**FIN(3)-PPP-014a**

## Papers on PFI/PPP

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# FIN(3)-PPP-014b

# Using the Private Sector to Finance Capital Expenditure: The Financial Realities [C22]

**by** Jean Shaoul*

## INTRODUCTION

Countries all over the world have turned to the private sector via Public Private Partnerships (PPPs) to finance much needed investment in physical infrastructure, particularly in transport, water, energy and telecoms, and more recently in healthcare, education and prisons, the so-called human infrastructure, as earlier chapters have shown.

There is no simple agreed definition of the term PPP, which covers several models of operation, including Design Build Finance and Operate (DBFO), Build Own Operate and Transfer (BOOT), Build Operate and Transfer (BOT), the Private Finance Initiative (PFI), concessions, sale and lease back arrangements, franchises and joint ventures between the public and private sectors, to name but a few variants. Furthermore, the terms are often used interchangeably. But essentially, there are two models: contractual relationship and joint ownership (Treasury 2003). The policy, which has existed in some countries as concessions for a long time, encourages the involvement of the private sector in public infrastructure and service provision. The first model, which is the focus of this chapter, involves a clearly defined project where the private sector finances and shares risks and rewards with the public sector via a long term contractual relationship. Thus the policy carries with it long term financial and legal commitments that bind future governments and gives private corporations a degree of control over the direction of future policy.

The private sector partner in such contractual relationships is usually, in the UK, a consortium, typically made up of a bank and construction, property and facilities management companies, constituted as special purpose vehicle (SPV) that operates through a complex web of subcontracting to sister companies. The SPV is a standalone company, financed predominantly by debt, and reliant on the revenue flows from this single project. Should it experience financial problems, it has no recourse to its parent companies.

Under such partnership arrangements, the private sector is responsible for constructing and operating the asset, providing the finance and assuming all or most of the risks associated with construction, operation and maintenance of that asset. Projects in the UK have typically been structured in one of several ways, although there are others:

- Under a contractual type arrangement, the public sector pays for the use of the asset and the services so provided under terms set out in a contract which may contain incentives for good and/or penalties for poor performance.
- In free standing projects, the private sector charges the users directly via a system of road tolls or fees, as for example Britain's M6 toll road and National Air Traffic Services.
- Alternatively, there is some mix of both public and user funding for either the construction and/or the service element. One example is the Skye Bridge, (originally a free standing project, where the government paid some of the construction costs and later subsidised the tolls before ultimately terminating the contract. Another is the

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London Underground PPP, a contractual arrangement, which receives a grant, in effect a subsidy to the private sector, and charges passengers.

- Under joint venture (joint ownership) arrangements such as the Local Improvement Finance Trusts (LIFT), the partnership may charge either the public sector as in health and education, or the users (National Air Traffic Services)

But the situation has become even more complex. For example, the UK government now calls the privatised railways a public private partnership (DfT, 2004). The railways are part funded by a system of operating subsidies to the private sector train operators who have a franchise to run designated services for a specified period of time. These subsidies are used by the operating companies to lease the trains from the rolling stock companies and access the track from Network Rail, the private not-for-profit network infrastructure company, as well as their own operating costs. There are also direct grants to Network Rail for capital expenditure.

PPPs in the UK now encompass most sectors and services across the public sector and all types of public bodies, national, local and non-departmental. They also involve working not just with the private for-profit sector but also the so-called third or not-for-profit sector. Under conditions where broader government policy is to include the private sector ever more directly in the provision of public services, one can expect an ever increasing diversity of hybrid forms of financing and funding.

While the UK has led the way in introducing partnership arrangements, within Europe there has long been a policy of concessions and management contracts for utilities and transport, particularly in Spain, France and Italy, and decentralised mixed mode financing mechanisms.

All these are now included under the umbrella of partnerships. With the increasing integration of the European economy via the EU, the EU has begun to formulate arrangements both in relation to the policy itself, which it broadly supports, and to its governance and reporting for national income accounting purposes (EC, 2004).

As with many policy innovations, the rationale has changed so much over time that even its proponents have described it as ‘an ideological morass’ (IPPR, 2001). In the UK, it was originally justified as a way of leveraging in the private finance the state could not provide - the so-called ‘additionality’ argument. In some countries, it is seen as a way of reducing public sector debt as the underlying asset and its corresponding debt may, if there is sufficient risk transfer, be treated as off balance sheet, thereby evading the strictures of the European Union’s Stability and Growth Pact. Now the policy is increasingly justified in terms of delivering value for money (VFM), in the form of lower discounted whole life costs, including the cost of transferring some risks to the private sector, compared with conventional procurement as measured by a public sector comparator (PSC). This is known as the VFM or risk transfer argument that compensates for the higher cost of capital. More recently, the government has justified PFI on the basis that it delivers assets to time and budget (Treasury 2003). Other benefits are now believed to include:

- Leveraging in private sector expertise, innovation and efficiency;
- Incentivising the private sector via the performance related payments;
- Ensuring that maintenance is carried out ;
- Lower whole life costs because of the integration of construction, operation and maintenance;

- Greater discipline at decision making about what the public sector is procuring, the outputs it expects, performance criteria, risk allocation and management; and
- A robust project's specification as a result of the independent due diligence carried out by the financiers of the project

But as others have noted, good research evidence to support the claims for superior private sector performance is lacking.

Within the UK, by December 2006, there were nearly 800 signed deals with a capital value of £55bn (Treasury, 2006a). The total amount of revenue expenditure committed for the next 30years is unclear, since the Treasury has reported it after assumptions about the Corporation Tax yield (Treasury, 2003). The annual estimated payments are believed to be £6.9bn in 2006-07, rising to £8.9bn in 2016-17, before declining (Treasury, 2007). Between 1995 and 2034, total commitments are believed to be £204bn. However, since these projections necessarily omit the new deals yet to be signed and payments in later years of the largest scheme, the London Underground PPP, that are still to be negotiated, these annual payments are set to increase. Thus, future payments will take an increasing amount of the key denominator, the annually managed public expenditure that is still spent 'in house', which is itself falling due to different forms of outsourcing (Pollock *et al.*, 2001).

The purpose of this chapter is to review the outcomes in terms of the claimed advantages, focusing in particular on the financial costs, including the cost of risk transfer, and hence value for money, and consider some of the wider implications of this policy for service delivery and control of public expenditure. There are, however, several important definitional points to be made. Firstly, while PPPs encompass both contractual (PFI/DBFO) and

concessionary arrangements and joint ownership, this study excludes joint ownership schemes, due to the lack of financial evidence about joint ventures, which have even more diverse and less visible governance and reporting forms. Secondly, in focusing on the financial costs of using the private sector to finance investment, the assumption is made that the appropriate economic appraisal of the wider economic and social costs and benefits of such investment has been carried out. In other words, it is only the financing method, not the project *per se,* that is being evaluated. Thirdly, since private finance is inevitably more expensive than public finance, the additional financial costs must be borne by whoever funds the services and the underlying assets, either the state or users or some combination of the two. In other words, the vital distinction is made between the financing and funding.

The independent and empirical research into how long term contractual arrangements (PFI, DBFO and concessions) are working in practice shows that it is costly, inflexible and creates risks and liabilities for the taxpayers and must lead to some combination of higher taxes, cuts in service provision and user charges. In other words, the evidence undermines the claims made for the policy. As the European Investment Bank (2005) has argued, the sole evidence based argument for private finance is that a project that would not otherwise proceed, gets built. Any rational government would therefore take note of independent and impartial evidence, abandon the policy, seek access to funding and return to the public financing of public infrastructure, which will reduce both the capital cost and the annual financial payments from both the capital and revenue budgets: a win-win situation.

The chapter is organised in several sections. First, it discusses the control of the policy and practice in the UK in order to understand how the assumed benefits are derived and the weaknesses in the appraisal methodology and process. This also determines in part at least

the nature of any evaluative evidence. The second section reviews the evidence of how the policy is working in practice and the final section draws some conclusions**.**

## THE CONTROL OF PFI

For contractual arrangements that follow the PFI model to proceed, the project must demonstrate that it is likely to deliver value for money (VFM) and affordable (Treasury, 1997). This section considers each criterion in turn.

VFM is dependent firstly upon appropriate arrangements to ensure competition for all aspects of the project, including financial advisors, to ensure that competitive pressure will be exerted throughout the negotiation phase (NAO, 1997). But large scale projects require and attract a limited number of highly experienced bidders so there is limited effective *ex ante* competition even in the best organized tendering processes (Eastache and Serebrisky, 2004). It would indeed be highly unlikely to get more than three or four bidders for large projects as industry concentration means that there are few players. For example, just six infrastructure companies won 50% of the EU roads market and 16 had 90% of the market (Stambrook, 2005). Concentration in the construction industry has increased in recent years following takeovers and mergers and this has led to reduced competition in PPP procurement (Stambrook, 2005). This creates increased risk for the public sector because the companies are large and powerful enough to take on the regulators in the case of conflict and force contract renegotiation on more favourable terms (Molnar, 2003). Within the UK, the National Audit Office (2007) and the Public Accounts Committee (2003) have also reported on the low and declining level of competition for PFI contracts. One in three PFI projects have attracted only two bidders, compared with one in six in earlier years. This means that the corporations are now in a position to exert the monopoly power that undermines the VFM

argument and thus to control the direction of future policy in ways that privilege the few at the expense of the many.

Secondly, and this is the aspect that has attracted the most attention, VFM is demonstrated by identifying and discounting the whole life costs of the project as financed under conventional procurement methods and compared against the discounted costs of the PFI option. The scheme with the lower cost is assumed to offer the greater VFM. The comparison also includes the costs of some of the risks associated with the construction and management of the asset and delivery of services. Since some of the risks are to be transferred to the private sector, for comparison purposes, the PSC needs to include the costs so transferred. It is argued that the PFI option will therefore provide greater VFM than a publicly financed alternative where the public sector bears all the risks. In effect, the proponents of PFI are arguing that the difference between the public and private sector cost of borrowing constitutes the risk premium, the price the public sector is paying for greater efficiency, expertise and innovation plus the cost of risk transfer.

But neither the appraisal methodology nor the control process is neutral. The highly technical VFM appraisal methodology, established by the Treasury, has been extensively critiqued in the research literature, although largely ignored in the corporate literature. It is not neutral but is itself biased in favour of the private sector option and has important wealth distributional implications (Shaoul, 2005). Conceptually and methodologically flawed, as the research evidence has demonstrated (Gaffney *et al*., 1999a,b,c; Pollock *et al.,* 1999), such valuations encapsulated in VFM and set out in the projects' business cases are not generally, other than in health and education, in the public domain, for reasons of 'commercial confidentiality'. The hospital business cases that are in the public domain show that the VFM, resting upon uncertain projections of costs far into the future, relies overwhelmingly upon estimates of the cost of 'risk

transfer' to the private sector, and is at best marginal (Pollock, Shaoul and Vickers, 2002). In effect, the government created an in-built bias in favour of PFI, raising questions as to the degree to which the public agencies can and do reliably demonstrate that the higher cost of private finance is likely to deliver VFM as the National Audit Office (NAO) has acknowledged (NAO, 2000a). However, the government's response to critical research evidence has been to dismiss the scientific evidence, discredit and intimidate critics, and ultimately exclude and ignore it (Greenaway, Salter and Hart, 2004).

Secondly, under conditions where private finance is the only game in town, then as the National Audit Office has acknowledged, there are incentives to ensure that the case favours the private option. It is therefore almost unheard of for the business cases drawn up by the public sector's private sector financial advisors not to show that the private finance route is better VFM than a publicly financed option.

Thirdly, the key government department, the Treasury, both champions and controls the PFI process. The Treasury's Projects division was initially established in 1997 with a two year life, largely with staff on secondment from the private sector. This was later reconstituted as a Public Private Partnership, Partnerships UK (PUK), whose mission is to help the public sector deliver: fast and efficient development and procurement of PPPs; strong PPPs that build stable relationships with the private sector; savings in development costs; and better value for money (Partnerships UK, 2003). 51 per cent of the shares are held by private sector institutions, including financial services companies that have been involved in the financing of PFI projects, and others that have PFI contracts. Furthermore, the majority of the board members come from the private sector, with the public sector represented by only two non-executive directors and the public interest represented through an Advisory Council. The

structure, ownership and control of PUK are important because they set the PFI agenda and reflect the conflict between policy promotion and policy control acknowledged by government (Timms, 2001).

Fourthly, the project and the case is managed and/or vetted by the Treasury, the Departmental Private Finance Units, Partnerships UK or 4Ps, all of whom are largely staffed by private sector secondees from firms with a vested interest in the policy. This means that the control process is dominated by parties which have a vested interest in the policy's expansion (Craig, 2006). Under such circumstances, conflicts of interest abound.

One of the most egregious examples of the conflict of interests, the resultant poor financial advice and the cost to the public purse, is provided by the case of the National Air Traffic Services (NATS) PPP, which required a government bailout within three months of financial close in 2001. The Department of Transport had paid its advisors, one of whose tasks it was to evaluate and manage the risks to NATS' business, some £44m. This was £17m more than expected and at 5.5 per cent of the proceeds of the sale, among the highest of all the trade sales examined by the NAO (2002a). But despite this, CSFB, the lead financial advisors, failed to evaluate the PPP correctly. It had ignored evidence and advice that did not fit with the government's and its own desired outcome: a signed deal. CSFB told the NAO that their prime motivation was to gain valuable experience of PPPs in order to win future contracts in this new and expanding market (NAO, 2002a).

Several further points should be noted. First, the VFM case is necessarily based on *estimates* of future costs and operates only at the point of procurement. Second, risk transfer is the crucial element in delivering whole life economy since under PFI private sector borrowing,

transactions costs and the requirements for profits necessarily generate higher costs than conventional public procurement. Thirdly, the public sector retains the ultimate responsibility for essential and often statutory services for which there is usually no alternative. This, plus government commitment to the policy, means that the revenue streams are assured as the capital markets recognise (Standard and Poor's, 2003). Thus the ability to transfer risk may in practice be very limited.

The government claims that PFI represents VFM, but this is largely based upon the business case used to support the use of private finance. But this is hardly an independent assessment as we have shown above. Apart from the London Underground PPP (NAO, 2000a), the NAO has not carried out any assessments of projects before financial close. While the NAO has carried out numerous assessments after financial close, these were not independent in the sense that they collected new data. Instead the NAO scrutinised, and in many cases, criticised various aspects of the way the business cases were compiled and interpreted, questioning the degree to which the projects demonstrated VFM (NAO, 1997, 1998, 1999a, 2000a).

While the government has commissioned several surveys of PFI that purport to show that PFI represents VFM, these have been carried out by financial consultants with a vested interest in the policy. Firstly, the Andersen report, commissioned by the Treasury, is particularly important (Arthur Andersen/LSE, 2000) because it claims that PFI had 'saved' 17 per cent on the cost of conventionally procured projects. However, this is based on a sample of 29 projects (out of a possible 400 projects), whose selection is not explained. Its evidence base is the business cases used to support a PFI deal over conventional procurement, rather than any independent analysis. But even more important, most of the savings come from just a few schemes as a result of the risk transfer to the private sector. Furthermore, about 80 per cent of

these savings came from just one project, the NIRS2 project for the Benefits Agency run by Andersen's sister company, Accenture, which has become a byword for failure. In other words, the study was based upon anticipated savings that were not achieved in practice. Despite this, the government has never repudiated the report.

The second report, commissioned from PWC (2001), fails to provide even the most basic information that would enable the reader to assess the methodology and the value of the findings. It is based on the perceptions of senior managers responsible for commissioning 27 PFI schemes, not users, staff or project managers. While the report does not explain the sample choice or even provide any evidence about the nature or sector of the schemes, its author explained to this writer that PWC largely selected projects with which PWC had been involved as advisor to either the public or private sector, excluded IT projects and included the first eight DBFO road schemes[1]. The report does not contain any supporting financial or other empirical data on service or volume levels.

A third report widely cited report, authored by the Institute of Public Policy Research (IPPR, 2001), the think tank with the close relations with the Labour government, was sponsored by KPMG and other private sector companies with a vested interest in the use of private finance. It too used secondary, *ex ante* evidence. While the report had reservations about the use of PFI in health and education, it did endorse the turn to private finance via partnerships.

The second criterion that a PFI must satisfy if a project is to proceed is that the annual payments are affordable, an issue that has largely been ignored in both the appraisal process and the wider public debate. The Treasury has not required a consistent reporting methodology that clearly

[1] Personal communication in response to a request for further information from the authors of this paper

describes and presents all the operating costs that enables an assessment to be made of the affordability of the scheme. Studies of PFI in hospitals have shown that affordability was indeed a problem (Gaffney *et al.*, 1999 a,b,c,; Pollock *et al.*, 1999; Froud and Shaoul, 2001). The high cost of PFI in capital terms meant that the first wave of PFI hospitals were 30% smaller than the ones they replaced as Trusts adjusted their plans downwards. The affordability gap was further reduced by subsidies from the Department of Health, land sales, a shift of resources within the local healthcare economy to the PFI hospital, and 'challenging performance targets' for the Trusts' reduced workforce. Thus, PFI comes at the expense of both capacity and access to healthcare. The emphasis on VFM has served to disguise the high cost of PFI and downplay the importance of affordability, which in turn raises questions about VFM.

