

The UK Public Private Partnerships and the Private Finance Initiative : A long and winding road

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Abstract

Public Private Partnerships (PPPs) has been a topic of great debate in both UK government and business circles over the last fifteen years. They were designed to increase the involvement of the private sector in the provision of public services, and were seen as an important mechanism for the reform of the public sector. While successive UK governments have claimed much success for such projects, many have criticised them for being bureaucratic, inefficient and ineffective. The first part of this article will concentrate on clarifying the structure and rationale for the Public Finance Initiative (PFI) which is a critical component of the PPP system. The second part will look in detail at the nature of the criticisms of this form of private sector involvement in the public sector.

Public Private Partnerships (PPP) and the Private Finance Initiative (PFI)

Over the last twenty years, governments across the globe have been attempting to find new ways of delivering public services and in particular, the increasing engagement of the private sector in the delivery and financing of such public services. The result of all these changes has been to decrease the weight of the public sector in such economies and the greater involvement of the private sector in economic activity. In other words, there has been an attempt to reverse the 'crowding out' of the private sector by the public sector that appeared to happen in many countries during the thirty years after WW2.

In the UK, prominent amongst the reforms have been the privatisation of public enterprises; the contracting out of local authority services to the private sector; the introduction of market based mechanisms in health and education; and the establishment of public private partnerships (PPPs). There is no fixed definition of PPPs but in general it could be said that a PPP is an agreement between the public sector and a private company (or groups of companies) to provide and asset or a service which traditionally was previously provided by the public sector. Therefore, a PPP project will be provided by the private sector alone or jointly by both public and private sector. The various elements that can make up a PPP type scheme can be usefully divided into four categories; Construction, Operation, Finance and

Table 1 Constituent elements of different PPP schemes

Elements	Nature	Outsourcing	PFI	Concession	Lease	BOT
Operation	Operation of service by private company	X	X	X	X	X
Finance	Capital investment financed by private operator		X	X		X
	Recouped by user charges			X	X	
	Recouped by contract from public body	X	X			X
Construction	Construction of asset by private company		X	X		X
Ownership	Public during and after contract	X	X	X	X	
	Private during contract, public after			X		X
	Private indefinitely					

Hall, D, (2004), PPPs: A critique of the Green Paper, *Public Services International Research Unit*, (PSRU Report), July, Annex 8.4, Table 1.

Ownership, as seen in Table 1 above.

As can be seen, outsourcing of services by the public sector e. g. local refuse collection, involves no construction or financing of the capital investment. A PFI schemes in the UK is defined as a situation where a private company designs, builds, finances, and operates a project for the public sector and recoups the money by a contract to provide services for a period of years, usually decades, while the asset itself may or may not be owned by the public sector depending on the nature of the contract between private and public sectors. Concessions e. g. water supply etc are similar to PFI schemes but the finance is recouped through charges to users. Leases refer to the situation where the private company does not make its own investment but operates and maintains the system for the public sector while the finance is obtained by charging users. Finally, under BOT schemes, an asset is built and owned by the private company during the operation period, and later transferred to the public sector.

PPPs can also be defined in a slightly different way by defining four types of situations

- Design and build models (DB)— This is where the private sector is contracted to design and construct a facility which is financed and owned by the public sector.
- Design, build, and operate models (DBO)— This is where the private sector designs builds and operates a facility with the facility being financed by the public sector.
- Design, build, operate and finance model (DBOF)— This is where the private sector not only designs, builds and operates the facility, but also finances it. In this model, the private sector then recovers the cost over a period of usually 25-30yrs in the form of regular payments from the public sector.
- Joint venture models where the public sector and private sector form a company which raises money to build facilities. With this money, it builds and maintains facilities and obtains an income by leasing the facilities to tenants.

As can be seen, there are many ‘models’ of PPP involvement, each serving different purposes. This article will deal mainly with the PFI version of PPP which tends to follow more

of the DBOF model described above.

Basic structure of PFI

In the UK, the structure of a typical PFI would involve the creation in the private sector of a special purpose Vehicle (SPV). The SPV is a private company, or consortium, which contains a number of shareholders. These shareholders are often made up of companies or divisions of large companies who will be involved in the building and financing of the project. For example, in 1998 when the Norfolk and Norwich hospital was being built through the PFI, the SPV was called Octagon Healthcare (Norwich) Holdings Ltd. In turn, the shareholders of Octagon were Barclays UK Infrastructure Fund, 3i Group, Inisfree PFI Fund, John Laing Investments and Serco Investments. These companies included companies who provide the capital and those who manage the building projects and operate the facility once it is in place. Therefore in a PFI model, as distinct from some other PPP schemes, we can see that the private sector SPVs not only design, build and operate the facility, but also finance it.

In return for building the facility, such as a hospital for example, the public sector agency pays the SPV or consortium a stream of yearly payments over the contracted period — most frequently between 25 and 30 years. This yearly amount is called the ‘unitary charge’. Once the contract has expired, ownership of the asset either remains with the private sector or is returned to the public sector, depending on the terms of the original contract. The critical aspect of the PFI is that it revives the contract as the foremost organizing mechanism of economic activity. The scope of the PFI in the UK varies from small projects involving school buildings, to large projects such as the M6 Toll road or the new building for the GCHQ headquarters in Cheltenham, and many others projects including hospitals and schools.

