] Offsetting management (tendering process) costs and redundancy costs, they found the net savings of CCT to be nontrivial, providing statistical verification of the NAO's raw data.[85] Their attempt to answer the second question, on sources of savings, was less clear-cut. They repeated Milne's 1987 finding that re-specification of services increased labour productivity, largely as a one-off productivity gain. The other significant source of cost savings was 'the cut in staff earnings as well as their conditions of service'. Milne had earlier reported that health authorities had been instructed by a departmental circular that they 'should not specify rate of pay or conditions of service for contractors' staff'.[86]

These two studies constituted the entire body of statistical modelling in the CCT literature until Milne and Wright returned to the theme with substantive new evidence.[87] Their study related to a similar period to the Domberger et al and earlier Milne studies, being concerned with CCT in Scotland between 1986-87 and 1990-91. They also found cost savings but of a much lower order, asserting that these results brought into question those measured by Domberger et al.

The issue at stake was, in part, methodological. Domberger et al had used cross-sectional data in their calculation – in other words they calculated cost functions for a range of hospitals in the same time period by specifying a list of factors that dictated service production costs and then estimating the relative importance of each factor. In holding everything else constant they ascertained that competitive tendering produced a cost

differential of 20%. Milne and Wright had access to longer-term data – a full five-year period, albeit in Scotland rather than England as with Domberger et al and the NAO. They applied these to examine multiple tenders across multiple years, rather than using the Domberger et al approach of examining multiple observations at the same point in time. This methodology reported savings much lower than those estimated elsewhere: CCT reduced costs by 6%, and Milne and Wright claimed that these results were substantially more robust than those of Domberger et al, and thus that the cost reductions associated with CCT must be revised.

A comparative methodological discussion is beyond the scope of this review, but it is worth noting that Scotland was a markedly different market to England in health service tendering. As noted by the NAO in 1987, Scottish authorities put comparatively few contracts to tender in the early days, and those that were often suffered from political and trade union resistance. The extra time taken to implement competitive tendering on a broad scale gave NHS managers the time to reduce their costs before tendering was introduced, thus biasing cost reductions following CCT downwards. As the authors themselves noted, the level of cost reduction was also strongly correlated with the number of bidders and Scotland's private production capacity was negligible when CCT was first introduced. As such, the competitive pressures were very different in Scotland.

In Australia, an econometric study tested for the effect of competitive tendering on the price and ex-post quality of 61 cleaning contracts (22 office, seven hospital and 32 school) in Sydney.[88] In hospitals where both public and private bodies had tendered for contracts, the public sector was found to be 13% cheaper, with quality almost identical between the two, although the differential was not found to be statistically significant. Across all three sectors it was tentatively suggested that competition rather than ownership was important in reducing prices. More importantly the assumption that reduced price would likely result in reduced quality was rejected on the basis of findings that lower prices provided by competitively tendered contracts had been associated with generally higher levels of cleaning performance.

Anecdotal Evidence

In both the before-and-after studies and the statistical analyses, there was widespread consensus that expenditure on services was reduced by the introduction of competition. In the UK in particular, there is, however, little data on the sources of these reductions. They are typically cited as coming from a combination of improved management, rationalisation of services and increased labour efficiency. In none of the reports are these separated, with the result that the individual influence of each factor is unknown. As a result, the contribution that contestability makes is unknown.

Given the difficulty of output measurement in this sector, one solution is to measure the inputs – labour and capital expenditure – put into the service. In addition to statistical estimation models, such as those used by Domberger et al, one possible source of insight can be found in those responsible for the inputs – the work force and management. Anecdotal

evidence has its limits but also its uses, and eyewitness testimony might prove useful in identifying the nature of change in a labour-intensive sector.

One such valuable piece comes from the *Health and Social Service Journal* in 1983.[89] This article blended statistics and interviews with stakeholders to argue that an increasing number of catering contracts were awarded in-house due to increased NHS efficiency in the face of private competition. It reported that, in the period 1974 to 1983, catering expenditure fell from 7.3% of NHS expenditure to 5.6%, while the cost of in-house provision of patient meals fell by 7% in real terms. The statistics were unsourced making meaningful conclusions difficult. However, the claim of public sector managers that productivity had increased because 'we see [outsourcing] as a challenge' speaks for the benefits of competition in reducing costs and increasing efficiency, particularly when the intended political message was unashamedly aimed at defending in-house provision.

Unfortunately, this article stands alone when it comes to the anecdotal evidence: much of the debate was hijacked by interest groups with a direct stake in the outcome.

PPP Hospitals

Public-private partnerships (PPPs) are being increasingly used for the design, construction, financing and operation of public hospitals. The Australian states were among the first to experiment with this model in the early 1990s, with some of the contractors providing clinical as well as support services. Most of these contracts experienced difficulties, and have since been taken over by the state governments, and while some of these problems can be attributed to a change of government, there is sufficient information in the public domain to suggest that the model was flawed.

Commencing in 1997, the UK Government began to use the Private Finance Initiative (the British term for what are called public-private partnerships in the rest of the world) as the principal vehicle for undertaking a major programme of hospital renewal. The United Kingdom has since been followed by several of the Canadian provinces and by the government of Mexico in using the private sector to design, build, finance and operate public hospitals.

Of these, only the UK has produced any systematic research on the value for money benefits. And even there, the quality of the research is not high since it relies overwhelmingly on a comparison between the contract price and a hypothetical 'public sector comparator'.

The most comprehensive data has been published by the Department of Health, covering 56 major health projects from 1998 to 2006. These have compared the present cost of the PFI option and the 'public sector comparator' or the 'publicly funded option', adjusted for risk, with an average difference over that time of only 2.9%.[92]

Conclusion

The narrowness of this margin has been confirmed by two reports by the National Audit Office, on the Darent Valley Hospital and the West Middlesex University Hospital. After correcting for accounting errors, the former study found that the PFI contract had offered savings of around 3%, while the latter reported a differential (over 35 years) of only 3.8%. It is to be noted that a subsequent NAO study of the Darent Valley Hospital found that the Trust had benefited financially from the refinancing of the project, and that after a difficult start, service levels were among the highest of any hospital in the country.[93]

However, it is difficult to place great confidence in these results. One group of academic researchers challenged the use of a 6% social discount rate, pointing to the sensitivity of the cost comparisons to this variable. They also questioned the highrisk adjustment factors being used, which in most cases tipped the scales in favour of the PFI option. In 2003, HM Treasury reduced the social discount rate for PFI evaluations to 3.5%.[94]

On the other hand, it was recognised early that the public sector comparator itself was an artificial and thus an unreliable measure, and after 2003, it was abandoned and not replaced. It is probable that, at least in the early years, pension liabilities were not included in public sector comparators, and tax payments by the private sector firms were not incorporated in the calculations. It is unclear how these elements have been treated since the replacement of the public sector comparator with the 'publicly funded option' in 2000.

In some of the projects (although it was never explicitly stated which they were), the differential was expressed as a percentage of the total cost of the hospital, including clinical costs. Since clinical costs added significantly to the net present value of the project, and since the PFI consortia were in no way responsible for them, this had the effect of diluting the savings differential that PFI had presented. Moreover, the measure introduced by the Department of Health in 2000 to replace the public sector comparator – known as the publicly or conventionally funded option – was based on public funding of the design solution put forward by the winning PFI consortium. This even more artificial estimate was meant to be replaced once a better public sector comparator had been developed, although government policy later resulted in the abandonment of the public sector comparator entirely.[95]

Thus, while we have a great deal of comparative data in relation to the PFI hospitals that have been contracted in the UK, the methodologies employed in preparing the public sector comparator and the conventionally funded option are so unreliable that no real confidence can be placed in the results.

The benefits from competing hospital support services appear to be significant, although with a large variation in results. To maintain this lower level of expenditure, competitive pressures must be maintained. In the case of the Private Finance Initiative, the methodology used for the comparators is flawed, so it is not possible to draw meaningful conclusions on the question of financial savings.

There seems little doubt that tendering costs have been outweighed by the scale of the savings. There is no credible evidence of a sustained reduction in quality. However, on the question of whether competition results in reduced labour welfare, the evidence is problematic. The distinction between genuine productivity gains (the same number of staff producing higher levels of service) and cost-transfer (staff being forced to accept lower pay) was not made. It is likely that financial gains were made as a consequence of both, however there does not appear to have been any attempt to quantify the respective significance.

4. Prison Management

Introduction

Prison contracting has a long history in the English-speaking world, and while the practice was progressively abandoned from the late 18th century, the last remnants of these primitive systems of contracting did not disappear in the United States until the early 20th century.

Remarkably little is known about the re-emergence of prison contracting in the United States, but it is clear that, by the early 1980s, the private sector was already extensively involved in providing support services in North American correctional institutions, particularly those serving juveniles. In addition to food and laundry, private organisations were being used to supply drug treatment, counselling and education services. Early studies reported that agencies were making savings through the use of contracting, although the scale of these benefits is difficult to gauge.[96]

Illinois contracted out the management of entire community correctional centres (used for delivering work release programmes) as early as 1975. And private and not-for-profit organisations were increasingly involved in the direct supervision of juveniles: by 1983, 65% of all juvenile facilities in the United States were operated by the private sector, mostly small units providing long-term care in open environments.[97]

In 1980, the US Immigration and Naturalization Service (INS) awarded its first contract for the management of an immigration holding facility in California. But the birth of modern prison contracting is usually dated to 1984, when Corrections Corporation of America opened the Houston Processing Center, a facility commissioned by the INS and the Federal Bureau of Prisons. State and county governments quickly followed, driven by soaring prison populations and federal court orders mandating reductions in overcrowding.

In 1990, the government of Queensland, Australia became the first jurisdiction outside of the United States to open a privately managed prison, with other Australian states following shortly thereafter. In the United Kingdom, competition and contracting had been under discussion for some time, and the private sector was already involved in managing an immigration detention facility at Heathrow Airport, but it was not until 1992 that the first of the

privately managed prisons was opened. A number of other jurisdictions in the English-speaking world later adopted this model, including New Zealand, South Africa, and Ontario in Canada.

The French government had attempted to follow this same path in 1987, but faced major political opposition when it attempted to contract full custodial services. As a result, when the first contracts were let in 1990, the service element extended only to support functions. Japan, Germany, Brazil and some of the Australian states have employed variations of this model.

Thus, there is no single model for prison contracting. Most countries contract for support services only, although even within this group, the services under contract vary. However, most privately managed prisons around the world involve contracts for the management of the entire facility, including custodial services. For the most part, this model is confined to the English-speaking world, but even there we find significant variation. In Britain and Australia, and in some of the American states, the market is monopsonistic, with a single government customer contracting with a multiplicity of public and private providers. However, a national market has also emerged in the United States, where a multitude of public and private proprietary prisons compete in a 'spot' market to supply prison places to a multitude of state and federal agencies.[98]

Only one of these models, the monopsonistic market for the full range of custodial services, has been systematically studied, across the three jurisdictions that have developed the deepest markets – the United States, the United Kingdom and Australia. There is one brief study of support service contracting in France, but it provides us with no useful information about the financial gains.[99] In Japan and in Germany, the only costings data publicly available thus far have been provided through ministerial or departmental press statements. There is one study that addresses the performance of the North American 'spot' market, comparing it with some of the monopsonistic markets that exist within the federal system. (This report is discussed below.)[100]

The Literature

This literature survey is based on 43 studies from four different countries over a period of 25 years, most of them drawn from jurisdictions in North America. Most studies compare publicly and privately managed facilities, so we are only able to investigate the impact of competition and contestability indirectly. Only one study explicitly contrasts public prisons established in a climate of contestability with those operated under a non-contestable regime.

For the most part, the literature consists of case studies comparing a handful of facilities; only eight of the studies work with aggregated data based on a large number of institutions. Custodial facilities illustrate the difficulties of using statistical analysis in the comparison of public services – few prisons are sufficiently alike to allow for easy comparison, there is no agreed system of classification, and the effort involved in constructing a meaningful

(and comparable) set of accounts means that large-scale studies will rarely, if ever, be useful.

Given these constraints, it is unsurprising that there has been a vigorous debate about the methodology employed in these studies. It is not uncommon for commentators to conclude that the evidence is 'mixed', laying the blame on 'inadequate or outright incorrect costing methods'.[101]

In fact, given the strict conditions demanded by academic researchers, none of these 43 studies is immune from criticism. This is not to criticise the public officials who commissioned them. Some of them were undertaken under a legislative mandate – even though government officials lacked robust data and a rigorous methodology they were nevertheless required by law to compare the cost of managing a particular institution under contract with management under a traditional bureaucratic regime. They understood the limitations of their research, but they were obliged to work with what information was available.

The conclusion has been reached by some academic researchers that we have not yet obtained data of sufficient quantity and quality to arrive at a definitive answer about the financial benefits of competition and contestability. This is unacceptable to policymakers who are required to advise governments on the policy options whilst operating under real-world constraints on time and resources. They have no alternative but to work with the limitations of 'rough social science'.

We also feel that this misrepresents the robustness of many of these studies. Yes, some of them are so deeply flawed that they cannot assist us in knowing whether contestability works. But a number of them are sufficiently sound to provide us with some understanding of the likely range of benefits, and the sources of those benefits.

The Competition Effect

United States of America: For reasons that are not entirely clear, the 34 North American studies identified in this review were preoccupied with the relative efficiencies of the public and private sectors rather than the impact of competition and contestability. In some jurisdictions, the fact that a prison is privately operated may amount to evidence of competition, but even in the state-based monopsonies (one-to-many markets, where a single public authority contracts with a multiplicity of providers), competition is by no means universal. In one study of 1997 data, only 70% of the contracts analysed had been awarded following a competitive tender.[102] Moreover, some publicly managed prisons operate in a climate of contestability, so a comparison with privately managed facilities would tell us little about their relative performance under conditions of competition or monopoly.

Thus, a finding that a privately managed prison is more expensive than a public comparator may tell us nothing about the merits of competition and contestability. Indeed, it is often the case that the publicly managed prisons that are most comparable to the contracted facilities were established in a contestable environment.[103]

Of the North American reports, 19 were case studies, benchmarking one or two privately managed facilities against several public sector comparators, actual or hypothetical. Of these, we have selected ten that we felt were robust enough to warrant consideration.[§]

When using case studies, the comparability of the private facilities and their benchmarks is crucial. Given the variability of correctional institutions – based on the age, the physical location, the structure and the capacity of the facilities; the age, ethnicity and security classification of the prisoner population; occupancy rates; and the range of services offered to inmates – this can be a challenging task.