In summary then, VFM is based upon a flawed appraisal methodology and process for projects in an increasingly concentrated market of powerful international players. While the watchdogs have been critical of the business case for PFI projects, the government has commissioned reports supporting PFI, from consultants with commercial interests in the development of the policy. As such, they do not constitute an independent unbiased source, one of the basic requirements for objectivity. But even accepting their findings, in the final analysis they all rest upon *expectations* or *estimates* of future VFM over the life of the project, and none of them address the second criterion, affordability, which the emphasis on VFM downplays.

## POST IMPLEMENTATION EVALUATION OF PFI

There has as yet been little in the way of financial evidence as to how the turn to private finance is working out in practice. Indeed, Hodge's review of Australia's experience (2005) notes that there has been no comprehensive evaluation of PPPs; parliamentary enquiries have revealed "a paucity of quantitative information relating to risk experience and weak financial

evaluations" of the comparative performance of PPP and traditional mechanisms; and therefore that "much of the political promise has not yet been delivered."

In the absence of either a comprehensive evaluation of such claims or systematic evidence in the public domain that would enable such claims to be evaluated, the evidence presented here about how PFI is working in practice in relation to the claims used to justify private finance is drawn from a wide variety of both primary and secondary sources. These include: NAO reports and academic, corporate and other commentaries.

**Building to Time and Budget**

The government claims that in contrast to conventional public procurement, PFI projects have been built to budget and on time. But first of all, this assumes that public procurement has been consistently late and over budget, and that this is greater than in the private sector. Good evidence on this is lacking, in part at least because so little was commissioned by the public sector after 1976. In the case of the NHS, cost overruns on the price agreed at financial close on conventional procurement in the early 1990s were of the order of 8%. Secondly, there are indeed well publicised examples of huge cost and/or time overruns on major projects, including the British Library, the Jubilee Line, and the Scottish Executive building. But similar examples can be given of such cost and time overruns in the private sector, such as the new Wembley Stadium. The most egregious example is the delay and escalation in cost of the upgrade of the West Coast Main Line which rose from an estimate of £2.5bn to £13bn under the privatised Railtrack, before being reined back by Railtrack's all but renationalised successor, Network Rail, to about £7.5bn (NAO, 2006). Thirdly, as Flyvbjerg *et al.* (2003) have pointed out, cost overruns are a common phenomenon in high profile or megaprojects where political reputations and legacies are involved and occur whether

publicly or privately financed. This is because everyone involved has an incentive to ensure that costs are underestimated and revenues inflated to ensure that the project gets the go ahead to proceed.

The government's case for building to time and budget under PFI rests upon on two reports by the NAO (2001, 2003a), which were surveys and consultations with project managers and were not backed up with any data on cost and time overruns, another study cited by the NAO (Agile, 1999) and a Treasury report (2003), both of which contained neither data nor methodology. As Pollock *et al* (2007) have shown, a fifth report (Mott Macdonald, 2002) contained so many flaws in the study design and methodology that the results are un-interpretable.

While the NAO reported that the aims of PFI had generally been met in the construction and design of the 11 hospitals built to date, this must be qualified by the widespread criticism of at least one hospital (it has corridors too narrow to permit more than one trolley) and problems in other hospitals. Other more strategic criticisms have been made of their design (Appleby and Coote, 2002; Worthington, 2002). In the context of schools, the Audit Commission's review of PFI schools (2003) found that PFI did not guarantee better buildings despite their higher cost. All this ignores the extent to which costs escalate during procurement, as others have shown in the context of new PFI hospital builds (Pollock *et al.*, 2007). In the case of criminal justice contracts, court service projects have escalated in price, refuting the claim that PFI contracts deliver fixed prices (Centre for Public Services, 2002).

In the case of PFI, it should be noted that over the full planning period of a project the time taken for selection, bidding and contract negotiation processes under PFI may be months, or

even years, longer than for Exchequer financed schemes, introducing delay to the procurement process (NAO, 2007). The NAO (1998) also recognised that PFI is very costly, in terms of legal and financial fees for both public and private sectors, compared to traditional procurement. Such costs incurred by private contractors on unsuccessful bids are likely to be recovered in future successful contracts, increasing the cost of subsequent PFI deals.

In other words, understanding the reality that underpins the rhetoric of 'on time and to budget' is not straightforward. It needs to be understood in the context of the costs of this achievement over the full planning period and not just the time period between financial close and project construction. The (high) costs associated with bidding have already resulted in fewer competing bids, and recouped or reimbursed costs for failed bids provide no VFM. In essence, it is difficult to quantify the benefit of finishing on time and to assess this against the increase in price that the contractor demands to carry the risk of timely completion, a cost that is shown below to be a high one. However, if this balance is a positive one, then such benefits are not exclusive to PFI, but could also be achieved with similar contractual arrangements for conventionally financed projects. Furthermore, these issues need to be considered in a holistic evaluation of PFI rather than in the context of individual projects.

**Robust Specification**

While the Treasury (2003) and PWC (2004) argue that there will be greater discipline at decision making about what the public sector is procuring and that the independent due diligence carried out by the financiers of the project will ensure a robust project specification, this has not always turned out to be the case. Within the UK, the Channel Tunnel Rail Link had to be renegotiated within months of signing. The National Air Traffic Services PPP

collapsed within three months of financial close for reasons that were entirely foreseeable despite the official line that it was due to the collapse in transatlantic flights after the terrorist bombing of the World Trade Centre in 2001 (Shaoul, 2003). The Royal Armouries Museum deal had also to be bailed out, and the QEII Greenwich hospital trust is technically insolvent (PWC, 2005), in part at least due to the £9m extra costs resulting from PFI.

This is not a British phenomenon. Estache and Serebrisky (2004), in their overview of transport PPPs, note that such projects have not been uniformly successful. With a high cost of capital and lower than expected demand, 55% of all transport concessions implemented between 1985 and 2000 in Latin America and the Caribbean had to be renegotiated, a much higher proportion than all the other infrastructure sectors, and that such renegotiations took place within about three years. While governments gained in the short term from any proceeds and the low level of public investment, the renegotiations led to higher expenditure via up front capital grants, subsidies and explicit debt guarantees to the private sector to make the schemes viable. New toll roads in Mexico were unsuccessful and had to be taken back into public ownership.

Boardman *et al* (2005), in their review of private toll road cases in North America, report that even after refinancing and gaining tax exempt status and extra ridership, the Dulles Greenway project was still making heavy losses. In the case of the Highway 407 Expressway, the Ontario provincial government had to assume the financing of a cost it had sought to transfer to the private sector, in order to make the road affordable to users. In the context of Spain, which has by far the longest experience of private finance in roads, three schemes had to be taken into public ownership in 1984, a large number of the foreign loans had to be renegotiated, state loans were made available, the remaining contracts had to be renegotiated

and in some cases, public subsidies were given (Farrell, 1997). Hungary's M5 project had to be restructured within months of signing. In the case of the M6 toll road in Britain, where traffic flows are much lower than forecast and the concessionaire is unable to break even, this has led to the concessionaire lobbying for development in the region to promote traffic growth and offering to pay for a new link road that will bring traffic to its toll road.

In short, the claims for robust project specification have not always been realised. At the very least, the robustness has served the private sector, particularly the banks, not the public sector, which to date have not lost out when projects have failed.

**Penalties to Incentive Operational Performance**

It is difficult to know the degree to which the penalty and incentive system operates to ensure satisfactory delivery of contracted services for several reasons. Firstly, the size of the penalties relative to the baseline payment below which the total payment cannot fall is not generally disclosed. One hospital for example reported that maximum deduction for poor service delivery was £100,000 on expected annual payments of £15m (Edwards *et al.*, 2004), which provides little effective sanction. Anecdotal evidence suggests that the scale of the penalties elsewhere while larger is, relative to the annual payments, small. Secondly, the public agencies neither report the standards of performance nor the amount deducted for poor performance

There have been numerous adverse press reports in the UK of poor service delivery in hospitals under the contract, some of which are documented in evidence to the Health Select Committee (2002) and similar press reports of concerns about poor performance in schools projects. Metronet, which holds the contracts for two of the three London Underground PPPs,

have been heavily criticised by London Transport and the Office of Rail Regulation for its failing to meet the targets set for investment and maintenance and is reported to have overspent by nearly £1bn in its first 7.5year contract due to not working economically, efficiently or in line with industry best practice. Nevertheless, there have, according to the credit ratings agency Standard and Poor's (2003), been few deductions and these have been small, in part at least because of the complexity of the contracts that have proved difficult in practice to enforce. In many cases, the original contract negotiation team has moved on making it difficult to know the assumptions and intentions underlying the contract.

A case study of an NHS Trusts found that monitoring has turned out to be more costly than anticipated, performance indicators have been difficult to operationalise, due to the subjective nature of the outcome, and contracts changes have been time consuming and complex (Edwards *et al.*, 2004).

A report on prison performance noted that prisoners were confined to their rooms for longer periods and that their cells contained 'substantial ligature points' that 'rendered the cells unfit for use at all' (Chief Inspector of Prisons 2000). HMP Altcourse at Fazakerley, the first PFI prison, was controversial from the start because of its poor planning, lack of scrutiny of costs, a flawed savings assessment, operational performance failures and lastly the refinancing scandal that saw the private sector refinance the deal in a way that generated extra £11m for itself while at the same time increasing the risk to the public sector (NAO, 2000b). The NAO, in its investigation into PFI prison performance, reported that operational performance against contract had been mixed (NAO, 2003b). But PFI contracts, even when 'successful', have hidden costs to the rest of the public sector. Centre for Public Services (2002) found that the private sector paid lower wages to its prison staff than did the public sector and some of

its workforce were paid such low wages that they qualified for working family tax credits, in effect a low wage subvention by the state to the private sector.

As is almost universally accepted, operational performance has been conspicuously poor in IT projects, and the payment mechanisms have failed to incentivise the contractor. Even where penalties could have been invoked, these were waived in the interest of good partnership working and/or not jeopardising the policy, as in the case of the Passport Agency (NAO, 1999b) and NIRS2 projects (Edwards and Shaoul, 2003). Indeed, the outcomes of IT projects in the benefits recording and payments systems, the criminal justice system and other administrative services have been so poor that even the government has had to admit that PFI may not be the best means of procuring IT services (Treasury, 2003) and PFI for IT has now been abandoned.

Thus once again, understanding the reality that underpins the rhetoric of ‘incentivising the private sector’ is not straightforward. Such evidence as exists suggests the scale of the penalties, the complexity of the contracts and the relative power of the partners do not provide the incentives that PFI’s proponents claim, while simultaneously imposing additional costs on the public sector.

**Financial Cost of PFI, Risk Transfer and Affordability**

There have been few studies that produce systematic financial evidence about the cost of PFI projects once they are operational. This section cites two, one in hospitals and the other in roads.

*Hospitals*

A study into the cost of the first 12 operational PFI hospitals in England as of 2001, which had capital costs of about £1.2bn, combined annual PFI payments of about £260m in 2005, and total payments of about £6bn over the 30 year life of the projects, found that in a number of cases, the actual payments to the private sector turned out to be considerably higher than originally estimated (Health Select Committee, 2000), as much as 71% for North Durham, 60% for South Manchester and 53% for Bromley (Shaoul *et al., 2007).* While this may be due to volume increases, inflation, contract changes and failure to identify and/or specify the requirements in sufficient detail, e.g., the failure to specify marmalade for patients' breakfast led to an increased charge, such contract drift suggests, at the very least, that there will be further increases and the total cost of PFI is therefore likely to be very much more than the £6bn predicted at financial close.

The hospital Trusts' PFI charges, including both the availability and service elements, took 12% of income in 2005. The case of Dartford is particularly interesting because even after a refinancing deal that led to a reduction in their charges, PFI charges still took 17% of income. While the Trusts received a 56% increase in funding (adjusted for any mergers) as well as in some cases a specific increase to cover some of the extra costs of PFI, PFI charges were still taking the same proportion of income, raising questions about the affordability of PFI. It is therefore difficult to avoid the conclusion that without the increase in funding, PFI was unaffordable.

Despite the increase in funding, the Trusts' financial situation was neither stable nor robust, as indeed were many non-PFI Trusts. Without a detailed study of each Trusts' caseload, it is difficult to determine the role of PFI as other factors have intervened. But two examples

illustrate some of the problems. In the case of South Manchester, which had suffered a £7m deficit in 2003, this was because it was unable to shift a £20m caseload to other hospitals that had been part of a wider reconfiguration underpinning the original business case. The QEII Greenwich Trust, with one of the largest deficits - £9.2m in 2005 - declared that it was technically insolvent and was locked into a PFI deal that added £9m to its annual costs over and above that built under conventional public procurement (PWC, 2005). Without government support, its long term financial situation was insoluble.

Irrespective of any causal role in the Trusts' financial problems, PFI charges constitute a 'fixed cost' that cannot be reduced and are significant when margins are low due to other rising costs. This serves to reduce their flexibility in managing their budgets which must create affordability problems when the Trusts have always struggled to break even.

The private sector companies, special purpose vehicles (SPV) or consortia organised as brass plate companies, operate in a complex and opaque web of subcontracting to their sister companies that increases the costs and complexity of monitoring and enforcing the contract, and makes it impossible to assess the parent companies' total returns. After paying interest on their debt, which was higher than the total construction cost and rising, of about 7-8%, the SPVs reported a post tax return on shareholders' funds in excess of 58% in 2005, after negative returns in the early years. The SPVs' high effective cost of capital (£123m in 2005) means that the annual risk premium, the difference between public and private sector interest as defined by the NAO (1998), was £51m, equivalent to 19% of income received from the Trusts. It is unclear whether this represents VFM or indeed whether VFM can indeed be measured *ex post facto*. But irrespective of whether this represents VFM, this analysis raises questions about the affordability of PFI in practice, and future service provision, an issue

which the emphasis on VFM downplays. It also underestimates the total leakages from the public purse since there are leakages in the supply chain that are not quantifiable in a systematic way: the contractors and subcontractors' cost of capital, subcontractors' income received directly from the public (parking, canteen and telephone/television charges which also represent lost income to the Trusts), the proceeds of land sales and any refinancing of the SPVs' loans.

Consider next the impact of the annual *observable* leakages from all the Trusts' budget, where leakages are about £51m a year on just 12 capital projects worth £1.2bn, on the cost of the PFI programme. The first wave of 18 projects, of which these 12 form a part, were expressly identified and progressed in order to create the model for PFI projects in the health sector (PWC, 2004). But if this experience is generalised across the entire PFI programme, although it could be argued that 'lessons have been learned' from these early deals, then the extra cost of private finance for the signed PFI capital programme in hospitals worth £8.67bn (Treasury, 2006b) is about £400m every year .

*Roads*

While the use private finance in roads has been deemed a 'success', this was and is a consequence of very high payments to the private sector. Shaoul *et al. (* 2006) examined the first eight DBFO contracts signed by the Highways Agency and paid for on the basis of shadow tolls. The study found that they are costing about £220m a year or £6bn over 30years. The study found that the payments in just three years for which information is publicly available were £618m, more than the £590m cost of construction, refuting the claim that the government could not afford the capital cost.

After paying interest on their debt, which was higher than the total construction cost, of about 9%, the SPVs reported a post tax return on shareholders' funds of 29% in 2002. The additional cost of private over public finance (risk premium) was about £62m, more than half the cost of capital (£103m) and 40% of the income received from the Agency in 2002. With annual operation and maintenance costs of about £50-60m a year, or £1.8bn in total, this means that after paying interest on debt (about £1.8bn), itself more expensive than public debt, the Agency is paying nearly £1.8bn (out of a total of £6bn) for the major maintenance and private sector profits, a high price for risk transfer. Thus 'success' comes at the expense of affordability and value for money and must entail service cuts elsewhere. Indeed, the Highways Agency has admitted that annual payments for all its contracts are £300m a year, or 20% of its budget for 8% of its roads. The contract for the M25 will add a further £300m a year, meaning that 40% of the budget will be committed for a small proportion of the network (Taylor 2005).

While the additional cost of private over public finance is attributable to the cost of risk transfer, it was difficult to see, given that the contracts involved roads that had already been designed and gone through all the planning stages, thereby reducing some of the main risks, how such a high 'risk premium' could be justified (Shaoul *et al.,* 2007)

Furthermore, this underestimated the total cost of private finance, since the private sector partners operate through a complex web of subcontracting. Their parent companies therefore have additional, undisclosed sources of profit via subcontracting the construction, operation, maintenance, financing and refinancing of the projects to related companies that make it difficult to establish the total cost of using private finance. These findings therefore rebut the arguments what the private sector would find the finance that the public sector could not (the

macroeconomic or additionality argument) and that the additional cost of private finance would be counterbalanced by the risks transferred to the private sector (the microeconomic or value for money argument).

**Risk Transfer**

Most of the additional cost of private over public finance is justified in terms of risk transfer, largely construction not operational risk. There is, however, no yardstick by which to measure whether this is a reasonable cost. For example, it is unclear why the cost of risk transfer is so high given that after completion of the construction phase, the companies have been able to refinance their deals. Furthermore, these refinancing deals carry with them the potential, as in the case of the refinancing of Fazakerley prison, for the companies to increase their profits at the expense of the public sector (NAO, 2000b; 2002b). This is because the private sector's debt repayment profile is restructured and the contract extended in order to accommodate this. The public sector could therefore find itself exposed to additional termination liabilities, should the contract be terminated for any reason. This increased exposure would occur when the private sector had received most of the benefits and be facing additional costs associated with long term maintenance, thereby tempting the private sector in adverse circumstances to cut and run, as indeed has been the case with unprofitable rail franchises.