Mechanism of the PFI

When, say, the Department of Health wants to build a hospital and decides to take the PFI route, then the government department will invite bids from some SPVs for the building, financing and running of the facility. A short list of bidders is selected and their bid evaluated by the government department/agency concerned. The most appropriate bid is then accepted, and a contract awarded. However, when the bids are received, they have to be assessed against what is called a Public Sector Comparator (PSC). The PSC is a measure of the cost of the project if it was undertaken by the public sector. The private sector bids from the various competing SPVs are then compared with the PSC to see whether the private SPV investment proposal offers value for money in comparison with the most efficient form of public procurement. The idea here is to make sure that the PFI gives good value for

money. Once the best tender is decided upon, then the SPV who provides the best value for money, generally gets the contract. Obviously, the PFI contract will only go forward if the bid by the private sector consortium is below the PSC figure. The calculation of the cost of each type of project i. e. the PFI and PSC involves using a discounting technique which will be discussed later.

Trends in PFI

Table 2 shows the number and value of PFI projects between 1987 and December 2006.

By the beginning of 2007 some 794 PFI projects have been launched, accounting for a total capital value of £54.5bn. The number of projects fell somewhat after reaching a peak in 2000 but the capital sum reached an all time high of £14.9bn in 2003 mostly due to the London underground modernisation (These figures are included here although the structure of the

Table 2 Number and capital value of PFI Projects 1987-2006

Year	Number	Value (£m)
1987	1	180.0
1990	2	336.0
1991	2	6.0
1992	5	518.5
1993	1	1.6
1994	2	10.5
1995	11	667.5
1996	39	1,698.8
1997	58	2,471.2
1998	90	2,772.2
1999	87	2,598.6
2000	106	3,904.4
2001	85	2,179.2
2002	71	7,739.5
2003	57	14,924.4
2004	77	4,112.8
2005	52	3,878.8
2006 (March)	48	6,551.6
Total	794	54,551.6

Note: (1) these figures are rounded and may not add up to total

(2) the figures include the London Underground PPP contracts

Source: H.M. Treasury (2007), Private Finance Initiative Statistics 1987 - 2006.
PFI Signed Project List, December 2006.

London underground partnerships are a little more complicated than the standard PFI). For example the contract for the modernisation of the Bakerloo, Central and Victoria lines alone which began in 2003 absorbed £4.5bn of capital. From a Government departmental point of view, some 50% of all PFI deals in number and 67% in value are accounted for by the Department for Transport, Department of Health and the Department of Education and Skills. The geographic breakdown of the PFI show that the London and the South East account for some 25% of the total number of projects, but 50% of the total capital value.

Rationale for PFI

In the UK, the main arguments given for the introduction of the PFI from 1992 onwards were numerous. Firstly, there was a feeling during the 1990s that there was a need to reform the old 'public sector culture' in the UK since it was argued that there had been no incentive to complete projects on time and within budget. It was hoped that the more dynamic private sector mentality would spread to the public sector. Second, there was a strong feeling that the introduction of the PFI would introduce competition in the marketplace since there would be competitive bidding between different SPVs/consortia for projects. Third, the introduction of the PFI would tap into the private sector's greater efficiency thus resulting in greater value for money (VFM). Fourth, it was felt that the introduction of the PFI system into the UK would lead to more innovative ways of doing projects. In other words, such projects as hospitals and schools would be in the hands of the private sector with its great skill and knowledge. Fifth, the PFI was also seen as a means of shifting the risks of projects from the public sector to the private sector so that the burden of the risk would now be borne by the private sector. Finally, some observers argued that the PFI system would benefit the government because the investment figures for the PFI would not be included in government borrowing, thus keeping down the public debt figures.

The above arguments for the introduction and increasing spread of the PFI system in the UK since 1992 has been criticised in many quarters as being based on false premises from both conceptual and practical perspectives. The second part of the article will investigate the nature of this continuing debate. However before we look at the more specific criticisms it would be helpful to investigate how economic theory helps understand the nature of the issues involved in the PFI.

Economic theory and PFI

There is no doubt that the introduction of PFI and other types of PPP schemes under neo-liberalist ideas in the UK during the 1990s led to the revival of contract as the foremost organising mechanism for economic activity (Deakin and Michie 1977). From an economic point of view, a useful starting point to examine the economics of contracting is the 'privatisation

theorem' developed by Sappington and Stiglitz in 1987. This work set out the conditions under which all government objectives can be attained by an appropriately designed auction for the rights to produce a given product or service' (Sappington and Stiglitz 1987, p. 568). The objectives of government are stated as economic efficiency, equity (the need to meet certain distributional objectives, and rent extraction (extraction of as much profit as possible from producers). Their argument was that government objectives can be attained through an auction system that requires bidding from two or more risk neutral firms that have symmetrical beliefs about the least cost production technology. While the privatisation theorem provides a stepping stone to an understanding of the theoretical nature of PFI type deals, it does not explain sufficiently why achieving such government objectives is difficult to achieve in practice. However, this aspect can best be explained with reference to the economic perspectives of contracting drawn from agency theory and transaction cost theory. Here we will merely provide a brief outline of the main theoretical issues which are relevant to understanding the strengths and weaknesses of any PFI deal.