In some studies, this was addressed by choosing facilities that were as alike as possible; in others, the authors compared the same facility before and after contracting; while in others researchers estimated what the costs to the public sector would have been of operating a facility identical to the private institution.

The other great challenge lies in the quality of the financial data. This is particularly difficult in prison management where it is unusual for the public sector to have constructed a comprehensive chart of accounts that represents the full cost of operation. It is also important to note that these studies look at the comparative cost to the state of traditional and contract management (and in one case, the comparative efficiency – or cost to the proprietors – of private and public provision). In none of these studies did the authors seek to estimate the savings that had accrued (that is, taking into account transaction and transition costs).

[§] These 10 are not directly comparable to the 19 case studies, since two studies undertook comparisons in two separate states, and in some cases different authors worked with the same body of evidence. We have combined this evidence in the table that follows.

Table A: Summary of Case Studies on US Prisons

Study	Findings	Competition
1. Florida, 1985[104] – two facilities, and before and after, over three years	Costs increased but at 6.5-6.9% less than the public comparator.	Yes
2. Tennessee, 1989[105] – one private facility and a hypothetical comparator; over three years	Contract prison 3-8% less, across the three years.	Yes
3. Kentucky, 1989[106] – a private facility compared with an actual and a hypothetical benchmark, over one year	An equivalent public facility would have cost 20-28% more.	Yes
4. Massachusetts, 1989[107] – two pairs of public and private facilities; one year	On average, the public facilities cost 1% less.	Unknown
5. Texas, 1991[108] – four contract prisons compared with the estimated cost to the state of operating equivalents; one year	Contract prisons were around 14% less	Yes
6. Tennessee, 1995 & 1996[109] – one private and the average of two public facilities; one year	Contract prison 1% to 6.3% less, depending on the methodology	Unknown
7. Louisiana, 1996[110] – two private and one public facility; five years	Contract prisons 12-14% (or 4%) less	Unknown
8. Florida, 1998[111] – Two private and one public facility with the cost adjusted for comparability; one year	One contract prison was around the same, the other 4% less.	Yes
9. Florida, 2000[112] – one private and one comparator prison; two years	The contract facility was 3.5% and 10.6% less.	Yes
10. Federal, 2005[113] – one private, three comparators; five years.	The private company managed this facility 6-10% less than the government could have done. Measured against the comparator prisons, the costs were 13-17% less.	Yes

Case studies can tell us a great deal about the institutions in question, but they may not be representative of the public and private sectors more broadly. Studies that contrast facilities in a single year are even more prone to this weakness. This means we cannot rely too heavily on the results from any single study.

One of the ways that scholars seek to overcome this deficiency is by undertaking what is known as 'meta-analysis' – using statistical methods to compare and contrast the results from a number of different studies. One meta-analysis has been attempted in relation to this diverse body of evidence.[114] Unfortunately, the authors did not use conventional methods to conduct the analysis and a finding that higher security levels were associated with lower costs ran contrary to near-universal experience and research.[115] Moreover, the authors referenced only a small proportion of the studies they had used for their evaluations.

In nine of the ten case studies listed in Table A, privately managed services were being delivered at a lower cost than their public comparators, although in one of these nine, one of the two contract prisons studied was identical in cost to its comparator. The extent of the financial benefits varied considerably across these studies, with most in the range of 5% to 15%.

Only one of these ten studies found that the contract prisons were more costly than their public sector comparators. In this particular jurisdiction (Massachusetts), juvenile services had been delivered by voluntary organisations for around 20 years and the law precluded them being provided by for-profit organisations. Thus, competition was severely constrained and the range of services was confined to educational and welfare programmes.

A second category of 16 studies compared the average performance of groups of private and public prisons, or the actual performance of one or more private prisons with the average of a larger number of public facilities. In one case, the average performance of contract prisons in monopsonistic markets was contrasted with that of contract prisons in the US spot market.**

In the vast majority of these studies, the privately managed prisons were significantly less costly than their public sector comparators: however, the studies were methodologically weak and we do not feel confident in relying on their findings. Several were based on large samples and statistical analysis was undertaken to control for variables other than ownership (or competition), but these studies were weakened by poor comparability in the underlying data. As noted above, correctional institutions are so variable in their structure and mission, and the costing methodologies differ so much from one jurisdiction to another and from one institution to another, that no matter how elegant the model, it is difficult to rely on the results.

One possible exception was a recent study of juvenile facilities in Florida, which relied on consistent and high quality data from 111 institutions over a period of three years from within

** Note that some studies have been counted more than once since they adopted several different approaches to cost comparison.

the same jurisdiction. While the authors themselves acknowledged that there were difficulties with the comparability of costing data, this study approximates the demanding standards required for statistical analysis in this field.

After controlling for differences in the facilities, programmes and inmate populations, the authors concluded that boot camps, operated exclusively by the counties, cost significantly less for each inmate released than state or private facilities. State facilities were significantly more costly than private and not-for-profit institutions. However, once recidivism was taken into account (and the additional costs associated with higher levels of incarceration), county boot camps and not-for-profit facilities were better value for money than those operated by private firms or by the state.[116]

Three papers studied the correlation between the proportion of prisoners held in privately managed prisons and the overall spending by state on corrections, in an attempt to ascertain whether there was a contestability or benchmarking effect from competition. The findings are addressed in some detail below.

The United Kingdom: One of the most robust comparative studies of prison management was conducted in the United Kingdom in the late 1990s, contrasting four privately managed prisons, each with several of its own public sector comparators (which were changed over time as the roles of some of the contract prisons changed). These comparisons were made over four years, using a consistent methodology that had been developed and debated in advance.

Because of changes to overcrowding over time, cost per prisoner was the most reliable comparator. On this measure, the contract prisons were, on average, 11-15% less costly than their public sector benchmarks. However, this appears to underestimate the cost differential significantly, since the authors failed to take into account public sector pension costs and the taxes paid to the state by the prison management companies.

In 1995, when the Home Office decided to contract for a new generation of prisons under the Private Finance Initiative, public sector comparators were prepared to estimate the cost of constructing, financing and operating these facilities through traditional means. In this case, the quality of the public sector comparator was probably fairly high, since the Prison Service had only recently completed a major programme of prison construction through (essentially) traditional means.

It was assumed, for the purposes of calculating the public sector comparator, that any new public sector prisons would be designed and constructed in the traditional way, but that they would be managed by private firms under contract – that is, the savings that were evident from the four prisons already under private management were built into the comparator.

On this basis, the present value of the first of the PFI prisons was a further 17% below its public sector comparator (although this included construction and financing costs as well

as operating costs). However, by the time the fifth PFI prison had been negotiated three years later, the cost per place for a prison of comparable size, had fallen by 38% from the original public sector comparator.

Not all of this cost differential can be attributed to operating efficiencies, although since 60-70% of the present value of a PFI prison is attributable to operating costs, we might conclude that they made a significant contribution to the additional savings. While it is difficult to estimate what the total financial benefits might have been, it seems reasonable to assume that, over a succession of procurements under two different models, competition reduced operating costs by more than 20%, and possibly by as much as 30%.[117]

We find some confirmation of these estimates when we look at the differences in personnel costs between publicly and privately managed prisons in England and Wales. According to a government survey conducted in 2006, the average basic pay for prison officers in the public sector was 39% higher than for prison custody officers in the privately managed prisons, and when fringe benefits were included, the differences were even greater – more than 60%. (Note, however, that the differentials are not as great for other staff, and senior management are paid far more than in the public sector.)[118]

Recent data on staff-to-inmate ratios are not available, however in 1998, the private sector was using 17% fewer staff per prisoner, on average, than the public sector, and in earlier years the differential had been as high as 21%.[119] Using very conservative assumptions, it seems reasonable to conclude that personnel costs in the privately managed prisons are somewhere around 45% less than in the public sector. Given that personnel costs typically make up around 70% of prison operating costs, a conservative estimate would seem to place the financial differential at somewhere around 30%.

Australia: Competition and contestability in the Australian custodial sector have been little analysed. Three studies looked at Australia's first privately managed prison in its first two years, however questions were raised as to the comparability of the public benchmark prison, and the methodology adopted for the allocation of overheads.[120]

Over a period of seven years, the New South Wales Auditor-General published the costs for the state's only contract prison, contrasting it with the average costs for maximum, medium and minimum security prisons. The Department of Corrective Services consistently pointed out, and the Auditor-General consistently acknowledged, that these figures were not directly comparable since, among other things, the public facilities were much older.

However, over the years, the cost differential between the minimum-medium security contract prison and the average for the state's minimum security prisons continued to grow – from 14% to 46% – and according to a legislative committee in 2005, this failed to account for differences in health costs. It is this growing differential that attracted the attention of the Auditor-General as much as the absolute size.[121]

That there were massive inefficiencies in the NSW prison system was confirmed by a study published by the Public Accounts Committee of the Legislative Assembly in 2005, which looked at the performance of two new-generation public sector prisons. The new prisons had been commissioned under the threat of exposure to competition, and the state government had negotiated very different management arrangements. The committee concluded that the new-generation prisons had 'resulted in significant cost savings when compared to correctional centres operating under the traditional model'. When it came to sick leave and overtime rates, they had performed much better – sick leave costs per inmate day were around half of their competitors, while overtime costs were less than one-seventh.[122]

Controlling for Quality

Regardless of the quality of the underlying data, and the comparability of the institutions being benchmarked, unless service quality is held constant, it is not possible to ascertain whether real financial benefits are being delivered. Once again, in assessing the relative performance of custodial institutions, this turns out to be a rather complex issue.

Some studies have addressed this question by seeking to ascertain whether the institutions in question complied with basic regulatory standards – compliance with court orders and recognition by professional associations. Some relied on interviews with managerial and monitoring authorities. In other cases, researchers have conducted surveys of staff and inmates in an attempt to measure performance against a variety of conditions. In some cases, particularly in those studies using aggregated data, issues of quality have not been addressed at all, and we have excluded those from the analysis above.

Since this report is concerned with the financial benefits of competition and contracting, we have been interested in whether quality was broadly consistent across the comparator institutions. Quality was addressed in all but one of the ten US studies in Table A, and some form of comparison had also been made for the UK and Australian prisons. In the UK, there is also a great deal of independent research indicating that the quality of the privately managed prisons has been broadly comparable to that of the public sector. In none of these examples was there a significant difference in the quality of service being provided by the contracted or contested prisons.

The Contestability Effect

Three North American studies published in 2003 sought to ascertain whether there was a benchmarking or yardstick competition effect across a prison system as a whole when some prisoners within the jurisdiction were managed by the private sector. The hypothesis was that the presence of some private prisons would have a moderating effect on the growth of prison spending elsewhere in the jurisdiction. They tested this hypothesis by comparing the spending on corrections by the various US states, categorised according to the percentage

of prisoners managed by private operators. All three studies found a negative correlation between the percentage of prisoners managed by the private sector and the level of spending on corrections that was statistically significant. However, none of these studies was able to demonstrate that the relationship was causal.[123]

Perhaps the most promising approach lay in the Australian study comparing two new-generation public sector prisons, where the operating arrangements and the industrial award had been negotiated by the state government under an explicit threat of market testing, with two old-style prisons. The authors of this study compared overtime and sick leave, which were regarded as major sources of inefficiency in the traditional prison estate, and found significant improvements. To our knowledge, this is the only study that has explicitly explored the efficiency gains from threatened competition.[124]

However, several other studies suggested that similar gains might be secured through a contestability or benchmarking effect. Studies commissioned by the Bureau of Prisons (operated or contracted by the US federal government) compared the Taft Correctional Institution, a privately managed facility, and three benchmark BOP prisons constructed at around the same time, with 11 somewhat older low security prisons operated by the BOP. While there were cost differences between the contract facility and the three public sector comparators, the authors of this study acknowledged that the comparator prisons had been opened in the full knowledge that they would be benchmarked with Taft. One of the consequences was that the public sector comparators had significantly lower staffing ratios to other BOP prisons (lower, indeed, than Taft itself). While the other low security prisons cannot be directly compared because of differences in age and design, there was a 30% cost differential between the four new-generation facilities and the older establishments.[125]

The same was true of prototype public sector prisons opened in Texas after the establishment of the first privately managed prisons. The average costs of these facilities were close to those of the contract facilities and much lower than the averages for more traditional state prisons. Again, these facilities are not directly comparable, and the Texas Criminal Justice Policy Council has not explored the possibility of a contestability effect, but the results suggest of the need for further research.[126]

Interestingly, while there has been a spirited (and, at times, acrimonious) debate over the comparative efficiencies of public versus private prisons, there appears to be widespread agreement within the academic community about the benefits of actual or threatened competition. In particular, a group of sceptics associated with the Federal Bureau of Prisons have acknowledged the possibility of a contestability effect, acknowledging 'the disciplinary power of the market in the long-run' and that 'actual or threatened privatization and the corresponding competition it generates… provide public managers with additional leverage over public workers and unions'.[127]

The Quality of Competition

One of the difficulties in assessing the impact of competition lies in the fact that competition is not of uniform quality – there are different kinds of markets and different standards of procurement. By and large, the studies reviewed in this part of the survey did not address this question, but it seems reasonable to assume that one of the explanations for the variable results from the different studies can be found in the quality of the competition.

In 2006, the Kentucky Auditor of Public Accounts investigated a recent tender for the management of a 400-bed female correctional facility. There had been only one response to the invitation to tender, and since the public sector comparator had been publicly disclosed in advance, it is perhaps unsurprising that the sole bidder offered only slightly more than the 10% differential required by law.[128]

As noted above, the United States has two very different kinds of markets which operate in parallel – a number of state-based monopsonies in which public correctional agencies contract with a range of public, private and voluntary sector providers, and a national market in which federal and state authorities contract with public and private providers in a 'spot' market (in which state and federal governments negotiate short-term contracts with public and private providers located in other jurisdictions). This is the difference between periodic and continuous competition.