More fundamentally, the concept of risk transfer that lies at the heart of the rationale for partnerships is problematic, regardless of whether the project is 'successful' or not. If the project is successful, then the public agency may pay more than under conventional procurement: if it is unsuccessful then the risks and costs are dispersed in unexpected ways as a study of failed IT projects has shown (Edwards and Shaoul, 2003). Although a project may

fail to transfer risk and deliver value for money in the way that the public agency anticipated, the possibility of enforcing the arrangements and/or dissolving the partnership is in practice severely circumscribed for both legal and operational reasons, with the result that a public agency may be locked into a partnership for better for worse. This in turn undermines the power of the purchasing authority to incentivise its partner while strengthening the contractor's already powerful financial and monopolistic position, under circumstances where it is beyond the reach of public accountability and scrutiny. Under conditions where partnerships are the only means available to the public sector for procuring goods and services, then the VFM case is little more than a rationalisation for a decision already taken elsewhere. Thus, far from being a neutral policy-making decision tool, 'risk transfer' disguises its political and social consequences.

**Additionality**

Since the public sector repays the full cost of private finance via annual payments spread over 30 years, it does not access new forms or higher levels of funding than would otherwise be the case with public funding. Like buying a house, it simply spreads the cost over a longer period and ultimately pays at least three times the original cost. As others have noted, all capital spending over the period 1999-2002, and indeed since then, could have been replaced by conventional public procurement financed either through public debt without breaking either the so-called 'golden rule' or the Stability and Growth Pact. Furthermore, the current account surpluses in some years (£23bn for 2000-01 alone) could more than covered the £14bn deals signed between 1997 and 2001. PFI has served to displace the burden of debt onto future generations.

In the context of hospitals, several further points emerge from the financial analysis. Firstly, while the government claims that PFI has led to the largest building programme in the history of the NHS, the first wave of PFI hospitals were so costly that they created an affordability gap, leading to asset sales, extra subsidies, charity appeals and cuts of up to 30% in bed provision (Gaffney *et al.,* 1999a). In other words, they are smaller than the ones they replace. Secondly, the annual observable extra costs of private finance in hospitals, extrapolated across the whole hospital sector, shows that the programme is costing an extra £430m a year, equal to at least two major hospitals every year or 60 over the life time of the programme. Thirdly, irrespective of whether private finance represents VFM, PFI creates affordability pressures for the Trusts, which have been cushioned to some extent by increased funding. This is not set to continue after 2008, and in the context of a new funding regime where money flows patients on the basis of average costs will create even further cost pressures for Trusts that are locked into PFI contracts since they have essentially higher fixed costs than non-PFI Trusts, as the QEII Trust noted (PWC, 2005). At the very least, PFI creates budget inflexibilities that increase the pressure on the NHS to cut their largest cost, staff and thus access to quality healthcare.

In the context of DBFO in UK roads, as the evidence above has shown, the £590m construction costs were paid for in three years, which shows that far from providing additionality, the new construction (and maintenance) comes at the expense of other Highways Agency projects.

## CONCLUSION

These perverse results are not a purely British phenomenon, as the evidence on the hospital sector in Australia (New South Wales Auditor General, 1996; Auditor General Western

Australia, 1997; Senate Community Affairs References Committee, 2000), and privately financed roads in Spain (Acerete *et al., 2007)* shows. There too the outcomes were inconsistent with the claims. At best, PFI has turned out to be very expensive with the inevitable consequences for service provision, taxes and user charges, not just today but for a long time to come. These projects may burden government with hidden subsidies, diversion of income streams and revenue guarantees whose impact on public finance may not become apparent for many years. When things go wrong, and this is not infrequent, the costs are diffused throughout the public sector and onto the public at large, a travesty of risk transfer.

This analysis has not only demonstrated that the outcomes do not match the claims but even more importantly has indicated the reason for this. The government's claims ignored the competing demands of the numerous stakeholders and the particular characteristics of public services: cash strapped with no excess capacity to enable 'surplus fat' to be trimmed without affecting service delivery. In these circumstances it was and is impossible to reconcile all the conflicting claims on the funds and protect both the taxpayers and users. PFI ensures a resolution of the distributional conflict in favour of the corporations and more particularly the financial sector, who are its chief promoters, under the guise of additionality, risk transfer, efficiency incentives, etc. Thus while the government's case rested upon risk transfer, additional investment and private sector efficiency, and therefore benefits for all, the real effect was the redistribution of wealth to the financial and corporate sectors. The government, by focusing on a concept as ambiguous as value for money under conditions where no public finance would be made available, made the distribution issue invisible in order to justify a deeply unpopular policy.

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**FIN(3)-PPP-014c**

# The cost of using private finance to build, finance and operate the first 12 NHS hospitals in England


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January 2007


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**Acknowledgements**

The research for this paper was funded by the Association of Chartered Certified Accountants. The authors acknowledge assistance from Lorna Arblaster, Patrick Stanley and Susan Mabbett.

**The cost of using private finance to build, finance and operate the first 12 NHS hospitals in England**

## ABSTRACT

This paper provides an *ex post facto* financial analysis of the cost of using private finance to build hospitals under the UK government's Private Finance Initiative (PFI). It shows that the Trusts' annual payments to their private sector partners are higher than expected at financial close and are taking 11% of their budget even after the 56% increase in their income since 2000. The additional cost of private over public finance, the cost of risk transfer, is about £60m a year, about 20-25% of their income. Irrespective of whether this is value for money, PFI charges – essentially an uncontrollable cost for the Trusts – creates budget inflexibilities that increase the pressure on the NHS to cut their largest cost: the jobs, working conditions and pay of their staff, and thus access to quality healthcare services.

**Key words:** private finance initiative, hospitals, affordability, risk transfer, accountability.

## The cost of using private finance to build, finance and operate the first 12 NHS hospitals in England

The Private Finance Initiative is the cornerstone of the UK government's healthcare modernisation agenda whereby Britain's aging hospitals are to be renewed (DoH 2000). The government claims that PFI will deliver greater value for money (VFM) over the life of the projects because the private sector is more efficient and innovative than the public sector, assumes some of the financial risks (and costs) that the public sector would otherwise carry, and builds to time and budget (Treasury 2003). Under PFI, the hospital Trusts, instead of owning their own hospitals, lease their new or refurbished facilities, and procure all their non-clinical services from their private sector partner for a period of 30 years. The PFI partner is typically a consortium or Special Purpose Vehicle (SPV), made up of a bank or finance house, a construction company and sometimes a facilities management company that invest up to 5% in the company.

The government has now signed 155 hospital PFI schemes in England with a capital value of some £8.67bn (Treasury 2006). The government signed the first health PFI contract in 1997 and the first PFI hospitals were completed in autumn 2000. Since 1997, nearly all the NHS hospitals in England have been financed under the PFI, with a focus on larger new-build investments.

A number of studies have examined the business cases used to support new hospital builds and have questioned both the ability of the methodology to measure VFM in an unbiased way and the degree to which they demonstrate VFM (Gaffney and Pollock 1999a, Price *et al* 1999, Pollock *et al* 2000). Other work in the health service (Hodges and Mellett 1999, Gaffney and Pollock 1999b, Gaffney *et al* 1999a, b, c, Pollock *et al* 1999) showed that the high cost of PFI projects led to affordability problems, an issue that the emphasis on VFM downplays, and hospital downsizing in order to bridge the affordability gap. While the case for PFI rests upon risk transfer (Broadbent *et al* 2002, 2003), the evidence shows that the cost of risk transferred was almost exactly the amount required to bridge the gap between the cost of PFI and conventional procurement (Pollock *et al* 2002). A study of the appraisal process in hospitals concluded that that there were numerous flaws in the process that raised doubts as to whether the PFI proposals that were accepted demonstrated either that they were

economically sound or affordable, raising questions about service provision and the conflict between policy promotion and regulation (Froud and Shaoul 2001). A further study of risk (Froud 2003) showed how PFI served to increase uncertainty.

As the policy is still relatively new, there have been few empirical studies showing how these hospital schemes are working out in practice. Broadbent *et al* (2003), in their study of eight post-project evaluation systems put in place by the Trusts, reported that these concentrated on the design and working of the facilities management systems, which in the case of the Dartford hospital accounted for only 43% of the transferred risk, and were thus very limited in scope. They found that it was "extraordinarily difficult" for the hospitals to penalise poor performance, one of the mechanisms that would incentivise the private sector and thus ensure VFM. The National Audit Office, in its study of how the Dartford PFI contract was working (NAO 2005a), noted that while performance was generally satisfactory, penalties for poor performance covered only part of the contractual services and such penalties, based upon subjective methods of assessment, were very small and in some cases could be offset against satisfactory performance elsewhere. Its studies of the refinancing of two hospital deals (NAO 2005b, 2006) showed that the SPVs had made windfall profits of the refinancing, which - although shared to some degree with the Trusts - created additional risks. Such refinancings raise questions about the cost and amount of risk transfer.

There has as yet been little research showing the actual cost of PFI post implementation. This paper therefore seeks to extend the previous research by examining the cost thus far of using private finance to build and operate the first 12 PFI acute hospitals in England that had become operational by 2001-2. While our focus is on the cost of using private finance, our unit of observation is the Trust which may consist of more than the PFI hospital. We examine first the 12 Trusts' expenditure on PFI and how it impacts on their costs, and then the SPVs companies' income and returns to the providers of finance as evidence about the cost of using private finance, including the cost of risk transfer.

There are several *caveats*. Firstly, with PFI hospitals still in the early years of operation, such an examination must inevitably be exploratory rather than definitive,

particularly since much of the information required is unavailable to researchers, being 'commercially sensitive'. Secondly, since almost all new hospitals since 1992 were commissioned under PFI, there is no comparator group. Thirdly, it focuses on the first wave of PFI contracts, when both the concept and practice were new, and may not be generaliseable to those negotiated later. Lastly, it focuses on the financial costs in isolation from the actual performance of the PFI contracts.

For our evidence base, firstly we use publicly available information, including the Trusts' annual report and accounts up to 2004-05. Since some of the Trusts merged either in the run up to or after financial close, we use the financial data for the combined entities throughout the period of investigation to ensure comparability. In the case of the PFI companies, we obtained all their accounts from Companies House up to their most recent filing in 2004-05. Secondly we use contextual information made available to the research team from finance staff in three Trusts.

## The Trusts

### *Accounting treatment for and reporting of PFI*

The accounting treatment for and reporting of PFI determines how the substance of the transaction is reported (Hodges and Mellett 2004) and hence the charges that need to be included in the financial analysis. The relevant regulations are FRS 5 *Reporting the Substance of Transactions* (ASB 1994), including Application Note F (ASB 1998). For off-balance sheet schemes the risks and rewards in relation to the infrastructure are bound up with the risks and rewards of providing the service. Payments are not separable between the availability and the service charges, and it is deemed that the Trusts do not have control of the infrastructure asset. In circumstances where payments are separable between property and service elements, then Note F requires consideration to be given as to whether a finance lease exists. If so, SSAP 21 *Accounting for Leases and Hire Purchase Contracts* (ASC 1984) is then applied. This is the case for the Trusts' on-balance sheet schemes.

Of the 12 schemes in our study, nine are recorded off balance sheet. The three remaining hospitals are recorded on balance sheet, although nearly all the Trusts had

expected to keep their new infrastructure off balance sheet, indicating that the risk transfer is less than anticipated, and that the determination of risk transfer is not straightforward.

The Trusts report in Note 25 the sum paid to the SPVs for their off balance sheet PFI contracts and their expected payments for the following year without showing the split between the availability and service charge. For the on balance sheet schemes, the Trusts disclose additional information in relation to finance leases. The finance lease interest payable needs to be included with the service charge to compute the total PFI payment. None of the Trusts report deductions from their payments due to poor performance or any contract renegotiations. Neither do they explain how and why the payments differ from those expected at financial close or even those made the previous year, all of which necessarily limits our ability to interpret the charges disclosed in the accounts.

***The Trusts' expenditure on PFI***

The 12 hospitals, listed in Table 1, became at least partially operational after April 2001 and have a capital value of £1.176bn. According to the Health Select Committee (2000), the Trusts are committed to a total expenditure of nearly £6bn (at 1997-1999 price levels) and annual payments of about £214m from 2003-04, the first year when all the 12 hospitals reach steady state.

Table 1 here

Table 2 shows the Trusts' payments to the SPVs since 2000 when the projects became at least partly operational. In the early years, payments were small as projects were phased in, with the consortium taking responsibility for services of existing facilities before the new hospital was completed. Payments increased as the new buildings were completed, with most projects becoming fully operational by 2002-03. Total annual charges for 2004-05 were £258m.

Table 2 here

Table 2 also presents the expected payment (at 1996-97 price levels as set out in the Trusts' Full Business Cases (FBCs) (Health Select Committee, 2000). It can be seen that firstly, payments started earlier than expected, probably because the SPV took over service provision at the existing hospitals before completion of the new facilities. Secondly, once the projects were up and running, 10 out of the 12 Trusts were paying more than expected in their FBCs. The scale of the increases is in some cases very large. In 2005, seven were paying more than 10% more than expected in their FBC: North Durham, South Manchester and Bromley were paying 71%, 60% and 53% more, Barnet and Chase and Worcester 22% and 20% more, and the Queen Elizabeth II Greenwich (QEII) and Carlisle 12%. Two Trusts were paying less than anticipated in their FBC. In the case of Dartford, charges fell 8% following a profit sharing arrangement from the refinancing of the deal (NAO 2005a). Taken together, the scale of the increase in charges over that expected at financial close for 2005 was £43m, 20% more than expected.

Although none of the Trusts set out expected payments as per their FBC and/or explain why outturns have varied from either that anticipated or their own estimate of PFI charges made in the previous year's accounts, there are several reasons for this increase. First, the Trusts explained that such increases stem from some combination of: increases in the hospitals' throughput over that set out in the contracts, contract changes and unanticipated increases due to failure to identify and/or specify requirements in sufficient detail in the contract. Second, at least one scheme, Bromley, moved from off to on balance sheet after financial close, thereby changing its accounting treatment and increasing its PFI charges. Third, while some element is due to inflation above 1997 prices, this is not a major factor given the generally low level of inflation and the fact that a few Trusts are paying much the same as expected. Taken together however, this means that due to the inevitable contract changes as the Trusts' needs change over time, and contract drift thus far and in the pipeline, future payments are likely to increase.

We can now consider how this affects the Trusts' budgets. PFI charges reflect two elements, the availability and service charges that, based on an analysis of the data on expected charges (Health Select Committee 2000), average 65% and 35% respectively. The service charge and part of the availability charge may vary with the

volume of patients treated, changes in requirements, price rises above an agreed level of inflation, etc. Nevertheless, while the charge may vary from year to year, typically upwards, from the perspective of the Trusts they represent a largely uncontrollable cost that must be paid.

Table 3 shows that PFI charges accounted for 11-12% of the Trusts' total income in the three years when the schemes were in steady state. In each of the three years, at least six of the 12 Trusts were spending more than 10% of their income on PFI charges, with the most affected being Bromley, QEII and Dartford. The case of Dartford is particularly interesting because despite the refinancing deal that led to a reduction in their PFI charges, PFI charges were still 17% of income. Considered over the three year period, with the exception of Bromley, the proportion of income spent on PFI charges has either declined slightly or remained stable.

Table 3 here

However, this needs to be considered in the light of the increased funding that the Trusts have received since March 2000 before the new hospitals became operational. The capital element alone of the PFI charges was projected at financial close to take a higher proportion of the Trusts' budget than either their pre-existing capital charges or the potential capital charges on new hospitals under conventional procurement (Shaoul 2005), with the result that concerns were raised at the time as to whether these schemes were indeed affordable. In his budget speech in April 2001, the Chancellor announced an extra £42 billion in funding over six years for the NHS, which had been in an acute financial crisis, to be spent on higher pay for staff, information technology, achieving a new set of targets, and new PFI projects, which was an acknowledgement that PFI was costly. Indeed, the Treasury had agreed with the Department of Health that the first wave PFI trusts would be reimbursed for the capital charges on it their deferred assets. For example, this subsidy for the QEII was £3.1m in 2002-03 and £1.1m in 2004-05 according to its auditors (*Public Finance* 17/03/06). Bromley received £6.3m in 2003-04, £5.6m in 2004-05 and £4.9m in

2005-06 largely due to the higher cost arising out of it becoming an on balance sheet scheme.

Table 3 shows that funding increased by 56% across the 12 hospitals (adjusted for any mergers) since 2000, and 29% since 2003. Even after the increase in income since 2003, PFI charges were still taking the same proportion of the Trusts' income (11%). It is therefore difficult to avoid the conclusion that without the increase in funding, PFI was unaffordable.

Despite the larger income, the Trusts' financial situation is neither robust nor stable as Table 4 shows. Some have been in deficit, as indeed have many non-PFI Trusts. It is however impossible, without a detailed study of the case load of each Trust, to determine the role, if any, that PFI has played in the Trusts' financial crisis as other factors have intervened, including changes in bed capacity, number of in-patients treated (which is affected by length of stay), number of day cases (which affects income per patient and tariffs), employment mix and the impact of consultants, doctors and nurses' contracts on wage inflation relative to hospital income (Haslam 2005).