Transaction costs 'arise from costs of seeking out buyers and sellers and arranging, policing and enforcing agreements or contracts in a world of imperfect information' (Cowen and Parker, 1997, p. 37). When such contracts are made under conditions of imperfect and asymmetrically distributed information (Williamson 1975) there is a danger that one or other of the parties to a transaction will exploit its information advantage — Williamson has described this as 'self seeking with guile' (Williamson 1985, p. 26). Therefore, imperfect information enables parties (e.g. an SPV/consortium/ or contractor) to behave opportunistically especially where 'asset specificity' is concerned — i. e. a situation where an investing party for example the government, cannot recover the full cost of the investment except through continuation or renewal of the contract because there is no alternative party with whom to contract in order to recover costs. An example of this in the context of the UK was seen in Railtrack's threat that it would only be able to complete phase two of the Channel tunnel Rail Link if there was a relaxation of the regulatory regime in its favour (Glaister 1999, p. 32).

The result of opportunistic behaviour may be *adverse selection or moral hazard*. In the case of adverse selection, the problem arises when the characteristics of the agent in imperfectly observed by the principal. In the context of the PFI, the characteristics of the private SPV or consortium may be imperfectly observed by the principal — the government agency. In practice, the rationale behind the bidding process underlying the PFI which was described briefly above can be seen as a way in which the private sector is made to reveal information to the public agency about its capacity to perform and hence minimise the adverse selection problem. The moral hazard situation on the other hand occurs when the principal faces difficulties in trying to monitor the actions of the agent. According to Salanie (1997, p. 107) the problem of moral hazard occurs when the agent takes an action which affects the welfare of the principal, but that the principal can only see the outcome of the agent's actions, not the actions themselves, so that the agent may choose not to be efficient. The principal can only influence the agent's choice of action by trying to maintain the agent's incentives for an efficient level of effort.

In the context of PFI schemes, it is through the mechanism of 'risk transfer' discussed briefly above, that the principal, or government department, attempts to trigger the agent's (SPV/consortium) incentive for efficient financing and operation of PFI projects. This is often done, in practice, by a contract which has a payment structure that rewards high performance and penalises service which is below expectation. Risk management of private/public partnerships also have a political and accountability problem. Government's often have short term horizons geared to elections which may clash with the delivery of an efficient long term supply of public services. PFI and similar schemes address this by forcing the government to fund the facility at an ongoing level which is necessary to provide the service over time as defined in the agreement. Rather than just building the facility, the PFI engages the agent in a long term service contract via the unitary charge. However, this does not always solve the problem of opportunistic behaviour from the *government* side. Public choice literature from economics shows (Tullock 1965) and (Buchanan 1972) that government personnel themselves may pursue their own personal interest so that the adoption of an efficient private partnership scheme may depend on the degree to which government agents have the 'public interest' at heart!

In the end, the central problem for governments is whether to 'internalise' the supply of necessary facilities by in-house production (and thereby attempt to minimise transaction costs) or outsource much of the work but then engage in collaboration with the private sector with all the contractual arrangements and their complications noted above. However, Governments are aware that they often do not have the basic capabilities nor the desire to internalise production and so joint ventures or partnerships with the private sector is the natural outcome (Parker and Hartley 1997). Such arrangements can increase responsiveness to needs, minimise cost functions and provide significant benefits. (Ebers 1997)

As we have seen, an important aspect of the 'collaborative model' of public private activity in PFI type schemes is the importance of minimising the transaction costs of contractual relationships. Transaction cost could be minimised by creating cooperation and inter-dependency between the private and public sectors which could lead to shared goals and norms to the benefit of all (Klijn and Koppenjan 2000) Such trust-type relationships would tend to lower any opportunistic behaviour described above and can lead to a more 'relational contracting'. This may decrease the need for formal contracting but will still need the mechanism of the contract to support even this type of trust relationship (Luhmann 1979). Therefore the success of public-private collaboration depends in part on whether the organisational relationship between government and the private sector is a long term one which is of mutual benefit to both sides.

In the end, the primary argument for activities such as PFI is the notion of 'Value for money' In other words, the theoretical justification is that market competition and better incentives may help solve the principal - agent problem noted above and will help develop better public services. It is argued that these advantages will outweigh the likely increase in the transaction costs of contracting as is the case in PFI and similar deals. Much of what follows in this article can be traced back to the theory presented above and reference will be

made as the discussions develop. We will start the more specific critique of the UK PFI system by reference to the last of the rationale mentioned above i. e. the relationship between government borrowing and the PFI—the so called ‘off balance sheet’ accounting.

The PFI and UK public finances

As we saw above, one of the arguments that has been made for the expansion of PFI deals in the UK has been the desire of the UK government to keep its borrowing within the limits set by the UK Treasury. In other words, the growth of private financing of public infrastructure through the PFI means that direct investment by government on such facilities as hospitals, schools and roads, will be much less and hence the government borrowing and government debt will be less. To try to answer this question, let us first look at the scale of the PFI over the last six years as shown in Table 3. We can see that in the period 2002/3 and 2003/4 the estimated capital expenditure on PFI schemes seemed to rise significantly due mostly to heavy investment in the London Underground. Ironically, the UK Treasury includes the London underground investment as PFI-type projects in its statistics although strictly speaking the London Underground is more of joint venture PPP.