One study, published in 2003, compared the performance of these markets based on a survey of 53 correctional agencies across 28 different jurisdictions. Among other things, the study found that per diem rates in the 'spot' market were significantly higher than for contracts negotiated by a public authority within the same state. Speculatively-built prisons were also monitored far less than the prisons commissioned by a public authority.

There were several likely explanations for this – because of the greater market risk, 'spec' prisons were smaller on average than commissioned prisons and held fewer inmates. Moreover, two-thirds of the agreements in the 'spot' market were non-competitive, whereas 70% of the commissioned prisons had been signed following a competitive tender.

Contracts in the 'spot' market were of much shorter duration and they were negotiated across state borders, so it was possible for competition to be deeper than in the smaller in-state markets. In practice, however, the spot market was much less competitive, and when combined with the greater risks to which public and private operators were exposed, this had resulted in higher prices.[129]

Sources of Benefits

It is not enough to know that competition and contestability contribute to lower operating costs: we agree with those authors who argue that the debate needs to move beyond this level of analysis.[130] It is also important that we understand how any cost reductions are achieved. Not all of the studies assist us in this regard, although there is certainly enough information from which we can construct a theory of productivity improvement in this sector.

Personnel costs: Those studies that have addressed this question have concluded that the bulk of financial savings come through the reduction of personnel costs. This is for the simple reason that personnel costs account for two-thirds to three-quarters of all the costs associated with operating a prison.[131]

There are two elements to this: unit costs (the cost of salaries and benefits per staff member) and staffing levels (usually measured as staff-to-inmate ratios). One of the few studies to provide us with insight into the relative contributions of these two elements was undertaken by HM Prison Service in the late 1990s. In a series of comparisons conducted over three years, the authors found that around half of the cost reductions of 11-15% came from having fewer staff per prisoner, with the other half coming from lower average staff unit costs.[132]

A 1996 study by the Legislative Budget Committee of the state of Washington looked at the experience with prison contracting in Louisiana and Tennessee, concluding 'that the number of staff ranged from 88 to 97 per cent of state facilities' staffing, and that the average salaries for those personnel range from 69 to 93 per cent of state salaries'. The committee recognised the significance of these differentials when they were combined:

> *If a private facility can operate at 90 per cent of state staffing, and at 85 per cent of average state salaries, this translates into a personnel saving of 24 per cent. Since personnel costs comprise about 70 per cent of all operating costs, this results in a saving to the total budget of approximately 16 per cent.*[133]

Unit costs: It is usual, though not universal, for contested facilities to have lower unit costs.[134] In a few cases, this is because the contract prisons pay lower salaries; in others, it is because of significantly less favourable pensions and fringe benefits. Even if it were the case that public sector employees working for an uncontested monopoly were overpaid (as determined by market benchmarks), it does not amount to a productivity improvement to pay the same group of workers less, or to require them to work longer hours for the same pay.

However, some unit cost savings clearly do amount to productivity enhancements. The most obvious examples involve the management of sick leave and overtime. Studies undertaken by HM Prison Service in the 1990s found that the cost of sick leave (per prisoner) was 53% lower in the contract prisons than in their public sector counterparts. And it would appear that these differences have persisted over time: while recent sickness absence rates for the privately managed prisons are not available, the rates for the Prison

Service are exceptionally high – 14 days per year in 2005, compared with an average of 10.3 days for the public sector as a whole and 8.4 days for the wider economy.[135]

Contestability was successfully used by the state government in New South Wales to get a handle on sick leave and overtime problems in two new-generation public sector prisons.[136] And the operations manager of a public sector comparator prison in Queensland referred, perhaps with some poetic licence, to problems that had existed in a recently closed old-generation public facility:

> *They were taking sickies without pay, to create overtime for people who were having sickies without pay, who were creating overtime for them… Knowing night shifts were going to be short, they would work right through – on public holidays and things like that you can actually get quadrupled rates.*[137]

The management inefficiencies associated with excessive sick leave have also been noted in relation to US federal prisons, although it has not surfaced as a significant issue in the comparisons of privately and publicly managed facilities in that country.[138]

It would also appear that privately managed prisons have reduced their unit costs by structuring their workforce in different ways. An annual survey undertaken by the Prison Service Pay Review Body in the UK compares the terms and conditions in publicly and privately managed custodial services. The 2006 survey found that the average basic pay for prison officers (in the public system) was 39% higher than for prison custody officers (in the privately managed facilities). But the authors identified a number of structural differences between the two systems, which appeared to contribute to better value for money:

- private companies set their terms and conditions with reference to conditions in local markets, while (for the most part) the Prison Service negotiated national pay scales;
- prison officers (in the public system) had much longer terms of service and many were near the top of their pay scale;
- the privately managed prisons had an average turnover rate of 24%, compared with 3% in the Prison Service – the former was higher than the average in the private sector in general (15%) and the latter was lower than the public sector in general (8%)[††];
- the workforce in the privately managed prisons had a much younger age profile; and
- prison officers (in the public sector) had a much steeper pay progression in their early years of service.[139]

Staffing levels: As long as service quality has not been affected, then significantly lower staff-to-inmate ratios are clear evidence of increased productivity. If, through better physical design, service design or use of technology, prison managers are able to significantly reduce

[††] The privately managed prisons in North America and in the UK have generally maintained higher turnover rates than the public sector, and while contract managers recognise that these have sometimes been too high, it is generally thought that the exceptionally low turnover rates in the publicly managed prisons are also inefficient.

the number of staff required to supervise the prison population, then they are able to have a major impact on costs.

This relationship is widely understood within the sector: in a study of state prison expenditure in 2001 (the latest available), the US Bureau of Justice Statistics reported:

> *High inmate-to-staff ratios were most common in states reporting low average costs per inmate, and low inmate-to-staff ratios predominated in states with high average annual costs per inmate.*[140]

One of the most significant impacts of introducing competition into custodial services has been to force prison managers to explore new service designs and management regimes that will permit lower staffing ratios. A national survey of 65 private correctional institutions across the United States, conducted in 1997, found that, on average, staffing levels were 15% lower in the privately managed facilities.[141] Moreover, where public prison operators were exposed to competition, this was one of the most common ways in which they strove to reduce their costs.[142]

But the impact has by no means been uniform. At the Taft Correctional Institution, a federal prison managed under contract in California, staffing ratios were higher than the public sector benchmarks, in part because of the steep penalties associated with understaffing, and in part because the comparator prisons had reduced their staffing levels. In some cases, differences are evident among the custodial staff, while in others they emerge mostly among support staff.

Almost no attention has been paid to other sources of cost differentials. There is some evidence to suggest that private prison operators have been able to purchase commodities and manage their stores more effectively, but this has not been considered in sufficient depth to offer significant insight.[143]

Innovation: Very little of the research has addressed the sources of these productivity improvements. The North American commentators have argued that, by and large, private prison operators have not attempted to introduce new systems of prison management: 'Instead, private vendors seem to see their task as one of refining processes already represented in the best practices of well-operated public systems'.[144]

This seems to reflect the nature of innovation in public service design – experimentation with a multitude of incremental reforms rather than the generational breakthroughs we sometimes see in science and technology. In part, this is because of the low margins associated with competition for public service contracts; in part, it seems to arise from the inherent structure of service innovation.

In the United Kingdom, prison contracting provided an opportunity to introduce a new generation of management regimes and physical designs that had been pioneered in the United States some years earlier by the Federal Bureau of Prisons. It seems that it was easier to introduce 'dynamic security' and 'direct supervision' in a new generation of prisons operated by external providers than it was in the state-managed Prison Service. But, once again, this involved the adoption (and adaptation) of practices developed by public prison operators elsewhere in the world, rather than the invention of entirely new management systems.

Regrettably, the studies accessed in this survey had very little to say about this process. Several of them reported that the private prison managers enjoyed much greater flexibility in their personnel procedures and purchasing practices.[145] This is consistent with other studies that have looked at the differences between frontline service management under bureaucratic and contractual models.[146]

Dissemination of benefits: It is at the micro level that contestability makes a difference in the management of public sector prisons. In the case of the new-generation prisons in New South Wales, the changes were introduced as part of departmental negotiations with public sector unions, resulting in a new industrial award. It was only once the new award had been agreed that the government agreed that the public sector would operate these facilities without the need for actual competition.[147]

It appears that the Governor of Woodhill Prison, a public facility opened at roughly the same time as The Wolds (the first contract prison in the UK), used the threat of competition as a way of introducing a performance culture into his prison.[148]

The Australian criminologist (and more recently, Western Australian Inspector of Prisons), Richard Harding, documented a number of examples where the public sector embraced reforms initiated by the private sector, through a process he referred to as 'cross-fertilisation':

> *In the United States, the state of Louisiana required ACA accreditation by its private prison but not for its own public sector prisons. This requirement soon worked its way into the fabric of the public sector system…*
>
> *In the United Kingdom, an example related to the standards required of the private operators of a new remand prison, The Wolds. The mandated minimum standards far exceeded in every component those expected of comparable public prisons: for example, out-of-cell hours, visits, access to showers, out-of-doors time, telephone usage, and so on. While The Wolds was starting up, the Prison Service was developing its new Model Regime for Local Prisons and Remand Centres. The standards approximated those earlier required of the private prison operator – a quantum leap. Commenting on this, Bottomley et al state that 'the threat of market testing [i.e., opening up more remand prisons to private sector operation]… acted as a powerful spur to innovation.'*
>
> *In Queensland (Australia) current research being carried out by Harding and Rynne has identified clear cross-fertilization effects with regard to health care, where the standards the public sector required of the private sector were initially far higher than it required of itself. Within a few years the public sector found it necessary to equal those standards…*
>
> *The same research project has also identified substantial cross-fertilization in the area of prisoner programs. Borallon Prison avowedly set out to integrate programs into the daily lives of inmates through a unit management approach. The cognitive programs directed at addressing offending behavior were different from anything else found in the public system… These fresh approaches were picked up by the public sector quite quickly.*[149]

Conclusion

Given the quality of the underlying data and the complexity and variability in correctional institutions, case studies provide the best evidence of the relative performance of public and private facilities in prison management. While a number of the US studies are not sufficiently robust to provide us with meaningful insights, we identified ten that we were prepared to rely upon to form an assessment of the results. All but one of these showed financial gains as a result of contracting, with most of these falling in the range of 5-15%.

In the case of the United Kingdom, there is a good quality study undertaken by the Home Office in the 1990s, which benchmarked four privately managed prisons over four years. The average cost per prisoner for these four institutions was 11-15% below their public comparators, however, this underestimated the cost differential due to the exclusion of pension costs and tax payments. The introduction of the Private Finance Initiative in the early 1990s appears to have contributed to further cost reductions, so that by 2006, based on an assessment of personnel costs, the differential may have been as high as 30%.

The evidence on quality is complex, and while contract prisons are managed differently from public facilities, there is no evidence of significant differences in quality. Prison management is one sector where there is some evidence of a contestability effect, suggesting that publicly-managed prisons improve their financial performance when they are exposed to the threat of competition, and when they are explicitly benchmarked against a private sector comparator.

Overwhelmingly, the sources of these savings are to be found in lower personnel costs – for the obvious reason that prison management is a service with low capital intensity. It is difficult to quantify the proportion of these financial gains that come from reduced terms and conditions, but there is certainly clear evidence of major productivity improvements – reduction in excessive sick leave and overtime costs, the recruitment of younger workers with higher turnover rates, and the introduction of new building designs, new technologies and new management regimes requiring fewer staff per prisoner.

Competition has played an important role in the adoption of innovative new approaches to prison management and the dissemination of best practice across both the public and private sectors.

5. Refuse Collection

Introduction

Residential refuse collection is perhaps the most straightforward of all the services historically provided by government, entailing the regular pick-up and sanitary disposal of household rubbish by small teams each with a vehicle to house, compact and transport the refuse. From a theoretical standpoint, it should be more amenable to competition and contracting than other, more complex, public services.

There are two different kinds of markets under which services have been organised: periodic and continuous competition. Under periodic competition (or competition *for* the market) the local authority conducts a competitive tender and contracts exclusively with a single firm to deliver a refuse collection service for a specified duration. This firm can be either a private firm or a public entity, and will usually be paid by the local authority out of public funds collected through taxes and charges, rather than by end users.

In continuous competition (or competition *in* the market) a number of firms compete for consumers from the residential population by offering their services at market-driven prices with direct payment by individual consumers to their preferred providers; typically these will be private-sector firms, although the local authority may compete if it wishes.

Periodic competition has been particularly prevalent in refuse collection and this, coupled with the fact that among traditional government services only water lends itself so freely to standardisation and specification, means the sector has provided fertile ground for researchers analysing the financial impact of competition.

The earliest studies were conducted in North America, where private provision has been commonplace for over 50 years. In the UK, the use of competition in refuse collection services began on a significant scale following the implementation of compulsory competitive tendering (CCT) throughout the 1980s and the first empirical studies followed shortly thereafter.

A more prosaic approach has prevailed elsewhere in Europe, 'where local authorities have been encouraged rather than compelled to make use of competitive tendering and

contracting as a means of organising service delivery'.[150] This review also brings together a number of studies of these European pragmatists, drawing upon studies from Switzerland, Sweden, Spain, the Netherlands and the Republic of Ireland.

The Theory

From a theoretical standpoint, refuse collection should be more amenable to competition than other, more complex public services, and better suited to a contracting model. First, refuse collection satisfies the ideal economic-theoretical conditions for contracting to prosper:

(i) *simple product specification:* quantity of refuse collected is easily measured per tonne, and success is a binary state – refuse is either taken away or it isn't;
(ii) *well-known technology:* garbage trucks are the most complicated technology in the collection process;
(iii) *stable demand during contract lifetime:* consumption is typically mandatory, meaning only changes in the number of houses in a neighbourhood – developments requiring years of planning – can significantly impact upon demand. Unlike commercial waste, there is little variation in the volume of rubbish produced from one collection to the next;
(iv) *no information asymmetries favouring any one bidder:* features (i) to (iii) mean that bid preparation is relatively straightforward for incumbents and new market entrants alike;
(v) *low barriers to market entry:* low capital costs and minimal training requirements limit barriers to entry.[151]

Secondly, although public-monopoly supply of the service is vulnerable to low efficiency and productivity, it is usually considered desirable that government retain some control over the supply chain.[152]

Where payment is centralised (as with council tax in the UK), consumption of the service is *de facto* universal: every household automatically pays for and receives a refuse collection service. This is important because of the disproportionately large externalities arising from non-universal consumption: the marginal cost of collection in a neighbourhood already receiving the service is negligible, whereas the cost of even one household's refuse *not* being collected can be vast in terms of sanitary, environmental and other quality-of-life factors.