Table 4 here

There was a range of reasons for the deficit. In the case of South Manchester, which suffered a deficit of £7m in 2003 (Table 4), the original plan underpinning the PFI business case assumed that a £20m caseload would be transferred to other local hospitals as part of a wider reconfiguration. Its inability to do so, due to factors beyond its control, led to a higher than anticipated caseload that triggered volume increases in both the availability and service charges. The Trust also suffered increases in charges due to the failure of the contract to specify its needs accurately and precisely.

In our second case, the Trust's finance director attributed the deficit to the additional cost of PFI (PWC 2005). The QEII, with one of the largest deficits - £9.2m in 2005 - admitted that it was technically insolvent. Its auditors said it was heading for a £19.7m deficit for 2005-06 and this would increase annually (PWC 2005). A significant part of the problems facing the Trust was that it was locked into a PFI deal that added £9m to annual costs over and above that for a hospital built under conventional public procurement. In other words, the Trust believed that PFI, whose availability and service charges amounted to £24m in 2005, was 25% more expensive than conventional public procurement. Furthermore, under the NHS's Resource Accounting and Budgeting regime, financial deficits accumulate since funding allocations are reduced by an amount equal to the prior year's deficits. The Trust's finance director said that the PFI deal locked the Trust into an annual £20m deficit, which it could not afford. Without government support, its long term financial prospects were insoluble.

Irrespective of any causal role in the Trusts' financial problems, these examples do illustrate our more general point that PFI charges, as a 'fixed cost' that cannot easily be reduced if at all, matter when margins are low due to other rising costs. They reduce the Trusts' flexibility in managing their budgets, which must create affordability problems under conditions where the Trusts have always struggled to break even.

## PFI companies

### *PFI company activities*

The SPVs' only activities and income relate to their contracts with the Trusts. In every case, the SPV is a shell company that has no employees but serves as a conduit to channel the payments received from the Trusts to its subcontractors, typically subsidiaries of the SPV's parent companies. This complex structure creates the

possibility of transfer pricing, with profit (and hence a further cost of capital) being recorded by the subcontractor rather than the SPV.

***Accounting treatment for PFI***

Before presenting the data relating to the cost of using the private sector to build, finance and operate hospitals, we consider the accounting treatment for and reporting of PFI, since this determines what should be classified as income from the Trusts and sheds light on the issue of risk transfer. The party that bears the risk will be deemed to have control of the asset and to show it on its balance sheet. Where the SPV does not bear the demand risk, then it is deemed to have entered into a financing arrangement, and to be acting as a financier to the Trust. For hospitals, schools and prisons, since the SPV is unlikely to bear demand risk, the asset becomes a finance debtor on the SPV's balance sheet. In other words, none of the hospitals appear on the private sector's balance sheet.

In terms of the accounting treatment, the Trust's payment to the SPV must therefore be split between: (i) a capital payment - reducing the SPV finance debtor; (ii) an interest payment on that finance debtor, and (iii) a payment for services, shown as turnover. As the schemes are still at an early stage, capital payments are immaterial. The availability fee is recorded as interest receivable and the service fee as turnover.

Treating the asset as a finance debtor means that the SPVs consider that relatively little risk has passed from the Trusts to the private sector. Indeed, Catalyst Healthcare (Worcester) Holdings Ltd state,

> *'Applying the guidance within the Application Note indicates that the project's principal agreements transfer substantially all the risks and rewards of ownership to the Worcestershire Acute Hospitals NHS Trust'* (Annual report and accounts 2001).

It also means that in the case of the Trusts' off balance sheet schemes, the assets are not shown as such on either the public or the private sector's balance sheet, in contrast to roads, which are on both (Edwards *et al*., 2004).

***The SPVs' costs***

Table 5 shows the SPVs' aggregate income and costs, including the cost of capital. Total income received from the Trusts rose from £55m in 1998 to £263m in 2005 as the projects became operational. This is higher than the amount that the Trusts record as their payments to the companies (Table 2). Some of the difference may be due in part to the companies taking responsibility for soft services before construction was complete and timing differences, as in six cases the SPVs' year end was not the same as the Trusts'. There are however some differences we are not able to explain. Neither is it clear why income in 2004 was higher than that in 2005, although in one case, the SPV had changed its year end, producing financial results for an eighteen month period for the year ending 2004, with no accounts for 2003.

Table 5 here

Since the SPVs had no employees, almost all their operating expenses (less any depreciation and a management fee to their parent companies) represent payments to their subcontractors. This rose from £52m in 1998 to £140m in 2005. Thus by the time that most of the projects had become operational, just over half of the income received from the Trusts was paid to their subcontractors. While their subcontractors were typically subsidiaries of their parent companies, as close companies the SPVs are not required to disclose the amount of payments to related parties in their accounts.

The SPVs' surplus before interest and tax rose from £3m in 1998 to £123m in 2005. Once all the hospitals had become fully operational in the year ending 2002, the surplus to income ratio was at least 40%. This surplus of income over expenditure is necessary to cover corporation tax on profits and the returns to the providers of finance: interest payments on debt and returns on shareholders' funds to the parent companies.

We consider first their tax position. The SPVs' corporation tax payable increased over the period from £1m in 1998 to £6m in 2005. In reality, the companies have paid even

less, due to their ability to defer payment, as evidenced by the fact that at least one company reported that they would pay no tax that year.

We turn next to the cost of capital as reflected in the returns to the providers of capital: debt and equity. Table 5 shows that debt had risen from £200m in 1998 to £1,384m in 2005, a sum approximately equal to the £1,176m capital costs shown in Table 1. Total interest payable on their loans, including capitalised net interest, rose from £12m in 1998 to £103m in 2005, equivalent to a 6% and 7% interest rate respectively.

Considering next the returns on equity finance, after four years of losses, the companies usually showed a post tax surplus, with £10m in 2002 rising to £14m in 2005 (Table 5). Thus, after negative returns in the early years and in 2003, they earned a post tax return on shareholders funds in 2005 in excess of 58%.

There are two indicators that can be used to judge the appropriateness of the companies' post tax return. Firstly, there is the 'normal' post tax return on PFI projects reported by the National Audit Office to the PAC, citing the Office of Government Commerce (PAC, 2003, Figure 2). The normal rate of return (post tax) on the construction companies' investments (not defined) in PFI companies was 8-15% for 2001. Thus our data shows that the actual returns on shareholders' funds from these projects are higher than 'normal' once the schemes became operational. Secondly, the head of the Treasury's Private Finance Unit warned PFI investors to cut their profits, saying that investors were making too much money: 14-15% profits on their start up investment (*Public Finance* 11/11/05).

The second indicator is a comparison between expected and actual returns. This is only possible in the case of Meridian, the QEII Trust's partner, because it set out its financial model in its bond offer, a document aimed at potential investors (Barclays Capital 1998). The project would make a small profit for the first time in 2007, by which time accumulated net losses would be £6m. Thereafter, profits were set to increase. In the event, Meridian made a post tax profit of £2.47m in 2002, a small loss in 2003, and profits of £1.4m in 2004 and £1.1m in 2005, i.e., a total of £5m profit.

The SPVs' surplus after operating expenses therefore provides a way of understanding and estimating the SPVs' total cost of capital and hence the cost to the public purse of private finance. While it may be argued that this includes tax, this as we have shown is small and in any case represents a cost that the Trusts would not bear with conventional procurement or public debt. The SPVs' total effective cost of capital was therefore about 8% and the cost of using the private sector as a financial intermediary was £123m a year in 2005 (Table 5).

Assuming that the government itself borrowed at sovereign rates of interest of 4.5% rate of interest (a conservative estimate for the period) on the same level of debt, this means that by 2005, the additional cost of private finance was about £60m a year (Table 5). This approximates to 20-25% of the income received from the Trusts. This additional cost of private finance is attributable to the cost of risk borne by the project companies (NAO, 1999), the main justification for PFI. It suggests that the risk premium is about three percentage points (the difference between the effective cost of capital and the cost of sovereign debt). But it also means that the annual cost of the risk premium is an additional cost out of or leakage from the Trusts' budget.

However this is an underestimate since there are other leakages in the supply chain which we are unable to quantify: the contractors and subcontractors' cost of capital (typically subsidiaries of the SPVs' parent companies), the subcontractors' income received directly from the public (such as car parking, canteen and telephone/television charges which also represent lost income to the Trusts), the proceeds from land sales and any refinancing of the SPVs' loans. But this information is either not publicly available or available but not in a systematic way amenable to analysis. Thus our estimate of the additional cost to the Trusts of private over public finance is a conservative one.

**Conclusion**

This paper has sought to contribute to the debate about PFI by providing empirical information about the actual cost of PFI in new hospital builds and the relative cost of public and private finance for public infrastructure.

One of the most striking points of our analysis is that some of the most important information is not publicly available. Such reporting as there is both limited and opaque in both the public and the private sectors. This lack of disclosure both constrains our analysis and provides limited accountability to the public at large, as others have noted (Hodges and Mellet 2004).

Several important points flow from our analysis. Firstly, PFI charges turned out in a number of cases to be more than expected at financial close and therefore the total cost of the projects over their 30year lifetime, (and in some cases these have already been extended), is likely to be much more than the £6bn originally estimated. The contracts provide numerous ways of increasing the charges under conditions where the Trusts are locked into a monopoly supplier that raise questions about the power of contractors to charge higher than normal prices (despite benchmarking arrangements), the extent of future budgetary commitments being made under PFI, and its impact on the sustainability of public expenditure. The off balance sheet treatment of the Trusts' assets and more importantly their liabilities, underestimates the potential liabilities of the state, should the deals go wrong for any reason. While the accounting treatment has been portrayed as cost neutral, this analysis has shown that a change to bring the hospital on balance sheet, as at Bromley, serves also to increase costs, both to the Trust and the state.

Secondly, we have shown that the SPVs typically pay little tax. This is important because the government's revised methodology for the public sector comparator to be used when evaluating the decision whether to use public or private finance assumes that PFI yields a 22 per cent return to the Treasury, in contrast with previous assumptions of one percentage point or less. This tax yield is based on a consultant's report (KPMG 2002) that uses a sample and data that is neither explained, justified nor in the public domain. One of the accountancy bodies, the ACCA (2002), argued that such a tax yield implied profit rates in excess of 60 per cent. In other words, the new methodology ignores the various means that enable groups of companies to minimise their tax obligations and the reality that many PFI consortia pay very little tax. But such an assumption is crucial to privileging private over public finance (ACCA 2002).

Thirdly, our study has shown empirically *ex post facto* the high cost of private finance. The annual *observable* leakages from the Trusts' budget are about £60m a year on 12 capital projects worth £1.2bn. The first wave of 18 projects, of which these 12 form a part, was expressly identified and progressed in order to create the model for PFI projects in the health sector (PWC 2004). If this experience is generalised across the entire PFI programme, although it could be argued that 'lessons have been learned' from these early deals, then the extra cost of private finance for the signed PFI capital programme in hospitals worth £8.67bn (Treasury 2006) is about £480m every year.

Fourthly, while the government recognises that private finance is more costly, it believes that this £60m annual cost is VFM because it represents the cost of the risks transferred to the private sector. However, such claims rest upon calculations, made at the time of procurement, of *expected* savings from risk transfer over the life of the project, not actual savings. It is far from clear how the actual savings made from transferring risk are be measured in practice, as Broadbent *et al* (2003) noted in their study, and thus whether the £60m is in fact VFM.

Fifthly, irrespective of whether the additional cost of PFI constitutes VFM, it generates affordability pressures for the Trusts, which have been cushioned to some extent by increases in government funding. This however is not set to continue after 2008. The new funding regime whereby funds follow patients on the basis of average prices will create even further pressures for Trusts that are locked into PFI contracts since they have essentially higher fixed costs than their non-PFI counterparts, as the QEII Trust noted. At the very least, PFI creates budget inflexibilities that increase the pressure on the NHS to cut their largest cost: the jobs, working conditions and pay of their staff, and thus access to quality healthcare services. In other words, PFI heralds an emerging conflict between capital and labour in healthcare.

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**Table 1: PFI project costs**

| Hospital | Capital value (£m) | Expected annual charge in 2003-04 (in steady state) (£m) | Expected total charges for contract (£m) |
|---|---|---|---|
| | | | |
| **Barnet and Chase*** | 54 | 15.04 | 448 |
| **Bromley*** | 155 | 23.30 | 559 |
| **Calderdale** | 76 | 16.45 | 474 |
| **Carlisle** | 67 | 12.20 | 366 |
| **Dartford** | 133 | 18.00 | 450 |
| **Hereford** | 65 | 10.56 | 310 |
| **Norfolk and Norwich** | 229 | 39.23 | 1,163 |
| **North Durham** | 92 | 14.10 | 380 |
| **Queen Elizabeth II Greenwich** | 94 | 21.47 | 522 |
| **South Bucks*** | 38 | 10.92 | 327 |
| **South Manchester** | 67 | 15.28 | 450 |
| **Worcester** | 106 | 17.84 | 517 |
| **Total** | **1,176** | **214.39** | **5,966** |

Sources:
Hospital accounts for capital values
Health Select Committee Memorandum (2000) for expected charges for hospitals in England in 1996-97 prices
Note:
* indicates that is an on balance sheet scheme

**Table 2: Trusts' PFI payments**

| Hospital | 2000-01 (£m) | 2001-02 (£m) | 2002-03 (£m) | 2003-04 (£m) | 2004-05 (£m) | Difference between actual and expected 2004-05 (£m) |
|---|---|---|---|---|---|---|
| **Barnet and Chase Actual*** | 7.56 | 12.26 | 14.83 | 17.78 | 18.28 | |
| **Expected in FBC** | 0.00 | 12.34 | 15.04 | 15.04 | 15.04 | 22% |
| **Bromley Actual*** | 3.27 | 3.06 | 5.61 | 36.64 | 35.72 | |
| **Expected in FBC** | 0.00 | 1.10 | 7.60 | 23.30 | 23.30 | 53% |
| **Calderdale Actual** | 0.00 | 15.23 | 17.10 | 18.61 | 17.92 | |
| **Expected in FBC** | 0.00 | 13.71 | 16.45 | 16.45 | 16.45 | 9% |
| **Carlisle Actual** | 11.54 | 11.86 | 12.78 | 12.86 | 13.64 | |
| **Expected in FBC** | 0.00 | 12.20 | 12.20 | 12.20 | 12.20 | 12% |
| **Dartford Actual** | 11.67 | 17.35 | 16.05 | 15.92 | 16.58 | |
| **Expected in FBC** | 0.00 | 18.00 | 18.00 | 18.00 | 18.00 | -8% |
| **Hereford Actual** | 0.00 | 5.99 | 10.75 | 9.27 | 10.31 | |
| **Expected in FBC** | 0.00 | 4.64 | 10.56 | 10.56 | 10.56 | -2% |
| **Norfolk and Norwich Actual** | 0.00 | 20.73 | 39.64 | 40.04 | 40.40 | |
| **Expected in FBC** | 0.00 | 26.15 | 39.23 | 39.23 | 39.23 | 3% |
| **N Durham Actual** | 0.00 | 11.06 | 19.75 | 22.84 | 24.09 | |
| **Expected in FBC** | 0.00 | 13.50 | 13.50 | 14.10 | 14.10 | 71% |
| **Queen Elizabeth II Greenwich Actual** | 0.00 | 18.11 | 23.17 | 20.98 | 24.02 | |
| **Expected in FBC** | 0.00 | 17.06 | 20.46 | 21.47 | 21.47 | 12% |
| **South Bucks Actual*** | 8.63 | 9.73 | 9.90 | 10.32 | 11.09 | |
| **Expected in FBC** | 0.00 | 10.92 | 10.92 | 10.92 | 10.92 | 2% |
| **South Manchester Actual** | 13.50 | 19.79 | 20.47 | 23.04 | 24.38 | |
| **Expected in FBC** | 0.00 | 7.64 | 15.28 | 15.28 | 15.28 | 60% |
| **Worcester Actual** | 2.46 | 5.20 | 18.63 | 21.38 | 21.43 | |
| **Expected in FBC** | 0.00 | 0.00 | 17.84 | 17.84 | 17.84 | 20% |
| **Total Actual** | **58.63** | **150.37** | **208.68** | **249.68** | **257.86** | |
| **Total expected in FBC** | **0.00** | **137.26** | **197.08** | **214.39** | **214.39** | |
| **Difference** | **58.63** | **12.91** | **11.60** | **35.29** | **43.47** | **20%** |

Source: Annual report and accounts (various years)

Notes:

- Actual – as stated in the accounts
- Expected payments in Full Business Case in 1997 prices as reported in Health Select Committee HC 882 Session 1999-2000 for hospitals in England
- Trusts' year end is March 31st
- * On balance sheet schemes include payments as stated in Note 25 plus imputed interest on finance lease