If we include the London underground figures, then PFI constitutes 16.8% of totally publicly sponsored capital expenditure. Excluding the London figures, (which seems to be the most reasonable thing to do since the London underground projects are more joint ventures), then the PFI constitutes some 10.9% of all publicly sponsored capital expenditure in the period concerned. This compared with an average of 2.4% in the period 1994-1997, and an average of 12.4% in the Labour Government’s first three years of office between 1997 and 2000. In the meantime, the stream of current payment which the Government will have to pay every year to service PFI contracts (the total of all the individual unitary charges) are currently set to be around £7.7bn per year until 2017-18. In 2007, these figures account for around 1.3% of the Government’s Total Managed Expenditure (the global figure for total public spending). Therefore from the above figures, it seems that while the PFI has become increasingly important in the minds of the government, its important in terms of total government capital expenditure is not so significant to date.

During the debates about the introduction and extension of the PFI there were other fiscal-type arguments. For example, it was argued that engaging in the PFI would help to maintain the government’s ‘fiscal rules’ In other words, by getting the private sector to finance major projects, the Government would be able to keep much of investment ‘off balance’ i. e. not included in the government’s investment statistics which would therefore decrease the Government’s borrowing requirements and therefore its debt figures. However, in reality, neither of the Government’s fiscal rules appears to be much affected by the PFI. For example, the UK Treasury’s ‘golden rule’ states that on average over the economic cycle, the UK Government will borrow only to invest and will not fund current spending. If, say, a hospital, is funded through a PFI scheme then it would not affect the golden rule because the investment

Table 3 Public Sector capital expenditure (£bn)

	2000/1	2001/2	2002/3	2003/4	2005/5	2005/6
Total Public Sector Capital Expenditure	18.3	23.4	26.2	28.8	35.6	41.3
(% GDP)	1.9	2.3	2.3	2.6	3.0	3.4
Estimated capital expenditure under PFI	3.9	2.1	7.7(2.3)	14.9(4.2)	4.1	3.8
(PFI as % of total publicly sponsored capital expenditure)	17.6	8.2	22.7(8.1)	34.1(12.7)	10.3	8.4
Total Publicly sponsored capital expenditure	22.2	25.5	33.8(28.5)	43.7(33.0)	39.7	45.1
(% GDP)	2.3	2.5	3.2(2.7)	3.9(2.9)	3.4	3.7

Note: the PFI estimates are based on figures for calendar years. The figures in brackets exclude the London PPP deals
Sources: ONS (2006) Public Expenditure Statistical Analysis, (May) ONS (2006) UK National Accounts 2006.

Table 4 The PFI and sustainable investment rule

	2000	2001	2002	2003	2004	2005	2006
Public Sector Net debt (£bn)	321.9	324.2	351.6	383.3	425.8	467.1	503.1
%GDP	33.0	31.8	32.7	33.5	35.4	37.3	38.0
PFI spending	3.9	2.1	7.7(2.3)	14.9(4.2)	4.1	3.8	6.5
Public Sector Debt including PFI) (£bn)	325.8	326.3	359.3(353.9)	398.2(387.5)	429.9	470.9	509.6
(% of GDP)	33.4	32.0	33.4(32.9)	34.8(33.8)	35.7	37.6	38.5

Sources: HM Treasury (2007) Private Finance Initiative (Statistics 1987-2006) ONS (2007) Statsbase Public Sector finance (RUTN Public Sector net debt)

is allocated to the private sector not the public sector. However, in reality, it is also true that even if the hospital was funded by the government, it would not break the golden rule because the rule allows the government to borrow for investment spending. Therefore, investment under the PFI schemes could have been done by the public sector without breaking the rule.

The other UK Treasury rule, the 'sustainable investment rule', states that the public sector net debt as a proportion of GDP should be held over the cycle at a stable and prudent level. This is currently regarded as being a maximum debt/GDP ratio of 40%. Therefore is the PFI important because it helps keeps the public debt ratio below 40%.? Table 4 provides a very simple answer to this question by calculating the Public Sector Net Debt ratios excluding and including the PFI. What we see is that even with the PFI, the debt/GDP ratio would still remain below the 40% level — so even if the PFI had been abolished, and capital spending undertaken through normal public spending channels, the sustainable investment rule would still not have been exceeded.

Therefore, we can see that the Treasury's current fiscal rules could easily be satisfied even if the PFI was abolished and the government raised the investment itself. Hence the importance of the PFI to public finances is not so significant as one would expect. In fact, if the

PFI spending was replaced by conventional form of public funding, then it would, on average, have involved, raising between £3bn and £4bn of government gilt edged stock annually. This would pose no additional problems for the financial market since UK financial institutions are often complaining of a lack of long-dated government bonds. Therefore there is plenty of resources available in the UK to fund both public and private investment so that the PFI system does not critically affect the financial balances of the UK.

The main rationale for introducing PFI into the UK was based on the idea that the private sector SPV/consortium will give better value for money than if the project is produced by the government. So how does the UK government achieve its aim in making the PFI more popular? The answer to this dilemma is to be seen in the way in which the Labour Government has set the mechanism for delivering its fiscal objectives (Hawksworth 2000). For example, the Labour Government sets a Total Managed Expenditure (TME) i. e. a limit to total public sector current expenditure and net public investment every year. Then, each Government Department's allocation is determined within this overall figure, so that each Department is given its Departmental Expenditure Limits (DELS) for capital and current expenditure.