Moreover, these social costs are indivisible and non-excludable: if one household's refuse is not collected over a long time-period in a densely populated neighbourhood then many households must bear the increased risk of disease and an unpleasant atmosphere. This, in turn, eliminates any disincentive for households to shirk payment since they incur the costs of non-consumption in any case.

Periodic competition retains this government control, since citizens' legal responsibilities and method of payment remain unchanged in the switch from public monopoly: the

government collects the mandatory fee as before and service remains *de facto* universal. The only possible change – the switch of provider if an outside team wins the bid – may go unnoticed by many consumers in the short term.

Continuous competition does not necessarily preclude universal production and consumption through legal obligation, but ensuring that such obligations are fulfilled is inherently costly. Any government wishing to retain universal consumption of refuse collection services through ongoing competition must monitor a large number of firms and households to ensure that responsibilities on both sides are fulfilled (in other words, that firms collect refuse and households pay for that collection). Despite the high social costs of non-universal consumption such monitoring cannot possibly be exhaustive, as well as bearing other potential costs such as government intrusion into citizens' lives.

Thirdly, the collective bargaining of a contracting model offers benefits not only to government, but also to both suppliers and consumers in the market place: economies of density or contiguity.[153] These are usually highlighted as significant in differentiating between monopoly supply in urban and rural collections: economies of density are available in urban areas since the fixed costs of each mile travelled and each stop/start for the garbage truck are divided across a greater number of households.

This phenomenon is expected under periodic competition irrespective of local geography: one contractor collecting from every house reaps economies of density, but if ten firms each with the same evenly spread customer base serve the same area then each truck only serves 10% as many households as the contractor while still travelling the same distance.

The Evidence

The United Kingdom – Compulsory Competition

In the UK, the use of competition in refuse collection services began on a significant scale following the implementation of compulsory competitive tendering (CCT) throughout the 1980s and the first empirical studies followed thereafter. In 1986, Domberger, Meadowcroft and Thompson examined 403 municipalities in England and Wales, and found that, in those areas where competition was introduced, services were provided around 22% cheaper than in those districts where uncontested municipal provision endured.[154] This magnitude was consistent with an earlier study by the Audit Commission.[155]

Moreover, they found no evidence to suggest that these savings were achieved at the expense of service quality: 'where tendering has been introduced this has resulted in a significant improvement in the efficiency with which all services are provided'.[156] In a follow-up, Cubbin, Domberger and Meadowcroft found that 'greater productivity of labour and vehicles appears to lie at the heart of the efficiency gains'.[157]

Domberger et al also found that there was no significant difference in service costs between public and private provision *where competition existed*. In other words, where public bodies had been costly prior to competition, when incentivised by competition to reduce costs, they were not significantly less efficient than their private competitors. Indeed, there were direct labour organisations that performed 'as well or better than privately contracted services'. Conversely, where competition was absent, only a handful of authorities produced the service as cost-effectively as the private sector.[158]

Ganley and Grahl sparked a lively debate in contesting these findings, disputing both the magnitude and sources of cost savings measured by Domberger et al. They argued that a number of variables might explain the differences; these included reduced wages and worker conditions, inferior service quality, authority-specific factors upwardly biasing the estimates (so-called 'superstar' districts), and loss-leading behaviour by bidding firms.[159]

Domberger et al replied, addressing each criticism and robustly defending their original findings. Where Ganley and Grahl argued cost-savings to be overestimated because of a few 'superstar' districts skewing the data, Domberger et al showed that even if these districts were discounted (and it was not clear that they ought to be) then cost savings were still a substantial 15%. Additionally, they reiterated the finding by Cubbin et al on the lack of evidence of falling service quality. They were less robust in responding to the claim that cost-savings 'can be traced to "losers" among the workforce', not denying the possibility of reduced worker conditions but pointing out that no evidence existed on this either.[160]

They then outlined three plausible sources of efficiency gains: the incorrect balance of labour and capital inputs in production, the payment of non-market factor prices due to public-sector budgeting processes, and inefficient production (due, for example, to outdated production methods).[161] Within these it was possible that cost savings might come at the expense of the workforce, but the *a priori* assumption that they must do so was clearly invalid: cost savings might be accrued by the more efficient use of capital, marketised budget processes or up-to-date production technologies. Additionally, wage levels agreed under public monopoly might themselves be inefficient. So, if the argument for retaining public-sector production was that it protected the wages of workers, that could equally be used as an argument in favour of competition, if those wage levels reflected monopoly rents.

This debate dominated all subsequent discussion in the UK and beyond. Szymanski and Wilkins reported similar conclusions to Domberger et al with a natural extension of the original 1986 project.[162] Whereas the former had taken data from CIPFA surveys in 1984-86, Szymanski and Wilkins drew on the same surveys in subsequent years (1986-88). They found that competitive tendering and contracting reduced costs by 20%, in line with the findings of Domberger et al. This figure recurred once again in Szymanski's follow-up paper on the 1988-92 data, prompting him to dub CCT in refuse collection 'the 20% solution'.[163] Chaundy and Uttley calculated a magnitude of 22% from a survey, though the data pool

was too shallow to afford generalisation. Theirs was, however, one of the few reports to examine the transaction costs of tendering, finding that the process only amounted to 3.6% of costs, meaning total savings remained substantial at around 20%.[164]

Szymanski and Wilkins identified productivity improvements as the source of most cost savings: 'This means that fewer people were doing the same job at the same employment cost per person.' While it appeared that pay reductions were therefore not a direct source of savings, it was possible that the productivity increase was partly accounted for by staff working longer hours for the same total wage. A further concern is that whilst 'the savings from contracting initially appear to rise, we found evidence that the trend is reversed four years after the award of the initial contract'. They attributed this to the impending end of a contract life, and posited underbidding as a potential source.[165]

A series of follow-ups presented further evidence of diminishing cost savings over time in 365 municipalities between 1983 and 1994.[166] Moreover, a significant cost difference between public and private providers began to emerge. In other words, in 1994, the presence of competition was no longer a sufficient condition as it had been ten years earlier. The explanation for these diminishing returns is unclear, but two possibilities emerge – (i) innate political bias in tendering authorities meant there was a bias towards public authorities, and thus weaker competition and contestability; and/or (ii) private firms began to 'cherry pick' the best contracts leaving a lack of competition in those with smaller profit margins.

An interesting footnote to these 1990s developments was provided by a study of bidding costs in the refuse collection sector, which showed direct negative correlation between costs and the number of bidders in CCT.[167] In other words, the higher the number of bidders for a service, the lower the winning bid and thus the greater the cost savings for government. If this is intuitive then it also serves as a useful confirmation. The number of bidders is not independent of the contract on offer – bigger, more profitable contracts attract more bidders – so it is important that contracts are sufficiently attractive to multiple bidders if savings are to be accrued.

The UK literature, then, suggests that refuse collection services can be delivered around 20% more cost-effectively through the introduction of periodic competition in place of public monopoly. In line with theoretical expectations, these savings are attributed to increased efficiency rather than reduced service quality – efficiency gains attainable for public and private sector providers alike in the presence of competition. Where transaction costs of contracting were measured they did not seem prohibitively large. However, it appears that these efficiency gains dwindled over time, particularly on the part of public providers. These developments are most plausibly explained by reduced competitive pressures but there is insufficient evidence to offer conclusive explanations.

Europe's Pragmatic Approach

Whereas the UK did not utilise contracting on any great scale until CCT made it obligatory, as Reeves and Barrow reported, a more pragmatic approach has been adopted elsewhere in Europe, 'where local authorities have been encouraged rather than compelled to make use of competitive tendering and contracting as a means of organising service delivery'.[168]

The earliest study of such an approach came from Switzerland, analysing refuse collection in 103 cities roughly evenly divided between private providers ('mostly on a contract basis') and public monopolists.[169] Even accounting for technical differences and service quality, they found that private production was preferable where the appropriate market conditions existed.

If market conditions were imperfect, however, then public monopoly may well be preferable. For example, where collusion between bidders was possible, private sector firms might prove more costly than public monopoly. Thus, the government did not abdicate responsibility in adopting a contractual model: 'Rather, its role becomes one of establishing the conditions necessary to ensure that private producers function efficiently in the long run'.[170]

This is a crucial point. The authors did not explore whether public sector firms could match their private sector counterparts in a competitive market, but in identifying that the competitive framework trumps the public-private dichotomy they were perhaps the first to make the fundamental policy observation in this sector.

In Catalonia, a study found further evidence to support this claim as well as putting forward a hypothesis to support Domberger et al. Taking a sample of *comarca* (county-level service districts) in which competition had been in place for some time, they found that the mode of production had no significant effect on service costs: there was no meaningful cost difference between public and private production.[171]

They put forward two hypotheses in explanation: (i) that over time competition drives public managers' costs down to the same level as their private-sector counterparts (as per Domberger et al); and (ii) progressive market concentration and decreased competition outweigh initial gains from privatisation (thus supporting Pommerehne and Frey's argument for maintaining healthily competitive market conditions). Earlier research had examined 75 municipalities in Catalonia and also found that the competitive environment seemed more significant than the distinction between public and private production, adding further weight to this view.[172]

Reeves and Barrow added an Irish dimension to the literature, drawing upon data from 51 municipalities to find intra-municipality cost savings of 33.5% after contracting was introduced. They also found average cost savings of 46% between municipalities using periodic competition rather than public monopoly. This magnitude is the most emphatic of any study and was attributed to more flexible working practices, although 'in some cases these are offset by the existence of poorer working conditions'.[173]

In the Netherlands, Dijkgraaf and Gradus analysed data from 85 municipalities on the collection of waste in 1996 and reported that those subjecting their service to tender paid 15-20% less than their monopolist counterparts.[174] They also found that private firms were able to exploit economies of scale. This was because public providers were bounded by their municipal borders, whereas private firms with contracts in adjacent districts could combine collection from different locations.

In Europe then, there is a broad consensus towards the presence of significant cost savings through contracting out refuse collection. This was even found to be the case in the one study that concluded public production to be more cost-effective than private production. Ohlsson reported that Swedish public provision was 6% cheaper for 170 firms in 115 municipalities, although the private-public distinction was not the key conclusion. First, contracting out was credited with 'forcing public sector managers to adopt commercial criteria' – contestability works. Second, cost differences were shown not to affect producer choice. In other words, Ohlsson's key observation was on the role of political decision-making.[175] Selectivity bias in public policy makers means the lowest cost option is not always taken.[176]

North American Experience

The first studies in this sector emerged in the USA with Hirsch in 1965, who analysed 24 cities in St Louis County and identified key explanatory cost variables without comparing costs under different market regimes.[177] Stevens found that contracting was 7-38% cheaper for cities with a population of more than 50,000, with no significant difference for smaller municipalities.[178] A 1977 case study of municipal productivity in Minneapolis following the introduction of competition, concluded that a healthily competitive environment clearly resulted in increased cost-effectiveness.[179] And in 1978, a study of provision in four Midwestern states found that private-sector involvement could improve efficiency where the contract was accurately specified.[180]

Kemperer and Quigley found contracting costs to be significantly lower than public monopoly and continuous competition (or 'private collection', as they described it) for a small collection of sample cities in Connecticut: 'collection cost appears to vary systematically with the organisation of collection, even after controlling for other factors. Private collection appears to be about 30 per cent more expensive than municipal collection, which in turn appears to be about 25 per cent more expensive than contract collection'.[181] Similarly, Savas found that collection under contracting was cheaper than public monopoly, which in turn was cheaper than continuous competition.[182] Edwards and Stevens concurred with Kemperer and Quigley that public monopoly might be cheaper than continuous competition due to economies of contiguity.[183]

Savas later examined the relative performance of the public and private sectors across six North American cities: Kansas City, Missouri; Akron; Minneapolis; New Orleans; Oklahoma City; and Montreal.[184] These locations offered a greater range on issues such as number of contractors, number of bidders and population per collection area, thus facilitating a more meaningful comparison of costs under each of the three market regimes. The wider data pool gave greater credibility and meaning to findings that contracting is the most cost-effective service method, with public monopoly more cost effective than continuous competition.

The failure to take any control variables into account placed two serious limits on the findings: first, non-visible factors rather than the mode of production may be influencing costs: there are certain to be differences between cities – geography and topography of location, technologies used, number of competing firms and maturity of market – that bias the data. Secondly, conclusions on the source of any cost savings were not evidenced in the study, with conclusions relying heavily on organisational theory. This approach is common in the US literature, with concern for the absolute cost of service production often dominating at the expense of other considerations. In the case of this study, a follow-up some 14 years later suggested that the Savas' findings had stood the test of time, finding in the same cities 'no evidence that would suggest that public-private systems cannot retain long-term viability'.[185]

In summary, US studies point towards expenditure reductions under contracting, but without the UK and European rigour for evaluating sources of savings and impact on wider social welfare. Instead, the focus has been largely on the public-private distinction found to be of doubtful significance in other tendering environments. But there were two notable exceptions to the consensus. Bennett and Johnson found that continuous competition was the cheapest option.[186] And Pier, Vernon and Wicks found that public provision was more efficient than private provision at a high output level, although their methodology was strongly criticised elsewhere.[187]

In Canada, McDavid reported findings from a cross-nation survey and two case studies that reinforced Savas' key conclusions on the relative cost of contracting and public production: 'The main difference in the findings (between McDavid and Savas) is the larger gap in unit costs between public and contract producers in Canada'.[188] For a sample of 126 Canadian cities, savings under contract as opposed to public monopoly reached 51%.