**Table 3: Trusts' income and PFI payments**

| (£m) | Income | PFI/ Income | Income | PFI/ Income | Income | PFI/ Income | Increase in income since 2000** | Increase in income since 2003 |
|---|---|---|---|---|---|---|---|---|
| | 2003 | 2003 | 2004 | 2004 | 2005 | 2005 | 2005 | 2005 |
| **Barnet and Chase*** | 198 | 7% | 212 | 8% | 239 | 8% | 64% | 21% |
| **Bromley*** | 118 | 5% | 139 | 26% | 165 | 22% | 34% | 40% |
| **Calderdale** | 197 | 9% | 213 | 9% | 233 | 8% | 20% | 18% |
| **Carlisle (N Cumbria)** | 146 | 9% | 139 | 9% | 212 | 6% | 62% | 45% |
| **Dartford** | 84 | 19% | 90 | 18% | 99 | 17% | 68% | 18% |
| **Hereford** | 68 | 16% | 71 | 13% | 77 | 13% | 67% | 13% |
| **Norfolk and Norwich** | 217 | 18% | 245 | 16% | 278 | 15% | 109% | 28% |
| **North Durham** | 218 | 9% | 242 | 9% | 261 | 9% | 88% | 20% |
| **QE II Greenwich** | 126 | 18% | 125 | 17% | 130 | 18% | 34% | 3% |
| **S Bucks*** | 96 | 10% | 201 | 5% | 231 | 5% | 45% | 141% |
| **South Manchester** | 194 | 11% | 211 | 11% | 230 | 11% | 34% | 19% |
| **Worcester** | 182 | 10% | 192 | 11% | 227 | 9% | 82% | 25% |
| **Total** | **1,844** | **11%** | **2,080** | **12%** | **2,338** | **11%** | **56%** | **29%** |

Source: Annual report and accounts (various years)
Notes:

- * On balance sheet schemes include payments as stated in Note 25 plus imputed interest on finance lease
- ** Income in 2000 relates to the merged entities to ensure comparability over time

**Table 4: Trusts' net surplus**

| (£m) | 2003 | 2004 | 2005 |
|---|---|---|---|
| | | | |
| **Barnet and Chase*** | -2.376 | -4.398 | 0.000 |
| **Bromley*** | 0.507 | 0.000 | 10.755 |
| **Calderdale** | 0.013 | 0.016 | 0.007 |
| **Carlisle (N Cumbria)** | -5.733 | -4.133 | 0.013 |
| **Dartford** | 2.710 | 0.061 | -1.146 |
| **Hereford** | 0.017 | -0.018 | 0.020 |
| **Norfolk and Norwich** | 0.032 | 0.088 | 0.092 |
| **North Durham** | 0.508 | 0.179 | 0.338 |
| **QE II Greenwich** | 7.213 | 0.917 | -9.186 |
| **S Bucks*** | 2.974 | -5.237 | 2.518 |
| **South Manchester** | -6.980 | 0.032 | 0.059 |
| **Worcester** | -9.926 | -12.801 | 0.002 |
| **Total** | **-11.041** | **-25.294** | **3.472** |

Source: annual report and accounts (various years)
Note:
* indicates on balance sheet scheme

**Table 5: Cost structure of 12 SPVs**

| (£m) | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|
| **Total income from trusts** | **55** | **83** | **155** | **188** | **224** | **224** | **290** | **263** |
| **Payments to subcontractors** | 52 | 77 | 130 | 130 | 126 | 132 | 166 | 140 |
| | | | | | | | | |
| **Operating surplus** | **3** | **6** | **25** | **58** | **98** | **92** | **124** | **123** |
| | | | | | | | | |
| **Total interest payable** | 12 | 27 | 52 | 76 | 83 | 91 | 103 | 103 |
| **Tax payable** | 1 | 12 | -1 | 3 | 5 | 4 | 10 | 6 |
| **Surplus after interest and tax** | -10 | -33 | -26 | -21 | 10 | -3 | 11 | 14 |
| | | | | | | | | |
| **Debt** | 200 | 588 | 860 | 1,047 | 1,118 | 1,269 | 1,353 | 1,384 |
| **Shareholders funds** | 0 | -2 | -7 | -9 | 1 | 21 | 1 | 24 |
| **Total capital** | 200 | 586 | 853 | 1,038 | 1,119 | 1,290 | 1,354 | 1,408 |
| | | | | | | | | |
| ***Key ratios*** | | | | | | | | |
| **Operating surplus/total income** | 5% | 7% | 16% | 31% | 44% | 41% | 43% | 47% |
| **Interest rate on debt** | 6% | 5% | 6% | 7% | 7% | 7% | 8% | 7% |
| **Post tax surplus/shareholders funds** | n/a | n/a | n/a | n/a | 1000% | n/a | 1100% | 58% |
| **Total effective cost of capital** | **6%** | **5%** | **6%** | **7%** | **8%** | **7%** | **8%** | **8%** |
| | | | | | | | | |
| **Cost of public debt at 4.5%** | 9 | 26 | 39 | 47 | 50 | 57 | 61 | 62 |
| **(Lower)/Extra cost of private finance** | **(6)** | **(20)** | **(14)** | **11** | **48** | **35** | **63** | **61** |

Source: Annual report and accounts (various years)
Notes:

- Payments to subcontractors = total income less operating surplus, management fee and depreciation
- Effective total cost of capital = (total interest payable plus post tax surplus)/(total capital)
- (Lower)/Extra cost of private finance = operating surplus less cost of public debt

# Highway Robbery? A financial analysis of Design Build Finance and Operate in UK roads

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**Abstract**

The paper examines the *ex post facto* cost of using private finance in roads using a case study approach. It focuses on the first eight design build finance and operate (DBFO) roads commissioned by the UK government's Highways Agency and paid for through a system of shadow tolls. It carries out a financial analysis of the publicly available accounting information from the Highways Agency and its private sector partners for the first six years since the start of the 30 year schemes in 1997.

We found that that publicly available financial information about the schemes was limited and opaque. In three years the Agency had paid more than the construction cost. It was unclear whether the payments were higher than expected at financial close. Its private sector partners reported a post tax return on capital of 29% and an effective cost of capital of 11% in 2002, twice the cost of public finance. However, operating through a complex web of subcontracting creates additional, undisclosed sources of profit for their parent companies that make it difficult to establish the total cost of using private finance.

The paper questions the wisdom of using private finance by providing evidence about the cost, including the cost of risk transfer.

**Key words:** Private finance, DBFO, PFI, roads, shadow tolls, risk transfer, affordability

**Introduction**

The use of private finance in public infrastructure, which was championed by the World Bank and taken up more recently by the European Union, began in the 1970s and 1980s and had by the 1990s gained some momentum in the transport, power and water sectors. The UK was one of the first countries to use private finance, with the Department of Transport (DoT) being the first Department to use it to any significant degree. By 1994, it had made more use of private finance in transport, by far the largest sector, than any other country apart from China (Levy 1996).

While the early private finance projects in roads were for new tunnels and bridges, the then Conservative government wanted to extend this to improving and maintaining existing roads, including motorways, and outlined proposals under its flagship Private Finance Initiative (PFI) policy, known as design, build, finance and operate (DBFO) in roads (DoT 1993, 1994). Under such DBFO concessions, the private sector was invited to extend or enhance a road to the government's requirements, operate and maintain both it and a further stretch of road for a 30 year period. The 30 year period was chosen because the payment mechanism had to enable the debt finance, which typically has a repayment period of 20 years, to be repaid and ensure a return to the equity investors. Road users would not pay directly for the use of the roads. Instead, the government would pay the contractor on the basis of a shadow toll. Payments would be based on the number of vehicle kilometres travelled by short vehicles (cars) and long vehicles (heavy goods vehicles), in a series of bands, which would be capped at a certain level. In other words, the roads would be privately financed, but publicly funded.

While the then government had intended to introduce direct tolls, its financial advisors devised the system of shadow tolls because the private sector believed that user charges could endanger the policy of creating a private road operating industry (Glaister *et al* 1997). The government argued that shadow tolls would offer a "workable method of acclimatising the private sector to the concept of payment per vehicle as a precursor to the introduction of user paid toll roads (Highways Agency 1997). In other words, the government did envisage that ultimately it would move to direct tolling as presaged in its 1993 White Paper (DoT 1993) and included clauses in the contracts that would enable direct tolls to be paid by road users to the government (NAO 1998).

The government has in general justified the choice of private finance in preference to public finance for public infrastructure in two ways. Firstly, the use of private finance, despite its greater costs, would provide the investment that the government could not afford. Secondly, it would deliver value for money (VFM), a concept that means lower whole life costs, including the cost of risk transfer. Value for money is measured by comparing the difference between the discounted whole life costs of both the DBFO option and a public sector comparator (PSC), an equivalent scheme financed conventionally. In other words, DBFO would be more economical than conventional procurement. The

government argued that private finance would lead to more investment and lower whole life costs, due to risk transfer, greater private sector efficiency and innovation.

It is timely, now that the DBFO roads have been operating for a few years, to examine the *ex post* experience of financing public infrastructure via the private sector. While it is clearly not possible to make a summative evaluation of contracts that still have many years to run, a formative evaluation of the experience to date would be useful. The purpose of this paper is therefore to examine empirically the financial cost of using DBFO in roads. This is important for a number of inter-related reasons. Firstly, most transport research focuses on methodologies for the broader economic appraisal of projects in order to prioritise them as opposed to appraising the best way of financing an individual project, an entirely separate task. Secondly, DBFO entails long term commitments and is set to increase. For example, the construction value of the first eight DBFO projects signed by the Highways Agency for roads in England in 1996 is substantial, at about £590m, and accounts for about 35% of all new construction projects between 1996 and 2001 (DTI 2003). Furthermore, the government's national 10year transport plan, '*Transport 2010*' (DETR 2000) allocated £21bn to the strategic highway network, 25% of which would involve private finance. Thirdly, the use of private finance in roads has been the subject of little public discussion in the UK. Fourthly, there has also been surprisingly little financial analysis or even financial information in the public domain in the UK, in contrast to hospitals and schools. This information is important because DBFO raises a series of questions about the extent to which the existing forms of reporting provide useful information about the uses of public resources, the evaluation of the policy and individual projects, and therefore future investment plans. Given the increased interest in the use of private finance in transport all over the world, a study of the financial cost of DBFO could contribute to a more informed debate about these and similar decisions in the future.

Our investigation is of the first eight DBFO projects signed by the Highways Agency in 1996 that became operational in 1997. The Agency selected these schemes from a list of completed design projects that had already obtained planning permission and had been languishing on the shelf due to lack of public funding. They were chosen as a way of exploring different approaches to DBFO concessions, and were not necessarily the most appropriate for private finance.

This paper presents the accounting and financial data to analyse the investment, costs, including the cost of using private finance. We present the Highways Agency's expenditure on DBFO, the structure of the deals, the DBFO companies' income, costs (including the cost of capital) and returns to shareholders, to provide evidence about the financial operation of DBFO. Our evidence is reliant on publicly available sources, including official, corporate and other commentaries, the Highways Agency's reports on its DBFO roads, and the Highways Agency and DBFO companies' annual report and accounts. Our analysis is necessarily constrained by the fact that the Agency's full business case, showing the expected costs and traffic flows, and the contractual arrangements are not in the public domain due to reasons of commercial confidentiality.

The paper has several sections. The first briefly reviews the research literature and official reports. The second and third sections present a financial analysis of the DBFO sector as it relates to the way DBFO operates in roads, based upon the Highways Agency's financial statements, with some additional input from the Agency, and the private sector's annual reports and accounts, respectively. The final section draws out the implications of the findings.

**Research literature**

As PFI/DBFO is relatively new, most of the research has focused on the *ex ante* case for using private finance. Research, particularly in the case of hospitals, education and IT projects, has challenged the appraisal methodology used to justify the use of private finance and/or the notion that these projects, and indeed the policy, can deliver the anticipated value for money or transfer risks in the way the government expected. See for example, Gaffney and Pollock 1999a, Price *et al* 1999, Pollock *et al* 2000, Edwards and Shaoul 2002, 2003. Other work in the health service showed that the high cost of PFI projects led to affordability problems, an issue that the emphasis on VFM downplays, and led to hospital downsizing in order to bridge the affordability gap (Hodges and Mellett 1999, Gaffney and Pollock 1999b, Gaffney *et al* 1999a, b, c, Pollock *et al* 1999, Froud and Shaoul 2001, Pollock *et al* 2002).

There has however been surprisingly little empirical financial research of or even discussion about the use of private finance in roads, of which DBFO in roads is but one example, either *ex ante* or after implementation. In part at least, this is because unlike hospitals and schools the business cases used to support the case for private finance in preference to public finance have not been placed in the public domain, for reasons of 'commercial confidentiality', even after financial close. It is also in part because the transactions are very complex and based upon lengthy contractual relations making it difficult for external observers to examine. Notwithstanding the limited independent empirical evidence, DBFO – as an exemplar of PFI - is largely assumed to be unproblematic, at least in the UK (IPPR 2001).

On the international arena, although there is a considerable body of literature about the private financing of infrastructure in general and roads in particular, which unlike the UK has usually been at least part funded by user charges, most of this simply describes the policy, its objectives, rationale, the procurement process and particular projects. See for example, Miquel and Condron 1991, World Bank 1994, Levy 1996, Ridley 1997, Glaister 1999, Debande 2002, Grimsey and Lewis 2002. Generally, their view is that private finance can play a very positive role in infrastructure provision, although some do point out actual or potential problems. To the extent that they cite evidence, this is usually derived from official sources.

Silva (2000), reporting for the World Bank, which has vigorously promoted the turn to the private sector for construction, management and maintenance of toll roads, was very supportive of the use of private finance. She notes, without citing sources or providing details, that the majority of projects have been successful and that only a minority of projects have had problems. Freeman (2004) reports that the World Bank has not formally undertaken a complete evaluation of the road sector, although there have been individual highway evaluations and specific Bank studies of tolls roads. It has evaluated 75 roads and highways projects and of these 64, or 83%, were rated satisfactory, although again no evidence or sources are cited. But it is well known that new toll roads in Mexico, Thailand and Hungary were unsuccessful and had to be taken back into public ownership.

In contrast to much of the literature that is supportive of the use of private finance, Walker and Con Walker (2000), taking an accountability perspective, were not persuaded of the value of the Australian experience of Build, Own, Operate and Transfer (BOOT) schemes for roads. They were not convinced that the high private sector profits were justified by the explicit and implicit costs to the public sector, the distribution of risks, and the user charges. They argued that BOOT schemes constituted a government licensed monopoly with powers akin to taxation, and as such an alienation of revenue streams from the public to the private sector. They noted that details of the financial arrangements and contract details were withheld from the public, making scrutiny impossible. They also reported that the NSW Auditor-General had raised concerns about the lack of 'auditable controls and guidelines' for these schemes. They were concerned that in relation to transport, this could lead to a rapid overinvestment in toll roads simply because they produced a stream of cash flows – little different in essence from the securitization of receivables - at the expense of other schemes (and other transport sectors) that could not generate such cash flows. Such a deal driven process could, they argued, distort the planning process.

The National Audit Office (NAO) carried out the first publicly available independent appraisal of DBFO in the UK (NAO 1998), reviewing the first four DBFOs shortly after financial close, and made a number of important points. Firstly, it was the government that required commercial confidentiality clauses to be written into the contracts. Secondly, the high cost of professional fees (£8.3m), the bidding process, and private finance (not quantified), meant that the VFM case rested upon risk transfer, innovation and efficiency gains. Thirdly, the nature of the projects chosen and the fact that they had already received planning permission meant, however, that the projects were less risky than might otherwise have been the case and that there was little possibility for innovation.

Fourthly, while the NAO believed that substantial risks had been transferred to the private sector, it criticised the payment mechanism, shadow tolls. This was because it transferred the risk of falling demand (lower traffic volume) to the private sector, which had no means of influencing the volume of traffic using the roads, although their revenues and the cost of maintenance depended upon it. Conversely, if volumes rose more than anticipated, the government could face higher than expected charges, although above a certain limit the shadow tolls were capped. This is important because

traffic forecasting is not an exact science, making it difficult to forecast the Highways Agency's payments over the life of the contract. Flyvbjerg *et al*'s international study (2003) found that actual traffic was on average 9% higher than forecast. In Britain, traffic on motorways and main trunk roads has risen by 36% and 24% respectively since 1992 and 2002, with some regional variations (Department for Transport 2003). Thus, under conditions where traffic has been rising, it is the government that bears the risk. Consequently, a contract based on the Highways Agency's estimates of traffic flows could turn out to be very costly because of both poor estimation and rising traffic volumes. In short, shadow tolls introduce an additional risk that increases costs to the Agency, offsetting other possible gains, although the exact extent is unknown. The NAO therefore recommended that the government look for alternative payment mechanisms for future privately operated roads.

Fifthly, the NAO presented evidence that made it clear that the anticipated risk transfer was crucial to the VFM case since in each project, conventional procurement was cheaper than DBFO, before risk transfer was included. Sixthly, the NAO found that the Highways Agency had overstated the benefits of using DBFO since the Agency had used an 8% discount rate to compare the bids, the rate traditionally used in the Department of Transport for comparing transport projects in terms of road *versus* rail decisions. Since the decision was whether to use public or private finance, the 6% discount rate should have been used to compare the cost of the public and privately financed options as required by the Green Book (Treasury 1991). Using the government's financial criteria, if not the DoT's which was only changed in 1997 to 6%, only two of the four projects should have been allowed to proceed, and even these had overestimated the advantage of DBFO since the additional risks had not been included.