This creates a 'top down approach' to financing investment. It puts great constraints on public sector managers say, in the National Health Service for example, because it limits the amount of resources available to them for capital and current spending. Hence, these Government departments have to manage their budgets very carefully as a result of the DELS imposed by the Treasury through the TME system. Because of this allocation process, PFI deals become very attractive to public sector departmental managers because if they engage in PFI, then they can escape the constraints placed on them by the UK Treasury. They can build, say, a hospital or school with private funding and then pay the yearly unitary charge. This has a deferred impact on departmental spending and then only on current budgets. This type of top down control was complemented by the way in which the two 'Bates reviews' of 1997 and 1999 eventually lead to a UK Treasury 'Taskforce' being set up to help standardize PFI contracts to make sure that Departments follow their guidelines. In other words, the Government, by limiting resources available to various Departments, and by setting up systems to help departments engage in PFI — made sure that PFI route would be used!

Having discussed the relationship between the public finances and the PFI in the UK the next few sections we will now investigate the nature of the PFI process in more depth by looking at the main discussion points relating to the PFI scheme in the UK

PFI and Competition

We saw in an earlier section that one of the rationale for PFI was that it created competition for government contracts in the private marketplace and that this would eventually lead to innovative and cheaper ways of completing investment projects such as hospitals, schools, roads etc. However, this process has been less effective than was first thought. In the UK,

there are only some eight major companies who have the ability to form SPVs/consortia to manage large projects - among them are companies such as AMEC, Balfour Beatty and Carillon. This number is small when there may be, for example, 20 schools and 5 hospitals who might go to tender for PFI funding, sometimes on the same day! In addition, the cost of the work involved in tendering for a contract involves SPVs in great expense — often tenders cost over £2m to organise. (O'Rourke 2003) O'Rourke interviewed construction companies on PFI deals in Ireland found that where four contractors reached the earlier pre-qualification stage, the costs per SPV was likely to be 1.5m euros (£1m) Where two SPVs were short listed and submitted final offers, the estimated costs at this stage amounted to a further 2m euros (£1.4m) per bidder. This means that companies/consortia may decide not to tender for many contracts - thus decreasing competition in the market. Because of the relatively small number of companies tendering, those who actually do tender may not have the competitive pressure to minimize their tender and to provide value for money.

As early as 1996 an Adam Smith Institute report found the average tender costs as a percentage of expected total costs to be higher in PFI public service projects than for traditionally procured projects The report found that total cost of tendering for PFI projects to all potential contractors to be just under 3% of expected total costs while the procurement by the public sector route accounted for just under 1% (Butler E & Stewart A (1996). Therefore, the set-up costs and advisor costs for PFI projects can be significant. Another example relates to the six PFI school projects set up in Scotland during 2000. Here, the set up costs and advisers costs to both private and public sector combined varied between 8% and 15% of total construction costs. (Accounts Commission 2002). These costs tend to be a proportionately greater burden on the smaller projects. Hence the PFI initiative may be especially hard on smaller deals. The reason for such high costs of tendering is the time taken between offering public sector projects to the private sector and the final signing of the deal can be protracted — between 26 and 42 months. The UK Government produced a revised guide to help reduce the time taken to close PFI deals and reduce bidding costs in August 2002 to try to solve this problem.

Another problem arises even when the contract for the construction is actually given to the lowest bidder. For example, the contract for the construction of the Fazakerley and Bridgend prisons in the UK in the late 1990s should have been given to one SPV/consortium as it had the lowest tender for both prisons. However, the government felt that it was not 'fair' to give two contracts to the same company, so two separate companies were given the contracts — one for each prison. Part of the reason was the Prison Service concern about the capability of the contractor to simultaneously undertake two prison projects using a prototype design. (House of Commons 2003). Similar examples of inadequate competition in the UK PFI market was pointed out by David Corner in an analysis of UK government PFI initiatives involving different UK Government Departments (Corner 2006). The problem about the lack of sufficient competition at the final bidding stage is that there is a danger of the adverse selection and even moral hazard discussed above. Insufficient competitors for government contracts means that the limited number of SPVs or consortium making the bids may take advantage of this

lack of competition by charging higher fees etc. to the government department concerned.

PFI and Value for Money (VFM)

The 'value for money' (VFM) argument for PFI is regarded by the UK government as a main reason for such activity. It revolves around the fact that in the right circumstances, public procurement through the PFI is better than comparable public sector projects because they yield efficiency savings through the introduction of more innovative designs, lower construction costs, more efficient maintenance costs - while also transferring risks to the private sector. The reason for these advantages is that the same PFI provider (i. e. the SPV or consortium) is designing, building, operating and financing the facilities needed by the public sector. This means that the tendering process is on the basis of 'output' specification of the service (build, design, service standard) rather than 'input' specifications. The result is that the private sector is given more freedom to innovate and create better and more efficient outputs e. g. a hospital - and hence achieve better value for money.

However, before value for money can be decided, it is necessary to have a public sector 'benchmark' which can then be compared with the private project costs before value for money can be decided. This benchmark is the Public Sector Comparator (PSC) and its construction has come under great criticism in the past. To construct this comparator it is necessary to assess the construction costs, operating costs, lifecycle maintenance expenditure and risk allowances of the project as if it were to be undertaken by the public sector.. However the costing included such a PSC often include subjective judgements rather than hard facts (Accounts Commission 2002, p. 65). Also the PSC has been problematic in that it often compares the PFI scheme with a hypothetical alternative rather than an actual set of costs from comparable schemes. This type of problem was reported by the Audit Commission in a study of a selection of PFI school projects. (Audit Commission 2003, p. 34). In addition to these difficulties, there are two other complications with relation to the calculation of the PSC. The first is the way in which risk is allocated, and secondly, the discount rate used to work out the net present value of both public and private schemes. We will now turn to these issues.