The larger of the two case studies was examined in greater detail in a fascinating analysis suggesting that it was competition, rather than the mode of production, that exerted the greatest influence on total costs: in 1981 the state-operated North Vancouver service was threatened by the success of private contractors in West Vancouver as well as unsolicited private bids for their own municipality's services. These threats incentivised North Vancouver's public-sector provider to innovate and eliminate waste, such that by 1984 there was no significant difference in efficiency between themselves and West Vancouver's private contractor. Again, these savings were attributed to productivity increases.[189]

Most recently, a survey of 327 local governments across Canada confirmed the cost savings on offer under contracting while also reiterating the view of Pommerehne and Frey and others, who argued that the competitiveness of the bidding process affects unit costs.[190]

While the North American literature also confirms the theoretical expectation that production will prove cheaper under periodic competition than public monopoly, Dubin and Navarro argued that lowest cost is often not the primary factor for politicians in identifying preferred bidders: political ideology and electoral mathematics will be more influential.[191]

Analysis and Implications

Replacing a public monopoly with periodic competition yields significant reductions in the cost of collection

The literature from the UK, Europe and North America on balance pointed towards cost savings through periodic competition. These conclusions reflect the predictions of economic and organisational theory. Those studies that estimate the magnitude of such savings typically cluster around a finding that service collection is 20% less costly following the introduction of contestability, although some estimates are considerably higher. It is understandable that there is some variation across studies on account of situational factors, although differing methodologies also contribute to such disparities.

There is no consistent evidence that savings have been achieved through diminishing service quality or worker terms and conditions

Four studies (Domberger et al; Szymanski and Wilkins; Pommerehne and Frey; and McDavid) attributed these savings to greater productivity of labour and technology. This increase in labour efficiency may come from more flexible working practices but, as Cubbin et al pointed out, 'better management… need not mean that labour is worse off. Flexible working practices do not necessarily imply a deterioration in working conditions'.[192] Reeves and Barrow found that in some cases working conditions had deteriorated, but their study measured savings of up to 46%. Given the magnitude of the savings, it does not seem unreasonable to suggest that better working conditions could have been restored and significant savings still accrued.

The cost savings resulting from tendering are due to the presence of competition rather than any intrinsic superior efficiency of the private sector

The contracting regime assumes competition, and it is the presence of competition, rather than the mode of production, that is found to be the most significant variable in most cases. Domberger et al, Dijkgraaf and Gradus, McDavid, and Bosch et al all reported that it was competition (or the threat of competition) that drove down cost. Incumbent municipalities did not need to surrender their service by contracting out, they only needed to respond to

market incentives in improving their management and organisational structures to win (and deliver on) the tender themselves.

Replacing a public monopoly with continuous competition will cause service costs to increase

Evidence on the performance of continuous competition in this sector is less comprehensive, since it is a model that has been rarely adopted due to concerns over universality of production and consumption. However, the evidence that does exist – Kemperer and Quigley, Edwards and Stevens, and Savas – suggested that households will pay more for their service under continuous competition than under both contracting and public monopoly. This finding is most plausibly attributed to the elimination of economies of density and contiguity, and the transactions costs involved in private firms finding and capturing custom.

The quality of competition matters

If this is an obvious point then it is so important as to be worth clarifying. Dubin and Navarro's discovery that political factors were more influential than economic ones in making a decision between service providers poses important questions to government: in order to realise maximum efficiency, procuring public bodies must remain impartial throughout the tendering process rather than selecting the provider who will return the greatest political capital. Ohlsson similarly reported that it was public policymakers, rather than public service providers, who failed to minimise costs.

Within this obligation it is important to encourage as many bidders as possible: Gómez-Lobo and Szymanski showed that the higher the number of bidders for a service, the lower the winning bid and thus the greater the cost savings for government. And these savings can be significant. Reeves and Barrow concurred on the importance of managing the tendering process appropriately: 'Overall efficiency gains are more probable in cases where there is strong competition for the contract and the evaluation of tenders is rigorous without an over-emphasis on contract price.'[193]

The role of government in refuse collection is not diminished but altered by progression to a contracting model: continuous vigilance is essential

Pommerehne and Frey were the first to highlight that the government does not abdicate responsibility once tender is complete: 'In particular, government must ensure that competitive pressures persist, if the potential savings from private production are to be realised.' Szymanski and Wilkins, Bello and Szymanski, and Bel and Costas all showed that reductions after tender may not be sustainable over time: possible explanations for this include innate in-house bias during tendering, under-bidding and collaboration between firms, and a reduction in the number of bidders and thus competitiveness. Additionally, even a simple market such as refuse collection will change over time and thus the contract specification will have to evolve to ensure that government continues to maximise efficiency.

There remains a need for extensive further research in the areas investigated here – and in a new dimension too

The refuse collection sector has proven a relatively popular subject for empirical study, and, as such, it seems clear that substantial cost reductions are achieved through the introduction or threat of competition. Nevertheless there remains substantial scope for further work in this area. Further evidence on the sources of cost savings would clearly be welcome, and in particular the impact on workers' terms and conditions. Further work on the role of production technologies would also be helpful.

But perhaps the priority for future research in the refuse collection sector ought to be a topic scarcely addressed until now: recycling. The growing influence of sustainability and environmental concerns across government, business and citizen groups points towards an irrevocable rise in the levels of recycled domestic refuse. This development will have two likely implications: increases in both the cost and complexity of collection. The capacity of public, contract and continuous competitive regimes to adapt to this new paradigm for waste management will exert enormous influence on the future of optimal policy in this sector.

6. Municipal Services

Introduction

The effects of competition and contracting at the local service level have been much studied over the last 30 years. One service that has received particular attention – household refuse collection – is discussed in detail in the previous chapter.

For the most part, the services covered in this chapter are the other core municipal services – street cleaning, road maintenance, grounds and building maintenance, and recreation services. In the UK, and to a much greater extent in the US, local governments are often responsible for a much wider range of public services, including education, emergency services, utilities and public transport. However, in the interests of comparability and tractability, these wider local public services are not addressed here.

In municipal services, the competition experience in individual countries has been very different. Partly as a result of such differences, this chapter adopts two distinct approaches when dealing with material from the US and the UK, the countries from which the majority of the studies are sourced. In the US, a number of different competition models have been used, so we have organised the findings according to the methodological approaches adopted in the analysis. For the UK, where the most significant academic debate has centred on Compulsory Competitive Tendering, we have structured our discussion according to competition type. We also examine material from elsewhere in Europe, and from Australia, though, the evidence in those cases is thinner.

Later in this chapter we also examine the extent to which the research has sought to control for quality. Finally, we explore the evidence on the sources of financial benefits from competition in municipal services.

Overall, the magnitude of the financial impact from competition and contracting in this sector varies considerably, ranging from around 5-25%. Probable causes of this variation include: the diverse nature of the services, the different competition approaches used and the varying quality of the data used in the analysis.

The United States

Private contractors have been used to deliver municipal services in the US since the 19th century. But since the 1970s, local governments have turned more to competition and contracting, primarily as a way of dealing with fiscal pressure. Small cities have tended to outsource a greater proportion of their services than larger ones, although in the 1990s Indianapolis and New York, under the direction of innovative mayors, became celebrated examples of cities that overhauled out-of-date and costly city structures using a range of measures including the substantial use of competition and contracting.

Comparative Costs and Savings

Although the literature from the US includes some very large-scale (usually survey-based) studies, some of the best data on comparative costs and savings emerge from smaller-scale reviews. One of the earliest studies of municipal services in the United States was commissioned by the federal Department of Housing and Urban Development in 1984. The research compared 20 cities in Los Angeles County, addressing eight specific services: street sweeping, janitorial, householder refuse collection, traffic signal maintenance, asphalt overlay, street tree maintenance, turf maintenance and payroll. Half of the cities delivered these services publicly whilst the other half used private for-profit firms. The report found that municipal delivery was on average 54% more expensive after controlling for quality and scale. Municipal spending on individual services ranged from 28% higher for refuse collection to 96% higher for asphalt overlay. The exception was payroll, which exhibited no significant difference.[194]

A similar study ten years later matched six public-provision cities with six contracting cities of a similar size, quality of service and mix, drawn from different states. Public-provision cities were defined as those where less than 10% of all services were contracted, while contract cities were those that contracted 35% or more. The author found a large range of differences in expenditure by agencies. Public-provision cities spent 75% more on parks and recreation but only 5% and 8% more for street and sanitation services respectively. On the other hand, services such as payroll, human resources and legal services were found to be 27% more expensive in the contracting cities. General expenditure per capita was also found to be 16% higher in the public-provision cities.[195]

In 1997, a survey of the 66 largest cities in the US asked local officials to estimate savings and service performance as a result of contracting. The survey reported average savings ranging from 16-20% for a variety of services that included public works, parks, public safety, health, and support functions. Officials generally reported high levels of satisfaction with contracted services.[196]

A somewhat different approach was adopted in a 1979 study of cities operating under the so-called Lakewood Plan, in Los Angeles County, California. From the 1950s, local communities within Los Angeles County had been permitted to incorporate, on condition

that they did not develop internal services. As a result, they purchased the majority of their services, including police and fire services, from external providers (for the most part from Los Angeles County). This provided an opportunity to benchmark cities that provided their own services with cities that were obliged to contract with external providers. Based on 1970s data, the Lakewood Plan (or 'purchaser') cities were found to be spending 14% less on all services than their self-provision counterparts, including 30% less on street maintenance and 42% less on police services. The author concluded that, by separating the purchaser and provider roles, services could more easily reach their preferred level of consumption.[197]

The city of Ecorse, Michigan, turned to contracting to help solve its financial difficulties when it went into receivership in 1986 and was forced to undergo fundamental restructuring through asset disposals, competitive tendering and the renegotiation of employment contracts. The Department of Public Works was sold to a private firm, which then contracted with the receiver to deliver a range of support services. Savings of around 40% were secured from the negotiation of this contract, and of more than 50% from the renegotiation of a separate contract for refuse collection. The authors of the study which reported these figures also asserted that service levels were maintained.[198]

Systemic Effects

Five of the US studies measured the financial impact of competition and contracting in a different way, by examining the correlation between the use of intergovernmental, private and not-for-profit contracting and the scale of local government expenditures. These studies used national data collected by the International City Management Association in 1982 as the basis of their analysis. Because of the size of the sample, the authors of these studies were able to undertake statistical analysis to control for variables other than the scale of contracting.

In 1988, Ferris looked at 500 cities with populations of more than 25,000 (based on a survey conducted in 1982). He estimated the effect on public expenditure of various factors in local service provision and found that contracting led to a statistically significant but moderate reduction in spending.[199]

Subsequently, Stein used the same data set to look at the financial impact of contracting across 1,433 cities with populations over 10,000. In this study he aggregated information on individual services under 17 clusters, which he described as municipal agencies. He was thus able to study the impact of contracting at both agency and municipal levels. The study sought to distinguish between complete service contracting – where the whole service is contracted out to external providers – and joint service contracting – where responsibility for service provision is divided between a number of providers, both public and external.

Joint service contracting was significantly related to lower spending at agency level for one functional responsibility (airport services). Complete service contracting had a statistically significant effect on spending for five of the 17 functions, but in only three of those five cases (parks, general government and cultural services) were the spending levels lower.

Complete service contracting also had a significant and negative effect on total municipal spending and employment levels. However, this was not evident with joint service contracting. Stein attributed this difference to the reduced workforce flexibility available under joint service contracting. He also suggested that, where agency spending did not reduce as a result of contracting, that might be because individual agencies were retaining savings whilst municipal spending was reduced overall because year-on-year budget requests by the agencies did not increase by the same extent as previously. However, there was no data to test the effect of contracting over time.[200]

A later study by Martin and Stein found that 'cities which contract for *any* portion of their service repertoire have significantly lower per capita outlays than their non-contracting counterparts'. This study also found that contracting only had a significant impact on employment levels once the cities outsourced 25% or more of their service responsibilities.[201]

A subsequent study suggested that the scale of the competition effect might be somewhat greater than Stein had estimated. Working with 528 cities and using the ICMA data from 1982, and expenditure data from 1982 and 1984, Miranda found that contracting had a significant and substantial effect in lowering city expenditure. This was also reflected in significantly and consistently lower service agency budgets.[202]

Further research by Miranda and Lerner found that, in contracting cities, benchmarking public services against private delivery delivered lower spending. In contradiction to earlier studies, municipal expenditures were found to be significantly lower where joint contracting was used (contracting to a number of providers, both in-house and external), with no effect on the level of public employment or wages. Complete contracting of service responsibilities to external providers was found to be insignificantly related to lower spending, whilst this approach also appeared to lower public employment. The authors concluded that: 'In some instances, it may be better to ask how both markets and governments may be used to improve performance and service delivery.'[203]

More recently, research has found that intergovernmental cooperation (sharing of services between authorities) and contracting with non-profits can be used to promote social equity and political accountability, whilst at the same time improving efficiency. Non-profits are more likely to capture efficiencies in service delivery for soft 'human' services such as library management and parks/recreation services, whereas intergovernmental cooperation was preferred by less wealthy cities which may not have the capability to negotiate with external providers on a large scale.[204]

Evidence has also pointed to a growing tendency for cities to contract services back in where outsourcing has failed.[205] Some case studies have suggested that contracting does not necessarily maintain projected savings rates over time – one possible reason for this may be that, in the cases studied, a lack of competition from other suppliers meant that the incumbent gained a monopoly over provision. Taking this into account, the threat of re-instating public provision may act as an incentive to promote continuous efficiency gains.[206]

The United Kingdom

In the UK, significant attention was paid to competition in local services following the introduction of compulsory competitive tendering in the 1980s. All councils that wanted to maintain in-house provision of specific services were required by law to invite tenders from external service providers. Although they were not necessarily required to accept the lowest bid, they were not allowed to take 'non-commercial considerations' into account. The *Local Government Planning and Land Act (1980)* made tendering mandatory for building and roads construction and for building renewal and repair. This was followed by a series of *Local Government Acts* in 1988, 1992 and 1994, which submitted further services to compulsory competition starting with blue collar services and later extending to white collar administrative functions such as legal, financial, architectural and engineering services.