In its report on the contract on the A74(M)/M74 Motorway in Scotland DBFO, now known as the M6 extension, the NAO reiterated many of the same points (NAO 1999). It made several additional points. Firstly, the NAO noted that the cost of private finance amounted to 16% of the total cost and while it was high, it was not necessarily inappropriate. Secondly, the contract provided an incentive for the contractor, Autolink, to complete the construction phase as soon as possible (although there was little economic need for this). As the NAO explained, this served to increase the cost of the road by £7m due to the extra shadow tolls resulting from early opening. It therefore reduced the margin of anticipated VFM from £17m to £10m. Thirdly, the NAO believed that the Department of Transport had overstated the cost of public procurement by £10m. Together therefore these two factors eliminated the DBFOs' margin of superiority from £17m to zero. Despite this and its belief that it was 'not realistic to expect a very high degree of precision and accuracy in such forecasts', the NAO's contradictory conclusion was that, while the Agency had not clearly demonstrated VFM, the project was likely to remain VFM. In other words, it drew conclusions that were not justified by the evidence and therefore, like its previous report, failed to bring out that the project was unlikely to deliver financial savings over the life of the project.

The NAO's evidence from these two reports, if not its conclusions, is important because it shows that the Highways Agency was unable to demonstrate unequivocally that each of these DBFO schemes had significantly lower whole life costs than conventional procurement. This means, since the appraisal methodology, which uses discounting, serves to reduce the apparent cost of the DBFO option relative to conventional procurement (Shaoul 2002), that the cash cost of DBFO, even including risk transfer, must be very much more than a publicly funded option and that DBFO may be an expensive way of constructing, operating and maintaining roads. In that case, DBFO would come at the expense of other roads and/or other public services. Arguably, this might be acceptable since the schemes were chosen in part as a way of exploring the potential of private finance.

But the Highways Agency, despite the problems raised by the NAO and the (partially) exploratory nature of these deals, insists that the DBFO contracts constitute value for money and have been successful (2003). This is based upon the Highways Agency's own review, *Value in Roads- a DBFO Case Study* (1997) which relates to the expected VFM case and subsequently formed the basis of a paper by Agency personnel, including the chief executive, in an academic journal (Haynes and Roden 1999). However the paper is largely descriptive and provides little additional financial information or evidence to substantiate its claims over and above a partial selection of points contained in the NAO reports reviewed above.

A case study of the management and monitoring of a DBFO road project, part of a larger study of the operational experience of PFI schemes, confirmed the view that DBFO was believed to be successful. The research reported extensive interviews with Agency personnel who generally perceived the contracts as an operational success, if not without some problems and independently of financial costs (Edwards *et al* 2004). The Agency's regional staff were particularly pleased that DBFO ensured that maintenance was carried out, something that could not be guaranteed with conventional procurement, due to lack of resources.

**Financial analysis of DBFOs in roads**

We consider first the Highways Agency reporting for and actual expenditure on its first eight DBFOs. We then examine the structure of the deals, the DBFO companies' income, costs, including the cost of capital, and returns to the parent companies, in order to understand the cost of using private finance in roads.

***Highways Agency's expenditure on DBFOs***

The Highways Agency reported that the capital cost of the eight projects was £590m (DfT 2003) and the total discounted cost over the life of the contracts was £1,093m (Haynes and Roden 1999).

Table 1 (line 4) shows the annual payments made by the Highways Agency in respect of these DBFO contracts in England, for each year ending March 31st 2000 to 2002. These are currently running at about £210 m per annum. The first point to note is that there is a lack of clear disclosure. For example, these payments are shown only as a note in the accounts, not as an explicit programme cost, and are far from clear. The Agency does not explicitly state to which contracts the payments relate nor does it break the payments down by contract. It is therefore impossible to track individual project costs. Since the Agency's ninth contract was not signed until 2002, the payments relate only to the first eight contracts that are the focus of this study. Secondly, since the Agency did not, prior to the year ending March 2000, produce accounts that showed the payments to the DBFO consortia, there is no publicly available record of the HA's payments to the DBFO consortia in the years ending March 1997, 1998 and 1999. Thirdly, despite the designation of the payment mechanism as 'shadow tolls', payments are recorded in three forms: as interest on the DBFO finance lease for the capital element of the projects; as shadow tolls for the operating element of the contracts; and as finance leases. Thus the tolls are only one element of the payment mechanism. The estimated capital and interest payments of about £1.723 billion[1] mean that the finance element of DBFO is about three times the initial construction costs and nearly one third of the total cash costs over the life of the project.

Comment [FF1]: NB the lines in table 5.5 are not numbered

TABLE 1 HERE

These three payments are not the full cost to the Highways Agency of the roads under DBFO contracts. Since the roads remain the Agency's property, they appear on its balance sheet. As such, they are subject, as are all the Agency's assets, to a 6% capital charge, soon to be reduced to 3.5%, assumed to be the cost of past capital and payable in the form of a dividend on the government's Public Dividend Capital – the equivalent of the government's equity stake – to the government as owner. Table 2 shows that after including capital charges on the assets, assumed to be worth the value recorded in the DBFOs' accounts, since the Highways Agency does not identify them separately, the eight roads accounted for 5–6% of total programme costs.

It is impossible to comment on how the actual payments compare with the expected payments since information about expected payments is not in the public domain. Although it is known in general that traffic volumes have risen and, in some cases more and in some less than the companies expected (Standard and Poor's 2003), thereby affecting the payments to (and maintenance costs of) the private sector, it is unknown how these compare with the Agency's own estimates of expected traffic flows, since these too were never released.

It is inevitable that there will, over 30years, be changes in the Agency's requirements in respect of the DBFO roads. Indeed, according to the NAO (1998), the contracts make provision for the companies to

[1] Schedule of payments provided by the Highways Agency to the research team

make suggestions for improvements. However, the NAO did point out that some contract changes could result in extra payments that would not be included in the shadow tolls, while smaller changes would involve some amendment to the shadow tolls and cited examples of such changes that had already taken place. However, since the Agency does not report the cost of either of these two kinds of changes, it is unknown the degree to which there has been contract 'drift', albeit within the terms of the contract.

There is a lack of clarity about future payments. The accounts show the discounted value of the remaining future payments, not the expected annual cash payments. The Highways Agency's *Value in Roads – a DBFO Case Study* (1997) shows that there are step increases in the shadow tolls at two points, which appear to be around years four and seven, points A and B respectively in figure 1, reproduced from the Agency's website. However, although the graph does not identify the scale of the axes and there is no other publicly available information on this, it does show that up to year B, payments are only 80% of the full payments. The significance of this is that the payments may rise by about 25% since the year ending March 2002 is only the sixth year of the contracts. However, the Agency was not able to clarify the point for our study.

FIGURE 1 HERE

Thus, in just three years (1999/2000 to 2001/2) for which financial information is available, the Highways Agency has recorded payments of £618 m. Given that payments are known to have started in 1997, this means that the Agency has paid in six years more than the initial capital costs of £590 m, although such payments also cover the cost of operations and maintenance.

Assuming £200 m costs per year over 30 years (although as we have shown this is higher and set to rise), then the total cash cost of the contracts is approximately £6 billion. This means that the remaining £5.4 billion (less some unknown amount for the preceding three years) due over the life of the contracts in effect represents the cost of finance, and the operation and maintenance of the roads, and the premium paid for risk transfer.

The £6bn whole-life costs imply a present value of about £2.2 to £2.5 billion, depending upon whether the 8% or 6% discount rate is used. Although clearly these assumptions can be varied even more conservatively, it is difficult to reduce this below £2 billion, a figure almost twice the net present cost of £1.093 billion cited by Haynes and Roden (1999). The Highways Agency was unable to clarify this discrepancy for us.

***The DBFO companies' financial performance***

The Highways Agency makes payments to its DBFO partner or concessionaire, which is typically a consortium or Special Purpose Vehicle (SPV) with a number of related companies, some of which have similar names. We obtained the concessionaires' accounts, since their inception, from Companies House. We were, however, unable to obtain a full set of accounts for 2002 for one of the

companies, Autolink Concessionaires (A19) Ltd, as its parent company, Amey Plc, was involved in considerable restructuring, including the disposal of substantial equity stakes in its PFI projects during this period. We therefore have accounts for only seven of the SPVs in 2002.

The consortium is made up of a bank or finance house and a construction company that typically invests 3–7% of the capital required from its own funds as equity in the company. The consortium has no recourse to its parent companies but raises the rest of its finance as debt from the banks, its parent finance house, or the bond market. The cash flows that remain after debt service are available for the parent companies as a return on their small equity stakes.

It was clear from their accounts that in nearly every case, the SPV is a shell company whose only activities and income relate to its DBFO contract. It has no employees but serves as a conduit to channel the payments received from the Highways Agency to its subcontractors, which are typically subsidiaries of the SPV's parent companies. This arrangement creates the possibility for transfer pricing, with profit being recorded in related parties rather than the SPV. This in turn means that the parent companies may profit from the DBFO in several ways: their equity stake in both the SPV and the subsidiaries that carry out work for the SPV, and interest on any loans to the SPV. Since the SPVs operate as close companies[2], they are not required to disclose the size of the payments made to related parties. Only one of the 10 consortia's accounts that we examined as part of a wider study (Edwards *et al* 2004) disclosed this: UK Highways M40 Ltd.

Table 2 shows the turnover recorded by each of the eight SPVs for the years 1997 to 2002. The first point to note is that, despite the absence of such information from the Highways Agency's accounts, the Agency was making payments from 1997. Although the SPVs record an income of £241 m over the first three years, this underestimates the total received by about 10%, since some is shown as deferred income. Secondly, most of the projects appear to have become fully operational by 1999 when income stabilised. Thirdly, although the ranking of their income largely followed that of the capital cost of the contracts, in one case, the A1(M) Peterborough-Alconbury contract had an income considerably lower than the capital cost of the project would have suggested. Fourthly, the eight SPVs' income has risen continuously from £43 m in 1997 to £168 m in 2001, the last year for which we have complete information, in part at least because traffic volumes have increased. By 2002, the SPVs had received from the Agency more than the £590 m capital cost of the projects. But the higher traffic volumes must in turn lead to higher maintenance costs later.

TABLE 2 HERE

[2] A close company, subject to certain exceptions, is broadly a company:

- which is under the control of
  - five or fewer participators, or
  - any number of participators if those participators are directors, or
- more than half the assets of which would be distributed to five or fewer participators, or to participators who are directors, in the event of the winding up of the company

(http://www.inlandrevenue.gov.uk/manuals/ct123manual/ct6001.htm, accessed 27 April 2004)

It is interesting to note that the SPVs' income does not match the Highways Agency's total DBFO payments shown in table 2 and reproduced at the bottom of table 3. It is about 30% lower than the Agency's payments. There are several potential reasons for this. First, the SPVs and the Agency have different year-ends. Secondly, some of the SPVs changed their year end in 2000 and so table 3 shows an estimated value for 2000 based on pro-rating the monthly averages. Thirdly, the 2002 accounts for one of the companies were not available. Fourthly, three of the SPVs record some of their income as deferred income, but this is small and in the early years of the contracts. Lastly, depending upon whether the Agency's activities are zero-rated or exempt from VAT, its payments include VAT, whereas the SPVs' turnover is reported net of VAT. However, even assuming that all the shadow toll payments include VAT, the SPVs' income from the contracts is still 15–20% less than the Agency's payments, which relate only to the eight contracts in this period. This is something we are not able to explain.

Table 3 shows the total operating profits before interest, tax and other non-operating items, and the resulting operating profit margins for the eight SPVs over the life of the contract. These were generally rising and by 1999, when the projects became fully operational, profit margins averaged 54% of income. By 2002, operating profits had risen to £106 m (from £6 m in 1997) and profit margins had risen from 13% to 68%. Since the SPVs had no employees, almost all their operating expenses, except depreciation and a management fee to their parent companies, must represent payments to their subcontractors, typically about £60-70 m a year, for the operation and maintenance of the roads.

Table 3 shows that the amount of corporation tax payable was very small, rising from zero in 1997 to £9 m on operating profits (before other non-operating items and interest) of £106 m (about 8%) in 2002. The total amount of tax payable by the companies over the period was £25 m. This constitutes an effective tax rate of 8% on total operating profits of £384 m for the period, despite the fact that the current rate of corporation tax is 30%, largely because of tax relief on net interest paid. This over estimates the actual tax paid, since the majority is deferred tax. However, we would expect the tax payable to increase in the next few years.

TABLE 3 HERE

We turn next to the cost of capital: debt and equity. First, table 3 shows that debt had risen from £557 m in 1997 to £951 m in 2001, the last year for which complete information was available. This was considerably higher than the £590 m construction costs, which as the NAO reported had resulted from the additional costs of private finance, the high transaction costs and risk transfer (NAO 1998). Interest payments on debt had increased over the period from £23 m in 1997 to £102m in 2001 (the last year for which we have complete information), and £83 m in 2002. The SPVs were paying an effective interest rate of 11% in 2001 and 9% in 2002, considerably higher than the cost of Treasury stock, then about 4.5%.

Secondly, the table shows that the SPVs' post-tax profits (which were also affected by other non-operating income that is not shown in the table) rose from a loss of £5 m in 1997 to a profit of £6 m in

2001 and £20 m in 2002. Post tax profits, as the surplus that remains after servicing debt, is available, in principle at least, as dividends to be paid to the parent companies. Dividends have begun to be paid. After negative shareholders' funds in the early years due to losses, shareholders' funds, which include both the original equity stake and accumulated profits, rose from £18 m in 1997 to £51 m in 2001 and £68 m in 2002. This means that after negative returns in the early years, the SPVs earned a post tax return on shareholders' funds of 11% in 2001 and 29% in 2002.

The cost of debt and equity therefore provide a way of understanding and estimating the SPVs' total cost of capital and hence the cost to the public purse of private finance and the price paid for risk transfer – the risk premium. That is, it serves as a proxy for the Highways Agency's cost of finance under PFI. This gives figures in 2002 for seven of the eight contracts of interest payable of £83m plus post tax profits of £20m (as shown in table 3), totalling £103 m, the public sector's cost of capital under DBFO, equivalent to 63% of the income received from the Highways Agency. The total effective cost of capital rose from 3% in 1997 to 11% in 2002.

Several further points should be made. Firstly, in four of the six years that the schemes have been operational, this is higher than the average return on capital employed implicit in the government's cost of capital implicit in its 6% capital charging regime and the 6% test discount rate used in its financial appraisal of the public and private finance options. Secondly, the difference between the actual cost of capital and the cost of sovereign debt is attributable to the cost of risk borne by the SPVs (NAO 1998, 1999). This implies a risk premium of about six percentage points (the difference between 11%, the actual cost of capital, and 4.5%, the cost of Treasury stock). This translates into about £56 m (just over half of the £103m cost of capital). There is however no yardstick against which to evaluate whether this is value for money.

Returning to the issue of the SPVs' rate of return on shareholders' funds, we use, by way of a benchmark, the evidence given on 'normal' rates of return on PFI projects by the National Audit Office to the Public Accounts Committee, citing the Office of Government Commerce (PAC 2003a, figure 2). The 'normal' rate of return (post-tax) on the construction companies' investments in PFI companies was 8-15% for 2001, although this was not defined. Thus, apart from the first year, our companies were either at the top end or exceeded the 'normal' rate of return. Our analysis is confirmed by the industry itself, which uses a variety of different and undefined measures of returns to shareholders, making a precise comparison difficult. According to a report in the *Guardian* (8 September 2003), the Major Contractors Group (MCG) that represents PFI contractors such as Carillion, Costain and Amec, said that they expected to make between three and ten times as much on their stakes in PFI as their traditional contracts with equity returns in the region of 10–20%. A segmental analysis of their main business areas as revealed in their annual report and accounts and carried out as part of the present study confirms that this is indeed the case. The chief executive of Mowlem, another MCG member, justified the higher returns on the basis of the substantial risks associated with PFI. In other words, it is more beneficial in terms of capital employed (although not necessarily in absolute terms) to have stakes in the SPV than actually to carry out the construction or even the service provision.

Confirmation of MCG's viewpoint is shown by John Laing's sale of its construction company in order to buy up equity stakes in PFI contracts.

But the SPVs' post tax profits are not the only returns to the parent companies. First, as explained earlier, the SPVs typically subcontract some of the operations and maintenance work to subsidiaries of their parent companies. In only one case, UK Highways M40 Ltd, did the SPV disclose sufficient information in its accounts to enable an analysis of the subsidiary's financial performance. In 2002, UK Highways M40 Ltd was paying about £6.8 m or 34% of its income to its sister company, UK Highways M40 Services Ltd. An analysis of the sister company's accounts shows that profit margins were typically 20% over the period. After paying about 11% interest on its debt in 2002 and corporation tax at 30% of operating profits most years, it generated a post tax return on shareholders' funds of 75% in 1997, rising to nearly 329% in 2002. This was considerably higher than that of the SPV, albeit on a smaller equity stake. Therefore, if these results are typical, the total returns to the parent companies on DBFO contracts are more than simply the SPVs' returns. It should however be noted that since the Highways Agency contracts out the operation and maintenance of all its roads to the private sector, albeit different companies, this may not represent any real change.

Secondly, as the Public Accounts Committee supplementary memorandum (2003a) explained, such an analysis is not complete. The total returns to the SPVs' parent companies would also need to include: the interest paid to the parent companies' finance subsidiaries; the benefit of any refinancing during the contract period – and at least one of the SPVs, Autolink A19 Concessionaires, has refinanced its debt; realised gains on the disposal of any investments in the SPV; and any unrealised gains from increases in the value of such investments. But little of this information is available in a systematic way that makes it possible to assess the total cost of using private finance.

But, thirdly, the notes to the SPVs' accounts provide interesting examples of how the parent companies benefit in other ways. To cite but one example (and there are others), Yorkshire Link (Holdings) Ltd, the SPV's parent, has made two interest-free loans totalling £36 m of unstated duration to its parents, Balfour Beatty Plc and Macquarie Infrastructure (UK) Ltd, which thereby improve the parents' cash flow position at no extra cost to them. The holding company was able to do this because the SPV took out a loan, which among other things financed the holding company's upstream loan.