Risk allocation

In the process of calculating the value for money, it has to be understood that when a private sector SPV/consortium undertakes the PFI project, then the PFI consortium becomes responsible for certain risks that the public sector would otherwise retain. There are a range of risks which are transferred from the public sector to the private sector under a PFI arrangement. These include general risks such as construction/design and operating risks. In addition, one essential condition for any PFI project is that sufficient financial risk is also transferred to the private sector since it is felt that the financial sector is more effective at managing financial risks than the public sector. The whole idea is to try to work out an optimum allocation of risks between private and public sector. For example, by transferring

the project financing risk to the private sector it is hoped that it will provide incentives for the private sector to supply services on time and higher quality since the SPV or private consortium will only start to receive payments when the flow of public services starts. However, it is difficult to quantify some risks so that it becomes difficult to determine whether the private sector consortium or contractor is charging a suitable risk premium (House of Commons 2003, p 28) The UK's National Audit Office survey of 121 PFI projects found that over 95% of both public and private partners agreed that the allocation of risks was either wholly or partially appropriate. However, when asked whether the risks had been allocated optimally, some 80% of public sector partners felt this was true while only 50% of the private sector partners agreed.(House of Commons 2003, pp 29-30).

On a practical level, the value of the risk transferred has to be assessed and included in the PSC before it is compared with the private PFI scheme to determine whether Value for Money has been achieved. For example, methods of deciding on design/construction and operating risks is complicated and often subject to important theoretical and practical complexities. These factors make it very difficult to provide an accurate idea of the value of the risks involved. In addition, at the point that a contract is made, risk valuation is still *theoretical* rather than real as was seen in the Passport agency case. In this example, the UK Passport Agency had a deal with Siemens Business Services to develop an IT system for the Agency. The contract included the transfer of risks of late delivery or systems failure to Siemens. A failure in supplying the system eventually occurred and the *actual* cost to the Agency was valued at £12.6m but only £2.44 was paid in compensation by Siemens because of the undervaluation of *potential* risk in the original contract (House of Commons 2000, evidence 363) In the UK health service, the NHS Health Trusts (who deal with SPVs when a hospital needs to be built) are often likely to exaggerate their PFI business because the Trusts perception that there is no alternative to PFI when public capital is under tight limits. Therefore NHS Trusts are tempted to treat the value for money as a hurdle they have to surmount rather than an objective test so that there is an incentive to exaggerate the risk factor, thus favouring the PFI route (House of Commons 2000, evidence 371.) Therefore it is important that an accurate valuation of risk transfer is made, because it is often the main determinant of whether the PFI is chosen over the public sector alternative. For example in a survey of PFI schemes in Scotland it was found that in many cases the decision to build depended on the valuation of the risk adjustment part of the costing (Accounts Commission 2002), making such valuation of risks critical in the decision making.

Risk transfer

When the UK public sector contracts with an SPV/consortium to build, say a school or hospital, there are certain risks involved. These include risks such as higher than normal construction costs or other financial risks such as the project being late or unforeseen costs in the maintenance of the building etc. Under the PFI scheme, the private SPV/consortium will take on these various risks because they will not be paid until the project is completed. The public sector comparator is 'risk adjusted' to compare it with the PFI scheme because the

PFI option has already risk adjusted because the charge made by the private company to the public body includes the potential cost of something going wrong. The assumption is that the risks would be transferred to the private sector if the PFI was pursued. Without risk adjustment, the PSC is invariably cheaper than the PFI option. For example, the net present value of the PFI scheme for refurbishing schools in Haringey, London was £97.5m while the PSC option was £83m. The risk adjustment for such things as costs overruns etc was valued at £16m which increased the PSC costs to £99m i. e. more expensive than the PFI option. (Rowland et. al. 2002, p 24) Unfortunately, there are many examples of the manipulation of risk transfer especially in hospital schemes to show that PFI are a better deal. (Gaffney et. al. 1999).

Discount rate

When constructing the PSC comparator, there is a requirement for a discount rate to be used. This is because contracts between the public agency and the private SPV/ consortium are often in force over long periods of time. The public sector pays the SPV/Consortium a unitary charge over 20 - 30 years so there is a need to use a discounted cash flow analysis in order to determine the net present value i. e. the value of a stream of future payments. A discounted cash flow analysis of both the private and public sector (PSC) projects is undertaken, and they are compared. The project with the lowest present value is then taken as the best value for money (VFM) and is used to determine the most appropriate way to undertake the investment. Initially the Treasury set a discount rate of 6% for such activity - which was thought to represent the long term cost of capital for low risk purposes in the private sector.