Voluntary Competitive Tendering

Prior to the formal implementation of compulsory competitive tendering in 1988, the government encouraged councils to voluntarily adopt competitive tendering for some services. Uptake was limited due to local resistance. In 1984-85, researchers from York University surveyed all 410 English local authorities, receiving 213 responses. Of these, only 75 had subjected any services to competition, and the respondents selected one contracted service on which to provide financial details. Surveys were also sent to 192 health authorities, of which 119 responded. In ten cases services had been competed. The authors reported that contract prices for the 75 local and ten health authority services that were subjected to competition were 26% lower than the previous year's cost for the same level of service. However, since the councils had selected the service for study, there may have been some selection bias.[207]

In fact, a 1987 report by the Audit Commission broadly supported the findings from the York survey. It projected savings of 20% for housing maintenance, 25% for vehicle maintenance and 15% in refuse collection for councils if they implemented competitive practices as employed by the most successful 25% of authorities. The most successful in-house providers incurred costs that were lower than the prices quoted by the average external supplier. The conclusion was clear: 'Costs incurred by ratepayers are higher if services are not subject to competition.'[208]

Compulsory Competitive Tendering

From 1989 to 1995, the Department of the Environment, which was at that time responsible for local government, commissioned three studies of the first two rounds of Compulsory Competitive Tendering (CCT). The first of these was undertaken in 1989 at the end of the first year, followed by a second which extended until 1992, looking at the performance throughout the first round of competition. Both of these were based on the winning tender prices rather than the actual results. The third study was conducted in 1995 and 1996, looking at actual results from the second round of competition (and, to a more limited extent, from the first round).[209]

Table B: Comparative Costs Under Compulsory Competitive Tendering

Service	1. Estimated annual cost after 1st year of competition compared to 1988-89	2. Estimated annual cost after 1st round of competition compared to 1988-89	3. Annual cost under 2nd Round compared to 1st round
Refuse Collection	-8.0%	-11.3%	-7.0%
Street Cleaning	+5.6%	+2.6%	-10.4%
Building Cleaning	-17.1%	-12.7%	-9.6%
Catering	-7.0%	-4.9%	-4.0%
School/Welfare Catering	-1.8%	+2.8%	-14.3%
Vehicle Maintenance	-11.9%	-1.3%	+2.4%
Grounds Maintenance	-8.6%	-10.9%	-2.6%
Leisure Management	n/a	-5.0%	-25.0%
Average for all services	*-5.7%*	*-6.5%*	*-9.1%*
No. of services	*59*	*213*	*89*

The studies compared costs of services provided by local authorities before and after competition. Information was collected via questionnaires sent to a sample of 40 councils encompassing London boroughs, metropolitan districts, shire counties and shire districts. The membership of the sample remained fairly constant over the three studies. However, the authors found it difficult to obtain financial information from councils and therefore could only report on 24 councils in the first study, 35 in the second and 28 in the third. They used interviews to supplement their data where possible. Monitoring costs were included in the comparisons, and while procurement costs were obtained, they do not appear to have been included in the calculations.

In the course of an extensive debate about the pros and cons of CCT, a number of criticisms were levelled at these reports. Some analysts argued that, since the results from the first round studies compared actual costs before CCT with the tender price, the results represented nothing more than anticipated savings. However, in the first study, local officials had been asked to provide their best estimate of what the overall financial impact of competition had been. Costs rose in 12 of the 47 cases cited, although in five of those examples, service levels also rose. Overall, the results suggested an average saving of 7%.[210]

The same criticism was addressed in the third Department of the Environment report, by the author's use of figures derived from actual outturn costs for both the first and second rounds. Actual costs for first round contracts were not significantly higher than tender prices (6%) and thus within the bounds of inflationary effects. And the actual outturn costs on the second round were in the order of 9%.

Critics of the studies also pointed to the lack of a sophisticated statistical analysis to control for quality, scale, competition and ownership (which most of the academic refuse collection studies had employed), as well as to the absence of a serious assessment of the significance

of the findings. However, the extent of the analysis was restricted by limitations in the available data.[211]

It is hard to ascertain the overall impact of competitive tendering, based on these studies, as distinct from the effects of other local government reforms. The reports acknowledged that certain services, such as school and welfare catering, had already been through a series of efficiency reforms in the 1980s and there was little room to carve out further savings in the first round. Moreover, in some cases, service levels were higher than before – new environmental regulations had been recently introduced which required high quality improvements for street cleaning services. Both these services realised considerable financial benefits in the second round.

It is also difficult from these results to estimate whether there was any cumulative effect from a succession of competitions. Given 'savings' of 6.5% in the first round and 9% in the second, it is theoretically possible that a local authority may have benefited from both. Repeated competitions also had the effect of bringing down transaction costs over time. In interviews, officials ascribed falling preparation and monitoring costs to 'general budgetary constraints, improved internal controls and raised consumer expectations'.[212]

Northern Ireland

CCT was implemented in Northern Ireland in 1994 and covered refuse collection, street cleaning and grounds maintenance. An initial study by the University of Ulster reported that, out of 26 councils tendering for refuse collection and street cleaning, all had awarded the contracts to in-house teams. Based on the responses of 15 councils, contract values (gross costs of services including overheads after competition), were on average 25% lower than before (with all contracts awarded to the lowest bidder), with an average difference between the lowest and second lowest bidder of 19-30%.[213]

A separate study by the Chartered Institute of Public Finance and Accountancy (CIPFA), carried out in 1995, received financial details on winning in-house tenders from 13 out of 26 councils. These indicated lower savings of around 9% in refuse collection. Street cleaning costs were higher across the board in the year after CCT, ranging from 4.2% to 29% although this may have been due to the imposition of higher standards under a new litter code. Four joint refuse and street-cleaning contracts ranged from a decrease of 18% to an increase of 8%.[214]

Three case studies undertaken by CIPFA at the same time looked at some of these figures in greater depth, comparing total cost of services in 1993-94 and 1994-95 and taking any increase in monitoring costs into account. These found savings of 2-5% in cash terms (not taking inflation into account).

CIPFA tried to look behind the local authorities' response. The case study analyses showed that figures from the year before CCT and the year after could not be reliably compared. This

was partly due to restructuring and re-organisation that took place in anticipation of CCT, service changes such as the introduction of wheeled rubbish bins, and more vigorous negotiations with unions. There was also some controversy over the allocation of central support costs to in-house teams, some of which dropped dramatically from one year to the next. CIPFA therefore 'grossed up' tender prices to include leasing and client costs, and this led to smaller cost reductions.

Europe

The European approach to competition and contracting has been described as more pragmatic and has avoided the element of compulsion that characterised the early stages of the UK market. Two recent studies from Denmark illustrate some of the benefits that have been secured from this approach.

In road maintenance, for every 10% increase in private sector involvement as a proportion of municipalities' budgets, there was a reduction of 1.11 Danish Kroners per metre road, equivalent to a 2% reduction in average road expenditure.[215] In school cleaning, private firms were found to make more efficient use of economies of scale without reducing quality. Private provision was found to be on average 24-29% cheaper than municipal delivery. It was estimated that if all publicly cleaned schools could achieve the same efficiency then there would be overall savings of 25% on current expenditures. Some of the reluctance to restructure cleaning services was ascribed to local politics and resistance by stakeholders.[216]

Australia

There is limited evidence of the financial effects of competition from Australia. Competitive Tendering and Contracting (CTC) was first implemented in New South Wales state government in 1988. Victoria took more drastic action due to a severe budgetary crisis and introduced a form of compulsory competitive tendering for local government between 1992 and 1997. This was different from the UK version and required 30% of annual expenditure to be subjected to competition, rising to 50% by 1997. Elsewhere Australian state governments (which have the constitutional responsibility for local government) have pursued voluntary reforms.

A survey of all South Australian and Tasmanian councils by the Australian Chamber of Commerce (ACC) in 1988 using figures published by the Australian Bureau of Statistics, showed costs that were on average 24% lower for councils using contracting in refuse collection, sanitation, roads and bridges, and halls and civic centres. An earlier survey by the ACC had found 17% lower costs per property of refuse collection for contracting authorities in Melbourne.[217] A case study of Glenorchy Council in Tasmania reported savings of 10-15% for road sealing and mechanical street sweeping, while an 18% saving was made by the city of Bendigo in Victoria following the introduction of CCT. However, much of that saving was

made at the expense of the contractor who was tied into a work-specified contract and lost $5,000 following a drought.[218]

A larger survey conducted by a union-funded think tank in 1990 was sent to all 831 Australian municipalities and received a 55% response rate. The results suggested a more mixed experience of contracting on the part of local officials although the survey relied almost completely on qualitative opinion-related data. Substantially more responses cited lower costs as an advantage of contracting than cited higher costs as a disadvantage, although quality was more often said to have deteriorated than improved. Due to the lack of cost data it was not possible to draw any further insights on financial effects.

The largest statistical study of Australian local government expenditure was published as a doctoral thesis by Stephen Rimmer in 1993. It covered 327 councils in New South Wales and Victoria, and five different services. Analysis of mean spending on services showed councils that used contracting spent 24% less in New South Wales and 20% less in Victoria. Median service costs showed lower savings of 5.4% and 13.6% respectively, which suggested that outlying or extreme values had affected the results, especially for New South Wales. When the analysis was adjusted to account for differences in population, geography and the number of households, however, contracting was not found to have a significant effect on service expenditure except for refuse collection in Victoria which was found to be associated with higher costs.[219]

Some of the difference between the mean, median and statistically controlled results was explained by the impact of rural and provincial councils on the results. Non-urban councils benefited least from contracting due to their smaller budgets and lower density, but were more numerous and therefore statistically more significant than city councils, which benefited the most but were fewer in number. Many authorities also used contractors to supply additional services over and above what their in-house teams had delivered, yet there was no adjustment for the scope of services contracted.

Like much of the US analysis, Rimmer made no distinction between contracting and competition, and it is not clear where competition may have led to continued public provision nor is it evident where contracts were negotiated rather than tendered. In addition, it was assumed that, where councils reported the use of contracting, they had contracted the full service.

Controlling for Quality

Critics of competition and contracting have suggested that cost-cutting inevitably leads to quality shading. However, quality is difficult to measure, due to its often subjective nature, the complexity of services, and local characteristics such as population density, (although these can to some extent be controlled by statistical analysis).

From the US, a study of 20 cities in Los Angeles County undertaken on behalf of the Department of Housing and Urban Development employed a single tailored measure for each service, collected by field personnel, using a common scale to represent the observed cleanliness of buildings and a rating system (out of 100) for asphalt overlay.[220]

In the UK, the Department of the Environment reported that compulsory competitive tendering had led to an increased concern over quality as the service was reviewed and standards clarified and improved. There were exceptions, as in building cleaning, and where under-priced bids and high staff turnover had led to a higher level of complaints.[221] A study of the tendering of cleaning in Kent Schools prior to CCT reported savings of £2.73m over four years, after accounting for redundancy payments. The standards set in the contracts were clearly defined so as to maintain standards and monitors were appointed to police their implementation. A slight deterioration was noted in the satisfaction notes signed off by head teachers fortnightly, indicating a drop from 96% to 94%, which led the author to comment that 'the same dust unnoticed before privatization, was noted because of privatization'.[222] Although the consensus in the council at the time followed the head teachers' opinions, subsequent review of the study suggested that this change should not be regarded as significant.[223]

A statistical analysis of the effects of CCT on quality in 21 health and local authorities found a significant relation between savings (of 11%, not accounting for transaction costs) and quality deterioration. The study based its measure of quality on responses from local officials who indicated on a three-point scale whether quality had worsened, remained the same or improved. When the results were analysed more closely, it was suggested that the link was less direct and it appeared that savings from competition were more likely to inhibit quality improvement rather than cause decline.[224]

Research on road maintenance in Denmark assessed the link between expenditure and quality by examining spending levels against a 0-10 point standardised municipal quality inspection index used to grade performance in road maintenance. The study found that private involvement was still strongly related to lower expenditure on Danish municipal roads after controlling for quality. However, raising quality by one point on the scale was calculated to cost 10.5 Danish Kroners per metre of road. This was supported by findings on Danish school cleaning which indicated that raising pre-specified standards to a higher level raised unit costs by between 5% and 18% regardless of public/private provision or the size of the school.

Sources of Benefits

As with most other public services, most municipal services are people intensive and thus a large portion of budgets are represented by personnel costs. It follows that if productivity is significantly increased through more efficient workflows, then fewer staff will be required to deliver the same level of outputs. In some cases, personnel costs have been brought down through reductions in terms and conditions or through work intensification. In one

early US study, the author found no overall difference in the wages paid, although private workforces worked on average 11 days more a year.[225] Reduction in earnings was identified as a factor in cost reductions from compulsory competitive tendering in the UK. This question was briefly addressed in the second of the studies undertaken for the Department of the Environment, which found that, although there was little difference in basic wages between private and public sectors, pensions and benefits were generally believed to be higher in the public sector (although this could not be quantified).[226]

However, it is difficult to estimate how much impact this had. In one study of 17 UK councils, officials ranked increased productivity as the most important cause of cost reduction. This was followed by changes in workforce composition (for example, a change from part-time to full-time work), and only then was reduction in earnings mentioned.[227]

More efficient personnel management has been seen as a key difference between public and private providers in the US. Leaner, younger workforces were employed with a higher staff turnover. Private contractors tended to use staff with the minimum qualifications necessary to do a job, and managers had more control over hiring and firing.[228]

Staff reductions are a significant factor in the increased efficiency of winning in-house teams. The Department of the Environment reported a 12.2% reduction of staff for direct service organisations. Job descriptions were changed and working hours rearranged to make the workforce more flexible, whilst sick leave and bonus systems were managed more strictly. Officials generally cited increased productivity as the reason for cost savings.[229]

Research from Northern Ireland also found there was a net reduction in staff after CCT was implemented. The majority of the jobs lost were for blue-collar workers with a small increase in numbers of white-collar workers. The authors concluded that this suggested tendering might have favoured administrative and managerial staff.[230]

CIPFA reported that, in Northern Ireland, staff reduction had on the whole been agreed with the workforce and unions before the preparation of in-house bids. This was often accompanied by revised sick leave arrangements which led to observed falls in absenteeism rates. In one council absenteeism fell from 8% to 2.5% for its refuse collection and street cleaning workforce in the year following CCT. The introduction of attendance-related shared surplus agreements, instead of overtime pay, was identified as an important motivator.[231]

Similar results were reported from Mosman, Sydney, where the in-house team beat private bidders with a 14% cheaper price for street cleaning. The team ran a $40,000 surplus in the first eight months and rewarded staff with an $800 bonus. Staff worked overtime and assumed extra duties without extra pay, and sickness levels were at least half of the council average.[232]

A Harvard case study on competition for pot-hole repair in Indianapolis in the early 1990s provides invaluable insight into the changes that in-house teams make in order to become more efficient and win tenders. The in-house team used an activity-based costing approach

to prepare their services for competition, but the street maintenance supervisor described how the competitive pressure drove continuous improvement:

> *When we first started bidding for crack sealing, the city was paying contractors almost $2,000 per lane mile. In our first contract we had it under $1,000 and the second year around $900. Last year we bid one contract for $563 per lane mile but I keep putting pressure on the workers to improve. I had an inspector watching them like a hawk because last year I found some of them goofing off. During the summer, when the ground temperature got to be 100 degrees, they had to quit at noon to avoid tracking problems with asphalt. But they put on their time cards that they were still on that job until 3:30.*
>
> *This year, when the temperature got hot, they switched working hours to start at 4:00am so they could be on the job site by 5:00am. I made this suggestion to them, but it was up to the work crew and the supervisors whether to agree. They thought about it and they all said yes. The contract came in $13,000 under their bid, and each worker got an incentive payment of $250.*[233]

Conclusion

There is consistent international evidence that competition for municipal services can lead to lower service costs and reduced aggregate expenditures. This finding holds whether the competition takes the form of compulsory or voluntary tendering, private or intergovernmental contracting.