As well as the cost to the Highways Agency, there is also the cost to the public purse as a whole. The SPVs and/or their construction subcontractors receive capital allowances for their investment that defer and thus mitigate their tax payments. This is an additional cost to the Treasury that it did not bear before DBFO. While the capital allowances are 25%, the resulting loss of tax revenue is unclear.

In summary, we suggested earlier that the 68% profit margin on income received from the Highways Agency in 2002 (table 3), adjusted to 63% when £9 m corporation tax payable is taken into account, is attributable to the SPVs' cost of capital (debt and equity), and could be used as a proxy for the Highways Agency's cost of using private capital. Our analysis has shown however, this considerably

under-represents the total cost to the public purse as a whole. For as well as including the SPVs' interest payments on debt and returns to shareholders, any estimate of the total cost should include the profits of the parent companies' construction subsidiaries, the interest and profits of their finance subsidiaries, the tax revenue lost through deferred tax, and the profits on refinancing, etc. But such information is either not made public or is not made accessible in a systematic way.

**Discussion and conclusion**

Our focus has been on the financial cost of DBFO and the relative costs of public and private finance for public infrastructure. To this end, we examined in some detail the National Audit Office's assessment of some of the DBFO contracts, the Highways Agency costs and the SPVs' financial performance.

One of the most striking points is that some of the most important information is not publicly available due to commercial confidentiality clauses in the contracts, imposed by the government. We have encountered the same lack of public accountability about private sector profits and the nature of the government's dealings as others have observed in Australia (Walker and Con Walker 2000). Yet the Stock Market and credit ratings agencies require details of the contractual and financial arrangements, if the deals are to be financed by bonds. Indeed, the credit ratings agencies' reports, while not readily accessible to the public at large, provide information that is not otherwise available. For example, Standard and Poor's states that the Highways Agency's "obligations were directly guaranteed by the government (Standard and Poor's 2003, p9). This, they argue, is one of the DBFOs' strong credit features and note that such explicit (as opposed to implicit) backing is not available to National Health Service PFI deals. Thus, it appears that information is disclosed to the capital markets but not to the taxpayers who finance the government. Such reporting as there is, is limited and opaque at both the public and the private sector levels. This necessarily has implications for our analysis and conclusions.

Several important and inter-related points flow from our analysis of the Highways Agency's accounts. In three years, the Highways Agency paid out more than the construction costs of the projects. This £618m plus the £241m received by the SPVs for the three years for which there is no information on payments by the Agency makes a total of £859m. Assuming that the cost of operating and maintaining the roads is equal to the SPVs' payments to its subcontractors, then this has cost £323m over the six years. In other words, in six years, the Highways Agency has paid the capital costs of the roads plus most of the operation and maintenance costs for the period (£859m as opposed to £913m). At the very least, this refutes one of the justifications for using private finance – that the government does not have the money to finance infrastructure investment.

Secondly, although we were unable to ascertain the degree to which the actual cost of DBFO has matched the costs expected at financial close since expected costs are not in the public domain, there was some evidence to suggest that it may have cost more than expected. This is because the net present cost of the £6bn payments over the life of the projects is more than the net present cost

reported by the Highways Agency's most senior personnel (Haynes and Roden 1999), although it seems unlikely that costs have doubled. In addition, the NAO (1998) indicated that the DBFO payments as reported in the accounts may not represent the total payments to the SPVs since there may have been changes which are recorded as 'compensation' or additional to the contracts. In other words, there may be contract drift.

Thirdly, DBFO seems expensive. While it comes as no surprise that private finance is more costly than public finance, this analysis has demonstrated that the cost of using the private sector to obtain finance is more than double that of gilt stock. This extra cost has been attributed to the cost of risk transfer, the critical feature in demonstrating that DBFO provides value for money. At about £56m in 2002 alone, it constituted one quarter of the Highways Agency's annual payment to its DBFO partners. Most commentators argue that most of the estimated risk transfer relates to construction risk (NAO 1998). In that case, using data provided by the NAO (1998), about £100 m of the discounted £177 m risk (56%) on the first four projects may be attributable to construction risk. This means that the Agency was paying a £100 m premium on £400 m of construction costs, equivalent to 25% of construction costs, to get the roads built to time and budget. Again, although this 'guestimate' can be varied, it does suggest that risk transfer does not come cheap. Furthermore, it only begs the questions as to why contracts cannot be written for conventional procurement that incentivise the construction company to build to time and budget.

However, not only may risk transfer be expensive, new risks may arise. We cite two examples. First, in a number of cases, the completion of the construction phase has led to the refinancing of the deals at lower rates of interest that generate additional sources of profit to the SPVs, and in ways that create additional risk to the public sector (PAC 2001, 2003b). Secondly, we cited earlier how one of the SPVs had borrowed money and lent it to its parent company. Not only does this provide benefits to the parent company, it also creates additional risk for the Highways Agency. Should the parents go under, for whatever reason, the SPV will no longer have the cash to carry out the work required later on in the contract, for which the Highways Agency has already paid. There appears to be no ring-fencing of the SPVs' finances.

Furthermore, now that the construction phase has been completed, traffic volumes continue to rise and payments are apparently guaranteed by government (Standard and Poor's 2003), it is unclear what risks the SPVs carry, apart from an unanticipated rise in the cost of operating and maintaining the roads. Since such costs are as yet small, accounting for 35% of receipts from the Agency, any increase ought to be absorbable. On the other hand, if their estimates prove to be incorrect and/or the SPVs have not safeguarded the surplus accruing from their revenue stream that has to all intents and purposes been front loaded, then they may have to appeal to the government for a bailout, as other failed partnerships such as the Royal Armouries, National Air Traffic Services, and the Channel Tunnel Rail Link, have done before them. In other words, it would be the government that would bear the cost.

These factors, combined with the fact that the NAO's reports suggested that the differences between the public and private financed options were marginal raises questions as to whether the contracts can or will deliver the anticipated risk transfer upon which the VFM depends. At the very least, it suggests that risk transfer has been very expensive. But since these annual payments must be met out of a limited budget, this could give rise to affordability problems: in other words the cost of these eight schemes would be met only at the expense of other capital and maintenance projects. How DBFO affects the Agency's budget is unclear. The significance of this high cost is that affordability is indeed a key issue as other research has shown, an issue which the emphasis on value for money downplays.

After the initial eight projects, private finance deals have been slow to get off the ground, at least in relation to other sectors, with only a further six signed DBFO contracts. Notwithstanding the Agency's claims that the first eight constitute value for money, the most recent contracts have moved away from shadow tolls to an increased emphasis on asset availability and performance, as recommended by the NAO (1998,1999). In July 2004, the government announced that it was considering using DBFO to widen a section of the M6 motorway, to be paid for by direct user charges. Thus to the extent that the government has moved away from shadow tolls and other innovative payment mechanisms, this may imply some recognition that DBFO was indeed exploratory and has proved a costly option. At the very least, DBFO and shadow tolls have turned out, as the Conservative government intended, to be the precursor for the direct tolls that public opinion at that time would not countenance.

This analysis has implications not just for DBFO projects which are privately financed and publicly funded, but also for schemes that are both privately financed and funded, i.e., toll roads, which as Walker and Con Walker (2000) found in Australia and Bel and Fageda (2006) found in Spain, are no less profitable. It means that firstly irrespective of how they are funded (via taxation, direct tolls or more usually some combination of the two), the turn to private finance is very expensive and more expensive than public finance for gains that have yet to be substantiated. Secondly, it may lead in the future to the selection of projects that can be made to deliver a revenue stream at the expense of those that cannot, thereby distorting the planning process. There is a further point. The main difference between private finance/public funding and private finance/private funding is the change in the funding mechanism: users are charged directly rather than spreading the cost across all taxpayers. In other words, roads become an economic commodity and mobility becomes dependent upon the ability to pay, raising questions about equity and access. Such issues as well as costs are alleviated when roads are both publicly financed and publicly funded.

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**Table 1: DBFO Payments made by the Highways Agency**

| (£m) | March 2000 | March 2001 | March 2002 |
|---|---|---|---|
| **Interest on DBFO finance lease** | 59 | 58 | 57 |
| **DBFO shadow tolls** | 119 | 142 | 130 |
| **Finance leases (due within 1 yr) estimated** | 17 | 18 | 19 |
| **Total DBFO payments** | **195** | **218** | **205** |
| **Capital charges (6%) payable on DBFO assets** | 53 | 53 | 58 |
| **Total DBFO costs (DBFO payments + share of capital charges)** | 248 | 271 | 244 |
| **Total DBFO costs as % Highways Agency's total programme costs** | **6%** | **6%** | **5%** |
| | | | |
| **Amount payable under DBFO contract within next year** | 18 | 19 | 20 |
| **Amount payable under DBFO contract after one year (capitalised value of road improvements)** | 965 | 947 | 911 |
| **Commitment to shadow tolls under DBFO next year** | 184 | 210 | 209 |

Sources: Highways Agency accounts (several years) and information provided by the Highways Agency

Notes:

Although the Highways Agency did not produce accruals accounts for 2000, the 2000-01 accounts showed the information for the previous year

The 2000 figures have been restated to be consistent with the accounting policies of later years, using information provided by the Highways Agency

**Table 2: DBFO companies' income from the eight contracts**

| (£m) | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | Total |
|---|---|---|---|---|---|---|---|
| **Autolink/A19** | 8 | 13 | 20 | 20 | 16 | N/A | **77** |
| **UK Highways/M40** | 16 | 17 | 21 | 21 | 22 | 22 | **119** |
| **Connect A30/A35** | 11 | 12 | 12 | 11 | 26 | 29 | **101** |
| **Connect A50** | 2 | 8 | 7 | 6 | 9 | 10 | **42** |
| **Yorkshire Link A1-M1** | 0 | 0 | 17 | 35 | 47 | 46 | **145** |
| **RMS Gloucester A417/419** | 2 | 13 | 15 | 16 | 16 | 17 | **79** |
| **RMS Peterborough A1** | 1 | 4 | 22 | 23 | 23 | 24 | **97** |
| **Roadlink A669** | 4 | 7 | 8 | 8 | 8 | 8 | **43** |
| **Total 8 Companies** | **43** | **74** | **124** | **141** | **168** | **155** | **707** |
| **Payments made by Highways Agency** | N/A | N/A | N/A | 195 | 218 | 205 | N/A |
| **Payments made by Highways Agency ex VAT on shadow tolls** | N/A | N/A | N/A | 174 | 183 | 182 | N/A |

Source: annual reports and accounts of DBFO companies (various years)
Note:
N/A Not available

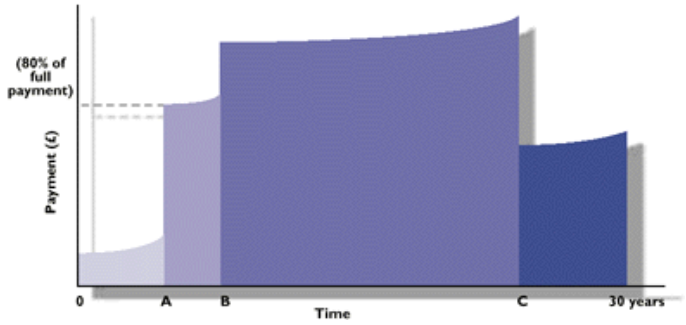
**Table 3: DBFO Companies' aggregate cost of capital**

| (£m) | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | Total |
|---|---|---|---|---|---|---|---|
| **Turnover** | 43 | 74 | 124 | 141 | 168 | 155* | 707* |
| **Payments to sub-contractors** | 37 | 49 | 53 | 59 | 70 | 50 | 323 |
| **Operating profit before interest and tax (PBIT)** | 6 | 25 | 69 | 82 | 98 | 106 | 384 |
| | | | | | | | |
| **Interest receivable** | 0 | 2 | 1 | 3 | 6 | 4 | 17 |
| **Interest payable** | 23 | 49 | 69 | 73 | 102 | 83 | 399 |
| **Tax** | 0 | 3 | 3 | 3 | 7 | 9 | 25 |
| **Profit after tax**** | -5 | 6 | 9 | 9 | 6 | 20 | 45 |
| **Dividends payable** | 1.50 | 0.00 | 0.01 | 0.00 | 2.75 | 8.75 | 11.52 |
| | | | | | | | |
| **Debt** | 557 | 810 | 850 | 851 | 951 | 884 | |
| **Shareholders funds** | 18 | 52 | 49 | 51 | 51 | 68 | |
| **Total capital employed** | 575 | 862 | 899 | 902 | 1002 | 952 | |
| **Key ratios** | | | | | | | |
| **PBIT/turnover** | 13% | 33% | 55% | 58% | 58% | 68% | 54% |
| **Effective tax rate** | 0% | 12% | 4% | 4% | 9% | 8% | 7% |
| **Interest rate on debt** | 4% | 6% | 8% | 9% | 11% | 9% | |
| **Effective total cost of capital** | 3% | 6% | 9% | 9% | 11% | 11% | |
| **Gearing ratio** | 97% | 94% | 95% | 94% | 95% | 93% | |
| **Return on shareholders' funds (Post tax profit/shareholders funds)** | **-25%** | **11%** | **18%** | **17%** | **11%** | **29%** | |

Source: Annual report and accounts of DBFO companies (several years)
Notes:

* One company's data missing in 2002
**Other non-operating items (not shown) affect the post tax profit figures
Payments to subcontractors = turnover less operating profits, management fee and depreciation
Effective tax rate on operating profit= tax payable/profit before interest and tax
Gearing ratio = debt/(debt + share holders funds)
Effective total cost of capital = (interest payable plus post tax profit)/(long term debt and shareholders' funds)

**Figure 1: Payment profile diagram**




Source: Highways Agency 1997

**Acknowledgement:** The research for this paper was funded by the Association of Chartered Certified Accountants.

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**FIN(3)-PPP-014e**

# The UK government's private finance initiative and the implications for public services

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## The UK government's private finance initiative and the implications for public services

The UK government has turned to the private sector to finance the much needed investment in Britain's public and social infrastructure and manage non-core services under its Partnership policy. But such a policy is more expensive than public finance for several reasons: governments can borrow more cheaply than corporations; the profit margin of both the private partner and its extensive supply chain; and the not inconsiderable legal and financial advisors' fees to structure and negotiate the deal. In the case of the flagship London Underground PPPs, advisors' fees amounted to a staggering £500m. Any costs incurred by private contractors on unsuccessful bids are likely to be recovered in future successful contracts, increasing the cost of subsequent PFI deals.

Furthermore, the services which are the subject of partnership deals have never been sufficiently cash generative, if they are cash generative at all, to be run on a commercial, comprehensive and universal basis, which is why they have been provided thus far by the state. In order to make such projects financially viable and attractive to the private sector, the government must therefore ensure some combination of capital grants, subsidies, implicit or explicit underwriting of the private sector's debt or the public authority's payments, bundling together of projects to increase their size relative to transaction costs, new build rather than refurbishment, project and service downsizing, higher charges for the public authority or the users and a reduction in workers' jobs, wages and conditions.

All this has the potential to distort a capital prioritisation programme based upon an economic and social cost benefit analysis in favour of schemes that can be made to generate the requisite cash flows. Should income flows turn out to be lower or costs higher than expected for the public agency, then PFI must come at the expense of other services, further distorting rational resource allocation. But should the private partner find that its income is less than expected or costs higher, then either it will either seek ways of increasing its income – typically by high charges for the inevitable changes to the original contract over its 30 year life, or hand back the keys.

Such a policy, so fraught with contradictions, has necessarily proved difficult to sell to a sceptical public. Indeed, as with so many neo-liberal policies, the rationale for PFI/PPP, like the justification for the war in Iraq, has changed so much over time that even its proponents have described it as 'an ideological morass' (IPPR 2001). It was originally justified as a way of accessing the finance the state could not provide. In some countries, it is seen as a way of reducing public sector debt as currently the underlying asset and its corresponding debt may, if there is sufficient risk transfer, be treated as off balance sheet, thereby evading the strictures of the European Union's Stability and Growth Pact. Within the UK, the policy and the inevitably higher cost of private finance is justified in terms of delivering value for money (VFM), in the form of lower discounted whole life costs, including the cost of transferring some risks to the private sector, compared with conventional procurement as measured by a public sector comparator (PSC).

The purpose of this chapter is to examine how the policy is working in practice and the impact on public services. The cost of PFI is examined in hospitals and roads,

while the experience of the two failed IT projects and the collapse of two of the three London Underground PPPs are considered in terms of who bears the risks and costs when things go wrong. While the evidence is based upon the UK, the findings have an international relevance now that the policy is being adopted elsewhere. The chapter is structured in several sections. The first section explains PFI's mode of operation, and the second, its scale and implications for public expenditure as a whole. The third examines the financial outcomes in the hospitals, roads, IT and London Underground, the largest single scheme, while the final section draws out the implications.