However, a problem emerges when comparing the private sector and the PSC because of the accounting convention used in the UK. For example, most capital expenditure in the PSC scheme (i. e. when the government agency builds the facility) is made in the early years. When a building such as a school is completed, say after the first two or three years, most of the expenditure is completed, and from then on, less expenditure is needed. The UK accounting system places most of the expenditure in the years when the investment occurs i. e. in the first two or three years. On the other hand, PFI payments from government agencies to the private sector (unitary charges) are spread over a longer contract period. When the discount rate of say 6% is applied to both to the PFI and the PSC expenditure flows to find the net present value of both, there is a tendency for the PFI scheme to come out cheaper. This is because of the differences in the distribution of the expenditure flows on which the discount rate is applied.

It is also critical to decide what discount rate to apply to the analysis. The effect of changing the rate of discount can be seen in Table 5 which relates to the case of the building of the Carlisle Hospital. Notice that if the discount rate is dropped from 6% to 5.5% i. e. by only 0.5%, it makes the net present value of the PSC scheme a better value (cheaper) than the private sector alternative!!

It is relatively clear that the process of deciding whether to produce a facility such as a hospital, a school or a road, depends on the way in which the risk allocation, the nature of risk transfer, and the discount rate made. The decision as to whether the private or public

Table 5 Comparisons of PFI and PSC options in Net Present Values (£m)

Discount Rate (%)	PSC	PFI	Difference in favour of PFI
6	£174.3m	173.1m	£1.2m
5.5	£185.8m	186.7m	-£0.9m
5	£198.8m	202.0m	-£3.2m
4.5	£213.9m	219.5m	-£5.6m
4	£231.2m	239.3m	-£8.1m
3	275.0m	288.6m	-£13.6m

Rowland, D and Pollock, A., (2002), Understanding the Private Finance Initiative, *Unison Report*, Jan.

sector produces and finances the facility, (i. e. the private sector SPV or through conventional government funding) is at best an inexact science which is easily manipulated.

PFI and Refinancing

One of the problems of PFI in the UK, especially in the years after its introduction, was that of refinancing. As noted above, once the consortium or SPV has built the hospital, school, road or prison etc, some of the main risks to the private sector contractor is significantly reduced. This is because the construction risk is now no longer a problem, leaving the yearly operation of the facility over the 20-30 years of the contract, as the main risk. This means that the SPV/consortium which has had to borrow to build and run the facility, can go back to the finance market to 'refinance' the loan, That is, the SPV renegotiates the loan with the funding body at a lower interest rate because the risks of the investment are now less. This can lead to large profits for the SPV. For example, the building of the Norwich and Norfolk hospital completed in 2001 led to a £160m extra profit to the SPV/consortium from such re-financing - enough to build another hospital!! In early contracts the private SPV gained nearly all this 'windfall profit' until the UK Treasury suggested in 2004 that when the original contracts are signed by the private consortium and the government, that any refinancing benefits should be shared 50/50 between the consortium and the government department concerned.

The sources of refinancing gains in the UK are many. First, since confidence in the PFI market has increased, there have been more banks involved in the refinancing deals. This means better rates of finance have become available for new PFI deals. Second, when the construction phase of a project comes to an end, the inherent risk in the project drops which means that better terms for finance i. e. lower interest rates, can be secured. During the re-financing period, the SPV/consortium can increase its borrowing beyond what is actually required as a result of the factors mentioned above. This allows it to pay out inflated dividends to shareholders shortly after re-financing. Finally, the contracts can be extended so that the private SPV/consortium secures today services that will be cheaper than those

available in the extended future. The extension of contract and the increase in borrowing often go hand-in-hand. The effect of refinancing is that the consortium company can provide a much better rate of return to their shareholders very rapidly. The internal rate of return (IRR) is one way of measuring the returns to shareholders and an idea of such gains can be seen from the UK's National Audit Report of 2006 which surveyed 36 PFI deals. On the earlier PFI deals of the 1990s the expected IRRs were generally 15-17%, but benefits could also range from 10% to 70% as shown in the Report. (National Audit Office 2006, Fig 12) In the early PFI deals there was no contractual requirement to share refinancing gains, but in after October 2002 the private sector accepted a code which provided for sharing the gains of refinancing with the public sector on a 50/50 basis. This strategy was designed to try to maximise the 'rent extraction' element described earlier

What are the additional risks to the public sector for refinancing? When refinancing say, of a hospital, occurs then the contract is generally lengthened and the public sector (in this case the NHS Trust in that locality), accepts the contract risks involved in being committed to paying for services over a longer period via the unitary charge. However, it is not always possible to predict the demand for clinical provision so far into the future — for example, the shift of clinical care towards the local community and away from hospitals could mean that the demand for hospital services would decrease. However, the Trust would still have to find money from its budget to pay for the unitary charge far into the future (House of Commons Committee of Public Accounts 2006, p11). This is not easy when the Government limits the finance it gives to the Trust. In some cases, these Trusts have had to close hospital wards in order to save money to pay for the yearly unitary charge.

The second type of risk is that of increased terminal liabilities. For example, if the SPV/consortium responsible for a hospital project defaults on its contract obligations and the contract is ended by the Trust, the Trust would have to pay the consortium's outstanding debt. The third kind of risk is a service risk i. e. the refinancing effectively gives the consortiums investors a type of 'advanced payment' of the profits that the consortium would be expected to earn over the life of the contract. In this case, it creates a risk that the SPV/consortium may not be so concerned about its future service provision for the hospital because the investors have already got a large part of their future benefits which previously depended on service performance. Finally, there is a credit risk because the refinancing gains can be taken as a lump sum or over the period of the contract. If it is taken over time in the form of a reduced unitary charge then any problems with the consortium during the contract period could mean that the Trust would not be certain of receiving its share of the refinancing gains. The factors noted above show the way in which refinancing can make the PFI project a more complicated issue than was first envisaged.