The evidence from the US is particularly extensive, covering a number of different competition models. A thorough UK debate has also taken place, around the Compulsory Competitive Tendering programme. Whilst CCT had its flaws, and has since been succeeded by more sophisticated competition policies, the programme was extensively analysed by both government and academia, yielding some insights. However, more could be done to examine the impact of more recent local government contracting initiatives and experiences, which have received much less attention.

Little systematic analysis has been undertaken in this sector to examine the effect of competition on quality. This is due in large part to the difficulties associated with measuring quality. There are also limitations in the available data, in particular relating to pre-competition service levels. There is little evidence to suggest that quality suffers as a result of cost reductions achieved through the competitive process, although the cost of delivering service improvements can be high. Reports on the UK CCT programmes have suggested that increased attention was paid to quality after the introduction of competition, due to the requirement for tighter specification of standards and better monitoring of delivery.[234]

One of the main sources of financial benefits in this sector appears to be productivity improvements. These are achieved in a variety of ways, including work intensification, and workforce flexibility. Opponents of competition and contracting have often linked the cost reductions associated with competition with reductions in terms and conditions. However, the evidence suggests that this is not a necessary association. Rather, in addition to the workforce changes discussed above, absenteeism and overtime can be managed more efficiently whilst employees may be offered incentives to improve performance.

7. Contestability Works

Two hundred studies over 30 years from 12 different countries, covering five different sectors of the public service economy – what have we learned from this body of evidence about the financial benefits of competition and contracting? We have learned that not all studies are equally enlightening. We have discovered that a great deal still remains to be understood. But we have also learned that there is strong evidence that contestability works.

- In defence support, studies from Australia, New Zealand and the United States report savings in the range of 20% to 30%, although in some cases they have been much higher. In the UK, reported savings have been in the region of 20-25%. The results from the use of PFI in the UK defence sector have been mixed, with savings varying from zero to as much as 20%.

- In health support services, financial benefits in excess of 20% have been reported in England, in Australia and in Denmark. However, in other jurisdictions, where competition has been pursued less vigorously, the savings do not appear to have been as great. The published results on PFI hospitals in the UK report cost differentials that are much lower, however there are significant methodological problems with these studies.

- Of ten studies of US prison contracting, all but one found positive benefits associated with contract management, and these were mostly in the range of 5-15%. The financial gains in the UK appear to have been much higher – more than 20% and, over time, perhaps as much as 30%.

- Competition and contracting in household refuse collection has been most extensively studied, with the financial gains from the majority of the studies in North America, the United Kingdom and various European countries clustering around 20%.

- The results from the study of municipal services are more mixed, in part because of the much wider range of services involved. The range extends from 5% to as much as 25% in some studies. Results from the use of compulsory competitive tendering in UK local government indicate that savings were towards the bottom end of this range.

While a few studies have shown that, in some circumstances, private providers deliver greater savings than in-house teams, overwhelmingly the evidence is clear that it is competition that makes the difference rather than ownership. This was evident in defence support, in health services, in refuse collection and in municipal services. From prison management and municipal services, there was also evidence of a contestability effect – public providers do not need to be exposed to actual competition in order to deliver significant productivity improvements – a credible threat of competition is often enough.

We would have liked to explore these questions in much greater detail. Unfortunately, far too many of the studies have been obsessed with the question of public versus private, rather than exploring the difference that competition and contestability make. Within the academic community, it seems to be broadly accepted that competition matters, even among those who are sceptical about the alleged superiority of the private sector.

In studies that are concerned with the financial benefits of competition and contracting, quality matters. If service levels and service quality are not at least maintained, then it is not possible to assert with any confidence that the savings are real. While this question was addressed in many of the studies, the evidence was not always strong. The explanation for this lies in the difficulty of comparing the performance of two somewhat different institutions. Nevertheless, where the question of quality was addressed, it was not evident that standards had declined.

From the outset of this project, we were interested not only in what the literature had to say about the scale of financial savings, but also what it had to say about the sources of those savings. We had hoped to get inside the black box labelled ‘contestability’. Once again, we would have liked to discover more about this process, although the evidence is clear that a significant proportion of these benefits have been secured through improvements in productivity.

The following comment, from a review of the A-76 studies conducted throughout the 1980s, is typical of the studies that have addressed this question:

> *The techniques commonly cited for reducing costs of internal production through management reviews include the following: consolidation of functions to realize economies of scale or scope in equipment and supervision, obtaining updated equipment and utilizing improved production techniques, reorganising the structure of production and rationalizing operating procedures, increasing use of incentive pay systems where possible, and reevaluating the grades of positions to utilize the lowest grade personnel capable of doing the job.*[235]

Service redesign: There is a significant body of evidence to suggest that the process of competition opens the way for a fundamental rethink of the way in which the service is delivered. Incumbents face a major disadvantage in this regard, in that they already ‘know’ how the service ought to be delivered.

A 1985 Rand study of the A-76 program asked why private contractors won competitions more often than in-house teams. Among other things, Rand addressed the ability of contractors to focus on the task as specified in the Statement of Work (SOW).

> *For example, at two [military] bases we were told that government employees often do poorly in bidding because they tend to bid on the task of maintenance as they have always done it, whereas contractors bid on the task as it is described in the SOW. The task described in the SOW generally requires less work than government employees understand to be customary… In addition, it is difficult for government managers to drastically rethink the staffing requirements they have been using for years. In many cases, this will mean loss of jobs for highly valued employees. Finally, although the designers of performance work statements talk in terms of 'throwing away the rule book' when preparing bids, long-time government employees are sceptical that this can be done with impunity.*[236]

In other words, successful service managers develop a bespoke solution tailored to the problem in hand. In some of the studies they have significantly reduced the use of overtime, while in others they have relied on it more extensively. In some cases, they have turned to multi-skilling, while in other places they have turned to specialisation. Sometimes they used more part-time workers, other times they used fewer. Some providers introduced personal bonus schemes, while in other cases they abolished them. There is no single formula capable of being applied across the board. Successful service innovation seems to depend on the development of a unique design customised to meet the needs of the individual customer.

This process has been little documented, and understandably, among private providers there is some reluctance to share lessons that may provide them with a commercial advantage in future competitions. One of the few studies that provided us with insight was the study of Trentham Army Base in New Zealand. The contractors who took over the operation of the workshop made significant process improvements, increasing output by 28% and the proportion of productive time to total available time from 60% to 66%.

> *The incoming [contractor's] workshop manager discussed how to re-design the workshop floor and the new operational layout with all of the staff employed in the workshop. As a result, [the contractor] was able to reduce the co-ordination inefficiencies between the different workshop areas, and with the supply of spare parts.*[237]

The available evidence seems to suggest that service innovation is incremental in nature. Change appears to come from a multitude of micro-reforms rather than from major procedural and technological breakthroughs. This probably helps to explain the difficulty researchers have had in identifying what contribution particular reforms have made.

This may explain why the term 'flexibility' is so often used in explaining the sources of financial savings. Good service design needs the flexibility to adapt to local conditions, and to keep on adapting as those conditions change. It is difficult to understand how there can

be continuous improvement unless service managers enjoy the autonomy and flexibility to experiment with alternative approaches. In a variety of ways, competition and contracting seem to make a significant difference to the amount of flexibility enjoyed by service managers.

People management: Another part of the answer seems to lie in better people management – putting the right people in the right jobs, and using good people better. At its simplest, this is evident in the better management of sick leave and overtime. This emerged as a consistent theme, from municipal government in North America to prisons in the UK and Australia. And it was just as evident among successful in-house teams as it was among external contractors.[238]

Successful contractors seem to pay more attention to appointing staff who are more appropriately qualified for the job in hand. In both the United States and Australia, this helps to explain the large savings in defence support, evident in that case in the substitution of civilian personnel for highly trained (and thus more expensive) uniformed personnel.[239] Much the same has been evident in the UK market for prison management: contractors have been able to reduce unit costs, in part, by recruiting younger workers who are at a different stage in their professional career. Since service standards in the privately managed prisons have not been noticeably worse than in the public sector (and in some ways have improved), this suggests this innovation has worked. A similar strategy was evident in some US studies of local government.[240]

Management authority: The evidence is clear that successful contract managers enjoy greater autonomy than service managers working under a traditional public service regime.[241] One North American study reported that contractors were much more likely than municipal agencies to make front line supervisors responsible for hiring and firing and for the maintenance of their equipment. Cities with low costs required managers to accept responsibility for their staff, which reduced the tendency to 'pass the buck'.[242]

Technological innovation: This emerged as a driver of value for money improvements in several of the studies. A computerised inventory system at Trentham Army Base is one example, and CCTV cameras and electronic keys have been mentioned in some studies of prisons. However, in the services studied in this report, technology was not often raised as a significant driver of change. Clearly, in other areas of service contracting, such as business process outsourcing, the situation is significantly different.

Unsurprisingly, most of the financial savings in the public services sector manifest themselves as lower personnel costs. This is because the public services sector is overwhelmingly concerned with people delivering services to people. Studies in health services and prison management suggest that personnel costs account for around 70% of all savings.[243]

For the most part, these savings can be explained through improvements in productivity, both in lower unit costs and in a better use of the workforce numbers available.

But there is no doubt that in some jurisdictions at some times, cost reductions have been

delivered in part through lower wages and benefits. This was particularly so in the UK in the 1980s and early 1990s under compulsory competitive tendering. HM Treasury wrote of CCT that, 'Most of the savings from contracting arise because contractors offer poorer conditions of employment.'[244] In many cases, actual wage rates were maintained through strong collective bargaining, but reductions were manifest in the use of bonus schemes and fringe benefits.[245]

There was also some evidence of this in the United States.[246] But it was by no means universal: in the US federal government, legislative provisions placed constraints on what contractors could pay their employees, and in several studies of municipal outsourcing, there was very little evidence that workers had been paid less.[247] In some countries – most notably in the United Kingdom – changes have been made to the procurement regulations to protect the terms and conditions of workers transferred in the course of contracting.

It is clear that competition and contracting are capable of producing significant financial savings in the delivery of public services. It is also clear that, through careful design and good contract management, it is possible to ensure that these savings are secured through better service design and people management, and not through reductions in the conditions of front-line workers.

8. The Competitive Edge

So, does the key to better value for money lie in detailed service redesign, increased workforce flexibility and better people management? Yes, but management theorists have been arguing that for decades. Indeed, one can go back to 19th century writers on public sector reform and find that they were propounding very much the same principles.

The answer lies not so much in knowing what reforms are required, as it does in understanding how to motivate public sector managers to experiment with new business models, how to encourage them to take on the risks of implementation, and what must be done to facilitate the dissemination of best practice across the system as a whole.

The answer to this does not lie in education and exhortation. If that were the answer, then governments would have worked out the value for money equation decades ago. In some cases, the answer can be found in the heroism of an outstanding public service manager who is willing to risk his or her career in personally underwriting a change agenda. But, as Edmund Burke pointed out a long time ago, the foundations of good public management cannot be laid in rare and heroic virtues.

This report suggests that part of the answer lies at the competitive edge. Competition gives permission to public sector managers to innovate. It provides them with a mandate and an incentive to implement change. And it serves as a convenient conduit for the spread of new ideas across the public service sector as a whole. A great deal more work needs to be done to understand the way in which these processes work. Therein lies yet another fertile field for future research.

Attachment A: Methodological Issues

The robustness of the conclusions in these studies, and the significance that is to be placed on these conclusions, are heavily dependent on the quality of the data upon which they rely, and the methodologies that are used in comparing the results. As noted in several places throughout the report, these questions have been the subject of spirited debate over the years and policymakers should benefit from this ongoing process of 'conjecture and refutation'.

While there can be no prospect of reconstructing the course of that debate in such a brief report, in the following pages we seek to capture some of the key methodological issues. Many of these concerns are discussed in some detail in the companion to this report, *Competitive Edge: The Evidence*, which contains summaries of the almost 200 studies that we reviewed.

a. What is Being Measured?

Competition or privatisation? As we have emphasised several times throughout this report, the overwhelming majority of these studies are concerned with ownership rather than competition or contestability. While the existence of a contract with a private provider may amount to *prima facie* evidence of contestability, there are examples where contracts have been awarded without competition, or where the quality of the competition was so poor that the contestability effect was undoubtedly weak.

At the same time, the fact that there has not been a competitive tender does not mean a public service has not been contested. The example of the two new-generation prisons in New South Wales that transformed their operations under the threat of competition is evidence that contestability by itself does work, at least for a time.

For the future, we would suggest that academic and governmental researchers should pay greater attention to the impact of competition and contestability, rather than the relative virtues of public and private provision.

There is a further insight that comes out in a number of the studies – the extent of financial savings will be heavily influenced by the quality of the competition, so that the mere introduction of competition is not sufficient to maximise benefits. The quality of competition is defined by a number of factors, including the number of bidders with appropriate experience, and the commitment of the procuring authority to identifying the best solution.