## Partnerships and their *modus operandi*

Partnerships involve a clearly defined project where the private sector finances and shares risks and rewards with the public sector. They may involve either joint ownership by the public and private sector, a public private partnership (PPP), or a long term contractual arrangement under the Private Finance Initiative (PFI) (Treasury 2003). Some examples of partnership structures include:

- A PFI contractual type arrangement, known as design build finance and operate (DBFO) in roads, hospitals, prisons and schools, where the public sector pays for the use of the asset and non-core services over 30 years;
- Free standing projects or concessions, where the private sector charges the users directly via a system of fees, as for example Britain's M6 toll road;
- Some mix of both public and user funding for either the construction and/or the service element, as for example the Skye Bridge, which was originally a free standing project, where the government paid some of the construction costs and later subsidised the tolls before ultimately terminating the contract; and
- Joint venture/joint ownership arrangements such as the Local Improvement Finance Trust (LIFT) and Better Schools for the Future (BSF) where the partnership may charge either the health and education agencies, or the users, as in the case of National Air Traffic Services.

Several points should be noted. Partnerships defy precise definition. There are numerous forms. They serve to further fragment the public sector. Finally, while the financing is provided by the private sector, funding may come from the public agency, the user or both.

While the UK has led the way in introducing Partnership arrangements, within Europe there has long been a policy of concessions and management contracts for utilities and transport, particularly in Spain, France and Italy, and decentralised mixed mode financing mechanisms. All these are now included under the umbrella of Partnerships. With the increasing integration of the European economy via the EU, the EU has begun to formulate arrangements in relation to the policy itself, which it broadly supports (EC 2004).

## The scale and impact on public expenditure

PPPs in the UK now encompass most sectors and services across the public sector and all types of public bodies, national, local and non-departmental. They also involve working not just with the private *for profit* sector but also the so-called third or *not for profit* sector. Under conditions where broader government policy is to include the

private sector ever more directly in the provision of public services, one can expect an ever increasing diversity of hybrid forms of financing and funding. Indeed, the government now calls the heavily subsidised privately owned railways a PPP (DfT 2004)

As of July 2007, there were 590 signed PPP deals with a capital value of £53bn (Treasury 2007), although other Treasury sources cite larger figures. Such measurement problems flow inexorably from the definitional and diffuse nature of PPPs. By far the largest spending department was Transport (capital value of £22bn signed deals or 46% of the total), followed by Health (£8.2bn), Defence (£5.6bn), the Scottish Executive and Education (each with £4.2bn). Annual payments for these projects were expected to be £6.9bn in 2006-07, rising to £8.9bn in 2016-17, before declining (Treasury, 2007). Total commitments for all PFI projects between 1995 and 2034 are estimated at £204bn. The annual estimated payments are believed to be £6.9bn in 2006-07, rising to £8.9bn in 2016-17, before declining. However, since these projections necessarily omit the new deals yet to be signed and payments in later years of the largest scheme, the London Underground PPP, which are still to be negotiated, these annual payments are set to increase.

This means that future payments will take an increasing amount of the key denominator, the annually managed public expenditure that is still spent 'in house', which is itself falling due to different forms of outsourcing (Pollock *et al* 2001). To the extent that they constrain budgetary flexibility, they raise issues about the control and sustainability of public investment and expenditure in the future. Such future payments in effect constitute "an explicit off balance sheet liability … which has significant implications for future borrowing or taxes", as the IMF (2004), citing an article in *The Times* (July 7/2003), pointed out.

Furthermore, irrespective of whether the taxpayers or users fund the project, governments may give explicit or more often implicit guarantees such as 'letters of comfort' to the financial institutions that payments will be made to the private sector, thereby in effect underwriting their debts (see London Underground below). Irwin *et al* (1999) note that because the contingent liabilities flowing from these guarantees are rarely recorded in the accounts or budgets, governments may be unaware of the total extent of their exposure.

## The financial outcomes

### *Hospitals*

The first 12 operational PFI hospitals in England as of 2001, with capital costs of about £1.2bn, paid about £260m in 2005, which means that the contracts will cost about £6bn over the 30 year life of the projects. A study found that 10 of the 12 hospitals were paying more than expected at financial close due to volume increases, inflation, contract changes and failure to identify and/or specify the requirements in sufficient detail. While the average increase was 20%, the increase was 71% for North Durham, 60% for South Manchester and 53% for Bromley (Shaoul *et al 2008)*. Such contract drift so soon after financial close suggests that there will be further increases and the total cost of PFI will be very much more than the £6bn based upon 2005 payments.

The private sector companies, special purpose vehicles (SPV) or consortia organised as brass plate companies, operate in a complex and opaque web of subcontracting to their sister companies that increases the costs and complexity of monitoring and enforcing the contract, and makes it impossible to assess the parent companies' total returns. The 12 corresponding SPVs had operating costs that took 53% of revenues and financing costs (interest and post tax profits) that took 44% of revenues (Table 1). When compared against the cost of public debt, assumed to be 4.5% on the same level of debt even though the debt was greater than the construction cost of the hospitals, then it can be seen from Table 2 that the extra cost of private over public finance was £51m in 2003, or 19% of the companies' income from the Trusts. In other words, the Trusts will be spending 19% of their income every year for the duration of their contracts on the *additional* cost of private finance.

Tables 1 and 2 here

However, this measure of the additional cost of private finance is an underestimate since there are leakages in the private sector's supply chain that cannot be quantified: the contractor and subcontractors' cost of capital (typically subsidiaries of the SPV's parent companies), third party revenue from canteens, car parking and patients telephones, and the proceeds from any land sales and refinancing of the SPV's loans. Such information is either not publicly available or available but not in a systematic way amenable to analysis. Furthermore, while tax payable has been omitted in these calculations, arguably tax should be included since the public authorities would not be liable for tax. Thus the estimate cited earlier of the additional cost of private over public finance is a very conservative one.

While the government recognises that private finance is more costly, it believes that this is VFM and represents the cost of the risks transferred to the private sector (NAO 1999a), the main justification for PFI. However, such claims rest upon calculations, made at the time of procurement, of *expected* savings from risk transfer over the life of the project, not actual savings. There is little reporting about how the contracts are working out in practice. It is far from clear how the actual savings made from transferring risk are be measured in practice, as Broadbent *et al* (2003) noted in their study, and thus whether this 19% of income is in fact VFM. The lack of transparency means that it is therefore unclear whether the rewards to the private partners are commensurate with their risks.

But irrespective of whether this annual £51m represents VFM, this analysis raises questions about the affordability of PFI in practice and future service provision, issues that the emphasis on VFM and risk transfer downplays. The hospital Trusts' PFI charges took 12% of income in 2005. The case of Dartford is particularly interesting because even after a refinancing deal that led to a reduction in their charges, PFI charges still took 17% of income. While the Trusts received a 56% increase in funding as well as in some cases a specific increase to cover some of the extra costs of PFI, PFI charges were still taking the same proportion of income. Without the increase in funding, PFI would probably have been unaffordable.

Despite the increase in funding, the Trusts' financial situation was neither stable nor robust, as indeed were many non-PFI Trusts. Without a detailed study of each Trust's

caseload, it is difficult to determine the role of PFI as other factors have intervened. But two examples illustrate some of the problems. In the case of South Manchester, which had suffered a £7m deficit in 2003, this was because it was unable to shift a £20m caseload to other hospitals that had been part of a wider reconfiguration underpinning the original business case. The QEII Greenwich Trust, with one of the largest deficits - £9.2m in 2005 - declared that it was technically insolvent and was locked into a PFI deal that added £9m to its annual costs over and above that built under conventional public procurement (PWC 2005). Without government support, its long term financial situation was insoluble.

Additional confirmation of these findings is provided by the Audit Commission (2006, p27), which noted a "marked correlation between the presence of large new building projects and deficits in the NHS". But there is a further problem for the local healthcare economy. Since PFI charges constitute a 'fixed cost' that cannot be reduced due to penalty clauses, this serves to reduce the Trusts' flexibility in managing their budgets and to make conventionally funded hospitals vulnerable to cutbacks and service rationalisations in order to ensure that sufficient income flows to the PFI hospitals (South London and Maudsley Strategic Health Authority 2007).

Consider next the impact of the additional cost of private finance on the NHS budget. The annual *observable* leakages from the 12 Trusts' budget are about £51m a year on 12 capital projects. If this experience is generalised across the entire PFI programme in the NHS, then the extra cost of private finance for the deals signed thus far is about £400m every year.

***Roads***

While the use private finance in roads has been deemed a 'success', this was and is a consequence of very high payments to the private sector. A study (Shaoul *et al* 2006) of the first eight DBFO contracts, signed by the Highways Agency and paid for on the basis of shadow tolls are costing about £210m a year or £6bn over 30 years, found that the payments in just three years for which information is publicly available was £618m, more than the £590m cost of construction, refuting the claim that the government could not afford the capital cost.

Table 1 shows that annual operations and maintenance took about 32% of the corresponding private sector companies' revenues, considerably less than the PFI hospital sector which has a high service element. Finance took 67%. When compared against the cost of public debt, assumed to be 4.5% on the same level of debt even though the debt was greater than the construction cost of the roads, then it can be seen from Table 2 that the extra cost of private over public finance was £61m in 2002, or 40% of the companies' income from the Highways Agency. Since this too is a conservative estimate, for the reasons stated earlier, this is a very high price to pay for risk transfer. But it is difficult to see, given that the contracts involved roads that had already been designed and gone through all the planning stages, thereby reducing some of the main risks, how such high costs could be justified (Shaoul *et al* 2007). Such high costs must also raise questions about the impact of these schemes on the rest of the Agency's budget. Its known commitments for all its DBFO projects are about £300m a year, or 20% of its budget, for 8 per cent of its network (Taylor 2005).

The new contract for the M25 will add a further £300m a year, meaning that 40% of the budget will be committed for a very small proportion of the network.

***IT projects***

PFI has been conspicuously unsuccessful in IT projects. But these failures are important because they demonstrate the fallacy of risk transfer argument: risk was transferred in unanticipated ways. Consider just two of the most well known IT project failures.

When the Passport Agency's new system was rolled out before being adequately tested, prospective travellers experienced such delays in receiving their passports that they went in person to collect them, resulting in the passport equivalent of a run on the bank and more 500 missing their travel dates. While the Passport Agency largely waived the penalties in the interests of partnership, the £12.6m resultant costs to hire extra staff led to an increase in the passport fee (NAO 1999b). The much vaunted risk transfer was therefore not from the public sector to the private sector but to the public as individuals.

The Contributions Agency's NIRS2 system was late and poorly tested. This led to incorrect and lost records, late and wrong welfare payments, additional costs to both the Contributions and the Benefits Agencies and an estimated £5bn in 'lost' taxes to the Inland Revenue as a result of the incorrect and lost records since recipients could not be or were under assessed for tax. This shows that when things go wrong, costs may be diffused well beyond the purchasing agency. Again, the limited penalties were waived, and when there was a need to renegotiate the contract, the Agency found that it was locked in due to the private contractor owning the copyright on the software (Edwards and Shaoul 2003).

Indeed, the outcomes of IT projects in the benefits recording and payments systems, the criminal justice system and other administrative services have been so poor that even the government has had to abandon PFI for IT services (Treasury 2003).

***London Underground***

Despite overwhelming popular hostility to the PPP proposals for London Underground in the wake of the collapse of the privatised rail infrastructure company, Railtrack, and studies showing that it was neither affordable or value for money, the government signed three PPP contracts on behalf of London Underground to take effect in 2003. Under the PPPs, three private sector companies would maintain and refurbish London Underground's tracks, signals, stations and rolling stock in return for an annual charge for 30 years. London Underground would continue to operate passenger services, in effect leasing the track and rolling stick from its private sector partners.

The London Underground PPP was the flagship PFI project for privatising essential public services and constitutes more than a quarter of the capital value of the £55 billion deals signed thus far.

The cost of the PPPs proved so expensive that firstly the investment had to be scaled back and secondly the government had to provide about £1bn a year in subsidy to London Underground, more than five times the existing grant, despite the fact that the government had originally wanted to withdraw all subsidies. Thirdly, Transport for London, London Underground's parent body, would guarantee 95 percent of the contractors' approved debts in order to reduce the cost of borrowing and reassure their financiers. Fourthly, the government itself gave an open ended commitment to the City and big business. In February 2003, just before handover, the Department of Transport wrote to TfL stating that in the event that London Underground found itself in financial difficulties as a result of the PPP, the Secretary of State for Transport "regards it as untenable that" he would not consider further financial aid or that "he would stand by and do nothing in those circumstances". As will be seen, the contractors and bankers saw this for what it was - a blank cheque – with the taxpayers footing the bill. By 2006, the additional costs of the contract, financing and profit margins attributable to the companies' subcontractors, costs that would not otherwise have been borne under public procurement, were 15-21% of the annual payments (Table 3).

Despite these subventions, within two years, Metronet, which had two of the three 30year £17 billion contracts, was behind with its investment programme and over budget. In July 2007, it was put into administration with debts of at least £2 billion after its owners, five international corporations, refused to put in another penny beyond their original commitment under the terms of the contract. Metronet's bankruptcy was precipitated by the refusal of the Rail Arbiter to award more than a fraction of its appeal for increased payments from London Underground to fund its near £1 billion overspend and a further £1 billion projected overspend by 2010. The Rail Arbiter said that if Metronet "had delivered in an efficient and economic way, its costs would have been lower".

It is yet another - very expensive - refutation of the myth, so assiduously promoted by big business, its paid mouthpieces in Whitehall and the government, to justify privatisation: that the corporations are more efficient at delivering public services than the public sector. With Metronet's debts guaranteed by Transport for London (TfL), London Underground's parent body, and ultimately the government, the tax payers, workforce and travelling public will bear the cost.

The Mayor of London announced that £750 million would be made available to the Administrator to ensure that the trains would keep running. Metronet would continue its work while in administration, while suppliers – Metronet's sister companies - and the workforce would continue to be paid. Transport for London would reconfigure the contracts and sell them back to the private sector. TfL warned that some of the improvements expected under the PPP were likely to be postponed.

So far from the private sector bearing the risk and cost when things go wrong – another fraudulent myth endlessly parroted by government ministers to justify the higher cost of private over public finance – it has simply handed back the keys and left it to the taxpayer to sort out, a travesty of risk transfer. Furthermore, in the *Alice in Wonderland* world of PPP/PFI, Metronet's successors will be rewarded with yet more lucrative and expensive contracts at public expense.

London Underground was only of a number of PFI/PPP which have collapsed and had to be bailed out. Others include the Channel Tunnel Rail Link, National Air Traffic Services, the Royal Armouries Museums, to name but a few.

## Conclusion

These findings therefore rebut the arguments that the private sector would find the finance that the public sector could not (the macroeconomic or additionality argument) and that the additional cost of private finance would be counterbalanced by the risks transferred to the private sector (the microeconomic or value for money argument).

At best, PFI has turned out to be very expensive with the inevitable consequences for service provision, taxes and user charges, not just today but for a long time to come. These projects may burden government with hidden subsidies, diversion of income streams and revenue guarantees whose impact on public finance may not become apparent for many years. When things go wrong, and this is not infrequent, the costs are diffused throughout the public sector and onto the public at large, a travesty of risk transfer.

If the stated reasons for PFI do not match the results, it is because they are part of a very different agenda: the opening up of public and social services for private profit. The policy has provided the mechanism for opening up those public services that could not be sold or privatised for political or financial reasons to private profit and to be integrated into the international economy via takeovers and mergers and the operation of international trade rules such as the World Trade Organisation's General Agreement on Trade in Services (GATS). The corollary, in the context of cash strapped public services, is cut backs elsewhere thereby creating unemployment, reducing access to essential services and increasing social inequality. The opacity or absence of official information on the PFI serves to obscure what the government does not wish to disclose to the public at large.

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## Table 1: Cost structure of PFI schemes

| | 7 DBFOs | 12 hospitals |
|---|---|---|
| **Year** | **2002** | **2003** |
| **Income (£m)** | 155 | 263 |
| **Operating expenses as % income** | 32% | 53% |
| **Interest payable as % income** | 54% | 39% |
| **Tax payable as % income** | 6% | 2% |
| **Post tax profit as % income** | 13%* | 5% |
| **Finance (interest and post tax profit) as % income** | 67% | 44% |

Source: company accounts

- affected by other transactions

## Table 2 Extra cost of private finance

| | 7 DBFOs | 12 hospitals |
|---|---|---|
| **Year** | **2002** | **2003** |
| Effective interest rate | 9% | 7% |
| Interest payable | 83 | 103 |
| Post tax profit | 20 | 14 |
| Total effective cost of capital | 11% | 8% |
| Interest payable at public sector rate of interest (4.5%) | 41.5 | 66 |
| Extra cost of private finance (extra interest + post tax profit) | 41.5+ 20 = 61.5 | 37+14=51 |
| Extra cost of private finance as % income | 40% | 19% |

Source: annual report and accounts

## Table 3: London Underground PPP

| | London Underground PPP Tubelines | London Underground PPP Metronet BCV | London Underground PPP Metronet SSL |
|---|---|---|---|
| **Year** | **2006** | **2006** | **2006** |
| **Income (£m)** | 927 | 342 | 320 |
| **Outsourcing as % income** | 66% | 45% | 49% |
| **Operating expenses as % income** | 79% | 86% | 89% |
| **Interest payable as % income** | 11% | 9% | 6% |
| **Tax payable as % income** | 2% | 0% | 1% |
| **Post tax profit as % income** | 5% | 4% | 3% |
| **Finance (interest and post tax profit) as % income** | 16% | 13% | 9% |
| **Financing and leakages via subcontracting (assumed to be 10% of cost)** | £194m<br>21% | £61m<br>17% | £47m<br>15% |

Source: annual report and accounts