PFI and the growth of the secondary market

As the UK PFI market has matured, there has been a growth of a secondary market for

selling the shares in PFI companies. In the past, shareholders in SPVs were not sure whether they would be able to exit from PFI investments, but now there is a reasonably assured market for those who hold equity in SPV/consortiums. The shares in these private sector companies are bought by specialist Secondary Market Funds (SMFs) who build up a portfolio of shareholdings in PFI projects. Funds such as Henderson Global Investors, Infrastructure Investors (I²), Innisfree, and Secondary Market Infrastructure Fund (SMIF) are typical examples. It is argued that the expansion of the PFI equity market may bring benefits to the public sector for a number of reasons. First, it attracts more investors into the PFI market which, assuming efficient markets, should decrease the relative cost of equity and therefore help public sector agencies in the pricing of PFI projects i. e. there is scope for reducing the returns which investors expect when PFI projects are bid for. Second, the public sector can learn from the management techniques of the SMFs who have specialist knowledge of both financial and operational/construction matters. Such efficiencies which the SMFs can introduce may be reflected in the prices which they bid in future PFI schemes — thus perhaps leading to a lowering of bid prices making it cheaper for the public sector.

However there have been criticisms of such activity on the secondary market. First, research by the National Audit Office (National Audit Office 2006) showed that there has been a tendency for shares in the SPV/consortium to be sold after around three years after contract letting as can be seen in Table 6. Of those shares, around 50%, had been subject to refinancing. However, in those contracts where share sales had not occurred, only 25% had been subject to refinancing. The argument here is that there is a greater tendency for refinancing with its problems as well as advantages when the secondary market becomes more involved.

A second problem is the lack of transparency in the PFI process — which occurs for two reasons. First, the shift from the government to the private sector as providers of services means, by definition, that tracking and evaluating projects become more difficult since it is more difficult to gain access to private sector information than that of government. For example, ownership of a project can change significantly as shares in the SPVs/consortia are sold to new owners and there is no requirement that the profit or loss derived from selling shares in PFI projects be disclosed to the authorities since it is a contract between two private sector parties. Sometimes, this information leaks out as in 2003 when the contractor or SPV, Carillion, sold its £4m share in the SPV/consortium called *THC Dartford* to Barclays Infrastructure Ltd. Its initial investment of £4 had risen to £16m by 2003 as a result of refinancing and selling its shares — giving its shareholders 50% return on investment. The problem lies also in the fact that Carillion emphasised that such returns although higher than normal would be needed to offset other projects which do not go to plan. However, it could be questioned whether Carillion would have the same incentive to provide a good service to the Darent Valley Hospital project after selling some of its interest in the operation. (Carillion was both a shareholder and contractor of services in the Darent Valley Hospital project). (National Audit Office 2005) It has been estimated that more than £700m worth of shareholding have been sold between 1999 and 2005 and there was potentially £6m worth of investments that could be sold in the secondary market at that time. (Joanne O' Connor (2005). This becomes

Table 6 Change in shareholdings and the Secondary Market

	Number of Projects	%
Share sales have occurred		
Within one year of contract letting	1	1.25
One to two years after contract letting	2	2.50
Two to three years after contract letting	3	3.75
More than three years after contract letting	25	31.25
Total where share sales has occurred	32	40.00
Number subject to refinancing	(16)	(50)
Shares where sales have not occurred	48	60.00
Number subject to refinancing	(12)	(25)
Grand Total	80	100

Source; NAO (2006) Update on PFI Debt refinancing and the PFI market HC 1040 Session 2005-6 April Table 15, p29 (modified)

more problematic when the shares on the secondary market are held by a few equity companies who may be able to dominate the secondary market. (House of Commons Select Committee 2007). The main point here is that it is argued that trading of PFI asset ownership is taking place without reference to the public interest or its effects on public services.

Conclusion

The development of the PFI system in the UK has been a 'long and winding road' as explained in this analysis. There are many complications and difficulties with the PFI process as noted in this account. They include both technical and conceptual aspects which need to be clarified and adjusted so that various transactions costs can be minimised and various asymmetries remedied. For example, one of the most protracted problems that still remain is that of transparency. A recent assessment of the claims by UK Treasury that the PFI method is superior to conventional methods of procuring hospital and schools etc, has been based on evidence which is biased towards the PFI (Pollock et. al. 2007). Asymmetries in the relationship between the private and public sectors continue to abound as indicated in a recent UK House of Commons Select Committee report which noted the greater skill which the private sector has over the public sector representative during when re-negotiating re-financing contracts. The same report noted problems of 'rent extraction' noted earlier in the article - for example, that there was no compulsion for investors who sell their shares in PFI projects on the secondary market to share any of the gains with the government. (House of Commons Select Committee Report 2007) Until these problems are clarified, there will continue to be doubts as to the true value of the PFI as a method of financing public sector projects in the UK. In political terms, the UK Government seems to have made is clear to its own

departments/agencies that the PFI is the 'only game in town'. Time will tell whether the PFI system will develop into more mature and transparent one — this account indicates that such a stage has not been reached to date.

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