Costs or savings? A second key methodological question lies in whether we should be studying the comparative cost to government of different models, savings to the taxpayer, comparative efficiency, or efficiency gains to government as a whole.

(i) Comparative cost: A majority of studies have been concerned with the cost to government of publicly and privately managed services. This involves a comparison of the payments made to the contractor for the delivery of the service with the cost to government of operating a similar service.

In the ideal case, the cost of contracting would include the contractual payments (give or take any financial bonuses or penalties) adjusted for overheads, monitoring costs and tax payments. This turns out to be a relatively simple exercise. By comparison, costing the public sector counter-factual is usually much more difficult, partly because of the obscure nature of public accounts, and partly because of the complexities associated with comparing services and facilities that are constructed along different lines.

(ii) Comparative efficiency: Another approach, adopted in several studies in this sample, lies in comparing the relative efficiency of two or more providers. One study sought to estimate the cost to the company (as opposed to the cost to government) of operating a contract prison, and then to compare this with the cost to government of operating a similar facility under traditional management arrangements.[248] This involves the construction of a detailed set of accounts for the private company, rather than making marginal adjustments to the contract price, and perhaps for this reason this approach has rarely been adopted. In the study just mentioned, concerns about commercial confidentiality were addressed by using the company's external auditor to aggregate the data.

When a study compares two sets of public sector organisations, one of which is operating in a contestable environment, then 'comparative efficiency' has much to recommend it. Again, we have only one example of this in our sample – the 2005 study by the New South Wales Public Accounts Committee, which compared two traditional public prisons with two public prisons that had been established under a new industrial award negotiated under the threat of competition. In this case, the authors chose to compare the two sets of facilities on the basis of performance indicators that were regarded as fundamental to the efficiency of the prisons – overtime and sick leave.[249]

(iii) Savings: The term 'savings' is often used to describe the financial benefits identified in these studies, but unless that takes into account the transaction costs associated with conducting the procurement and monitoring the contract, then this is not the most appropriate term. There are several important differences associated with a savings approach:

- Such an analysis would consider the costs that government expects to avoid as the result of contracting. The greatest difference between this and a 'comparative cost' approach lies in the treatment of overheads – using an 'avoidable cost' methodology, a significant proportion of departmental overheads must be allocated to the contractor on the basis that they will be incurred regardless of whether the service in question is contracted;[250]

- Another significant difference will lie in the treatment of transaction costs associated with tendering and negotiating the contract. Since most studies are concerned with the comparative cost of two or more operational facilities, they do not address procurement costs. Since these are one-off costs, important methodological issues arise as to the time over which they are to be amortised. And since the early procurements cost more than later ones, questions also arise over the number of contracts against which these initial costs must be allocated;

- If we wanted to understand the full social costs associated with a contract (or a market) we would also need to consider transition costs, such as redundancy payments and unemployment benefits for any workers laid off as a result of the rationalisation of management. One study in the defence services sector has addressed this question. In the case of greenfield projects, there will be few such costs.

(iv) Systemic efficiency: Some studies have attempted to estimate the efficiencies (or the savings) achieved by an entire system, public and private, as the result of making it contestable. As noted above, there is anecdotal evidence of a systemic effect from competition, as public prison operators adjust their behaviour, but few attempts have been made to measure the efficiency gains associated with this effect. Three of the prison studies attempted to measure the systemic efficiency gains, but failed to establish a causal relationship. A similar approach has been pursued in the US in relation to municipal services.

b. Quality of Data

The reliability of any study depends heavily on the quality of the data on which it is based. The best studies are built on detailed charts of accounts, with the underlying assumptions and the sources of data clearly specified so that future researchers can replicate the analysis.

Contract costs: In most cases, the quality of data used for the contracted option is reasonably high. This is because the contractor has committed to a firm price that is legally

binding and that has been arrived at following protracted negotiation. In some contractual models, such as PFI, the price is generally regarded as strictly binding, but where contract variations are more common, researchers would prefer to work with the actual financial payments.

Public sector costs: On the other hand, the true costs of managing public services by the public sector have proved extraordinarily difficult to ascertain. One of the reasons why good quality before-and-after comparisons are quite rare is that governments usually lack detailed information on the costs of managing these services prior to contracting. The study of the New Zealand Army Base undertaken by Domberger et al was unusual in this regard, in that there had been a detailed management review immediately prior to the competitive tender.

But even where existing public facilities are being used as benchmarks, the quality of the data is often poor. This is sometimes because some support services – utilities, legal advice and some pension costs – are provided at no cost by other government departments or agencies. It is sometimes because their financial accounts are constructed differently from private businesses. Capital costs – amortization of real estate and construction costs, plus depreciation of major equipment purchases – are often omitted. And fringe benefits, particularly unfunded pension liabilities, are often not included. Greater attention is usually paid to administrative overheads and oversight functions, but these sometimes remain uncosted.[251]

There would be obvious benefits in having public concerns report the full costs of service provision, but in the absence of competition and contracting the incentives to do so are weak. As early as 1830, the 19th century (British) MP and reformer, Henry Parnell, observed that public enterprises were inclined to produce accounts 'with the view of making it appear that they have them cheaper in this way than they can be bought by contract, [but] these accounts are all kept in so imperfect a manner, that they cannot be relied on.' He singled out superannuation as one of the more significant costs that were left out of the calculations.[252] This is an old problem, and it has not been entirely resolved even after two decades of vigorous competition and contracting.

Douglas C McDonald first identified this problem with prison services in the 1980s. His conclusion at the time was that the actual cost of operating public correctional programmes could be one-third to two-thirds higher than usually reported.[253] Shortly thereafter, McDonald brought this analysis to bear on cost comparisons between the public and private providers of custodial services.[254]

The challenge of identifying the true cost of public delivery becomes even more problematic where the public sector is not involved in actually delivering the facilities or services in question. This was the case with the Private Finance Initiative in Britain where public entities were, for the most part, excluded from bidding for projects. Within a brief period of time, the public sector comparator became a highly artificial construct, based on very broad assumptions, which suffered by comparison with a contract price based on risks that had been negotiated and priced with close attention to the commercial outcomes.

c. Methodology

Even if the quality of the underlying data is high, there are often methodological issues associated with comparing two different facilities or services – it is not always easy to be sure that we are comparing 'apples and apples'.

(i) Statistical analysis: Most researchers would prefer to work with large samples, with information available on a range of variables so that, using statistical analysis, they are able to control for external factors. In public services that are relatively standardised, and where issues involved in data collection are relatively simple, regression analysis is a powerful tool. Household refuse collection is an example of such a service.

However, the majority of public services are much more complicated and differentiated than refuse collection, and the data collected from one service provider are not necessarily comparable with the data collected from another. In these cases, statistical analysis is of limited assistance, since no matter how robust the model, if the quality of the underlying data is poor, then the results will be of little significance. This seems to explain why in defence support, health services and prison management, much of the research is based on case studies of a relatively small number of facilities in a single year, or at best over three to five years.

Economists would argue that governments need to invest in the collection of much more finely grained data, and on a much larger scale, so that regression analysis could be undertaken. We take the view that governments are unlikely to make the considerable investment implied in such an approach, and that alternative strategies must be pursued to improve our understanding of competition and contracting.

(ii) Case studies: The major difficulty with case studies lies in controlling for external variables, such as differences in the age or size of the facility or the characteristics of the services users, so that comparisons are 'apples for apples'. While it is not possible to draw strong conclusions from one or two case studies, particularly where they are undertaken at a single point in time, there are studies (such as the Home Office comparisons of the early contract prisons in the UK) that are sufficiently robust to provide valuable insights.

The challenge is particularly difficult when a contract is let for a service that is fundamentally different in design to anything that has previously been delivered by the public sector, or where the whole of a new generation of facilities is contracted out to the private sector. In these circumstances, it is necessary to construct a hypothetical comparator, and there are studies that demonstrate that, with sufficient attention to detail, this is not an impossible task. (In these circumstances, aggregated data and regression analysis would not be superior in any case.)

Given the challenges involved in assembling large samples of comparable facilities, particularly in the public service sector, we believe that the way forward for an evidence-based approach to policymaking in this field lies in the development of more robust and more standardised methodologies for undertaking case study analysis.

(iii) Surveys and interviews: A surprisingly large proportion of studies rely on surveys of chief executives, service managers or financial officers. Even where these questionnaires seek to elicit financial details, the robustness of the methodology and the quality of the data must be questioned.

d. Controlling for Quality

Studies of the value for money benefits from competition and contracting are of little value unless they control for quality. We recognise that this can be difficult when different facilities or services are not directly comparable, but it is equally clear that if the study of competition and contestability is to be advanced, common methodologies must be developed.

e. Sources of Benefits

As we have noted throughout this report, the quality of the evidence on the underlying sources of benefits is generally poor. (Although there are some notable exceptions, such as the study undertaken at Trentham Army Base by Domberger et al.) Given the incremental nature of service design and management, and the awkwardness sometimes associated with exploring the counter-factual, it is not difficult to understand why this is a difficult area of research. Nevertheless, given the importance of getting inside the black box of competition and contracting, we regard this as a field of research that is deserving of much greater attention.

Endnotes

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[62] The European literature in this area is rapidly growing and a comprehensive review is beyond the scope of this chapter. DRGs were first implemented in Europe in Portugal: see Clara Elizabeth Dismuke and Vania Sena, 'Has DRG payment influenced the technical efficiency and productivity of diagnostic technologies in Portuguese public hospitals? An empirical analysis parametric and non-parametric methods', *Health Care Management Science*, Vol 2, 1999, pp107-116. For an English analysis see A Street and D Dawson, 'Costing hospital activity: The Experience with HealthCare Resource Groups in England', *The European Journal of Health Economics*, Vol 3, No 1, 2002, pp3-9. For a German view see M H Wilke, E F J Höcherl, J Scherer and L Janke, 'Introducing the New DRG-Based Payment System in German Hospitals: A Difficult Operation? Experience and Attempts at a Solution from a Surgery Point of View', *The European Journal of Health Economics*, Vol 2, No 2, 2001, pp79-85. For Norway see Egil Kjerstad, 'Prospective Funding of General Hospitals in Norway: Incentives for Higher Production?', *International Journal of Health Care Finance and Economics*, Vol 3, No 4, December 2003, pp231-251.

[63] See the discussion on refuse collection later in this volume.

[64] Keith Hartley and Meg Huby, 'Contracting Out in Health and Local Authorities: prospects, progress and pitfalls', *Public Money*, September 1985, pp23-6.

[65] National Audit Office, *Competitive Tendering for Support Services in the National Health Service,* 1987.

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[67] NAO, *Competitive Tendering for Support Services in the National Health Service,* 1987, paragraph 2.30.

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[69] Robin Milne, 'Contractors' Experience of Compulsory Competitive Tendering: A Case Study of Contract Cleaners in the NHS', *Public Administration*, Vol 71, Autumn 1993, pp301-321.

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[71] Robin Milne, 'Competitive Tendering in the NHS: An Economic Analysis of the Early Implementation of HC(83)18', *Public Administration*, Vol 65, Summer 1987, pp145-160.

[72] Robin Milne, 'Competitive Tendering in the NHS: An Economic Analysis of the Early Implementation of HC(83)18', *Public Administration*, Vol 65, Summer 1987, p146.

[73] NAO, 1987, paragraphs 4.8 and 5.5 respectively.

[74] Robin Milne and Robert Wright, 'Competition and costs: evidence from competitive tendering in the Scottish National Health Service', *Scottish Journal of Political Economy*, Vol 51(1), February 2004, pp1-23.

[75] Robin Milne and Robert Wright, 'Competitive tendering in the Scottish National Health Service: was it compulsory, and did it make a difference?', *Scottish Affairs*, Vol 31, Spring 2000, pp133-152.

[76] Christine Hall and Simon Domberger, 'Competitive Tendering for Domestic Services: A Comparative Study of Three Hospitals in NSW', Graduate School of Business, University of Sydney, 1992.

[77] Wayne Jensen, 'Contracting Out Building Cleaning Services at the National Hospital of Denmark' in *Contracting Out Government Services*, OECD Public Management Occasional Papers No 20, 1997.

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[79] HM Treasury, *Competing for Quality*, 1991, p1.

[80] Robin Milne, 'Competitive Tendering in the NHS: An Economic Analysis of the Early Implementation of HC(83)18', *Public Administration*, Vol 65, Summer 1987, p151.

[81] NAO, *Competitive Tendering for Support Services in the National Health Service,* 1987, paragraph 2.31.

[82] Simon Domberger, Shirley Meadowcroft and David Thompson, 'The Impact of Competitive Tendering on the Costs of Hospital Domestic Services', *Fiscal Studies*, Vol 8, No 4, 1987, pp39-54.

[83] On contractor failure, see Stephen Bach, 'Too High A Price To Pay? A Study of Competitive Tendering for Domestic Services in the NHS', Industrial Relations Research Unit, University of Warwick, 1989. One instance of contractor failure was taken to show that competitive tendering was implemented on 'flimsy evidence' (p20) as a political device. But the private sector has never had a monopoly on service failure and any individual instance of service failure, whether by the public or private sector, must be viewed in a broader context.

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[93] NAO, 'The PFI Contract for the new Dartford and Gravesham Hospital', HC 423 Session 1998-99, London: The Stationery Office, 19 May 1999; House of Commons Committee of Public Accounts, 'The PFI Contract for the New Dartford and Gravesham Hospital', HC 131, 12th Report 1999-2000, at http://www.publications.parliament.uk/pa/cm199900/cmselect/cmpubacc/131/13103.htm; NAO, 'Darent Valley Hospital: The PFI Contract in Action', HC 209 Session 2004-2005, London: The Stationery Office, 10 February 2005; NAO, 'The PFI Contract for the Redevelopment of West Middlesex University Hospital', HC 49 Session 2002-2003, London: The Stationery Office, 21 November 2002; House of Commons Committee of Public Accounts, 'The PFI Contract for the Redevelopment of West Middlesex University Hospital', HC 155, 19th Report 2002-03, 6 June 2003, at http://www.publications.parliament.uk/pa/cm200203/cmselect/cmpubacc/155/155.pdf.

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