

## Rejuvenating Public-Private Partnerships (PPPs) in Asia

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### Abstract

Infrastructure-building has become a focus area in Asia as targeted GDP growth rates climb higher. Selection of projects as PPP projects or pure public sector projects has to be done carefully comparing costs and benefits under both scenarios. Such an approach (value for money) is common in the UK and Australia which have considerable experience in PPP projects.

**Keywords:** Functional Cost Breakdown, PPP projects, Public Sector Comparator, Life Cycle Costing, Value for Money

### Introduction – Need for PPPs

Public-Private Partnerships (PPPs) have become increasingly popular around the globe and have served as a major route for the private sector to own, operate and, thereby, assume risks in what was assumed to be exclusively public sector assets. Just like funding for PPP projects comes from both the public and the private sector, risks of the project have also to be carefully divided between the private and the public sector. The basis of the division will have to be the risk-handling and managing competence. This aspect itself, if well-attended, will translate into better value for money for consumers of services produced by PPP projects. If PPP projects are looked at as merely a way to overcome fiscal constraints, the likelihood of their poor implementation and/or complete failure is definitely very high. Before deciding on the type of PPP project; therefore, a basic question has to be answered:

- Why do we need the project to be designed as a PPP project? Has the analysis taken into account the alternatives that are clearly available – the alternative that this project could completely be in the public or the private sector? If so,
  - o What are the estimates of costs and benefits if this project were to be totally in the public sector?
  - o What are the estimates of costs and benefits if this project were to be totally in the private sector – more like the PFI or Private Finance Initiative in UK. While one firm may not be in a position to assume risks of a long-term project with high capital intensity, there could be different consortiums of private players coming together for the purpose of executing the project just like consortiums are formed for funding a project. The consortium then sells the services produced to the government.

### Using the Comparator Approach

European nations, and UK in particular, have been at the forefront of publicizing and using the comparator approach wherein the costs and benefits of a PPP project are compared with costs and benefits of the project being totally a public sector project. This kind of analysis overrides the earlier phase wherein most projects were awarded on BOOT or BOO terms without analysis by a comparator approach. The key driver of these projects was access to private capital and transfer of near full project risks to the private sector. The form of PPP then usually emphasized both construction and maintenance by the private sector as that would minimize bad quality construction risks as well. Some governments outrightly preferred the DBFO model – Design, Build, Finance and Operate model to minimize risks in each phase of the project. In return, the governments would either give a capital grant or tax exemptions or guaranteed rate to return to the private sector. Similarly, under a Fixed Price contract with the private party, the risks of procurement costs going up are borne entirely by the private sector leaving the public sector to better regulation and providing good business climate for private entrepreneurs.

The drive for 'value for money' has underpinned the second phase of PPP projects in both UK and Australia. As made clear by the Private Finance Panel (PFI) of UK, there are two fundamental requirements for a PFI project:

- i) value for money must be demonstrated for any expenditure by the public sector; and
- ii) the private sector must genuinely assume risk.

Hence, measurement of value for money becomes extremely crucial and the benchmarks set for comparison (public sector comparator), thereby, assume huge significance. Any error in the estimates for the PSC will translate into erroneous value for money estimates. An evaluation of value for money may be depicted as follows:

## Value for Money Evaluation



Fig 1.1

Source: Presentation of State Government of Victoria, Department of Treasury & Finance at APEC Conference, 2007

As is evident in the above figure, both qualitative and quantitative factors are taken into account for 'value for money' evaluation. The proposed transfer of risk in any PFI project is subject to external audit and, subsequently, ratification by central government (Ball et al., 2000). On the surface, the principle behind risk transfer would appear to be fairly straightforward and is a practice commonly used in contracts between private sector companies. In PFI contracts, however, the situation relating to risk transfer has been one of 'clearly a continuing level of uncertainty' (Broadbent & McLaughlin, 1999, p. 106). The House of Commons Treasury Select Committee (2000) inquiry into PFI emphasized that risk transfer must be clearly identified, so that government bodies can set out clearly the risks that are being transferred. Risk is now a commercial product that is identified, priced and responsibility legally attributed (Centre for Public Services, 2001).

### How to Add Value: The Application of Value Management

Good project management is at the base of adding value in PPP projects. Project management encompasses several areas such as scope management, cost management, quality management, risk management, procurement management, time management, human resources management, communications management and project integration management. Each of these areas involve key processes such as initiating, planning, executing, monitoring & controlling and closing. All the PPP partners have to sit together and assess which partner has better capacity to undertake which process in which knowledge area. The idea is to be able to define and achieve the objectives with the minimum use of resources. The different perspective that results from the adoption of this approach encourages the development of more creative solutions to problems, potentially eliminating many causes of poor value. Value on projects can potentially be undermined by many factors, the most significant being poor project definition. The need to define relevant client requirements unambiguously at an early stage has become increasingly critical as the speed of projects gives less opportunity for a comprehensive, iterative briefing process. This issue is particularly important on projects with a wide range of stakeholders whose diverse requirements will need reconciling and prioritising as part of a briefing process.

Value management differs from conventional cost reduction in three ways: it aims to achieve the best balance between time, cost and quality; it is a multidisciplinary process that involves the whole project team; and its decision-making process is explicit, accountable and clearly linked to project objectives. However, value management can be a very effective tool for reducing costs while ensuring that the spirit and quality of a project's design is retained.

The agreed project objectives provide the decision-making framework within which cost-effective design solutions are produced. Functions that need to be provided to achieve the objectives are identified, and the project design is developed to focus on these requirements, thereby avoiding unnecessary cost. This process enables clients to appreciate the value of design and encourages the development of high-quality architectural solutions where these match the client's needs.

Value for money is a key driver in public-private partnerships. Value for money does not simply equate to selecting the cheapest bid or lowest price for an asset; it means opting for the best long-term solution for service delivery. It involves analyzing the total long-term costs (life cycle costs) of service delivery and evaluating the concomitant benefits to the public at large. When compared to a public sector approach, incremental benefits of PPPs may accrue from: speedier implementation of infrastructure projects, better service and coverage, life cycle focus of service delivery/reduced life cycle (long-term) costs, improved efficiency and innovation and risk sharing designed to create incentives to succeed. Value for money is a key driver in public-private partnerships. Value for money does not simply equate to selecting the cheapest bid or lowest price for an asset; it means opting for the best long-term solution for service delivery.

Life-cycle costing, as opposed to costing during construction stage, then, becomes extremely relevant for project appraisal. It is in this context that DBFO projects are supposed to spur innovation for minimizing costs during the design, building, financing and operating stages. This bundling of services motivates the bidder to pay good attention to quality parameters in the design and building stages so as to minimize costs to be incurred during the operating stage. In that sense, the risks of poor construction are transferred from the public authority to the private partner. In fact, a lot of value addition has to do with the ability to avoid the risks of poor performance at every stage of construction. In the longer run, DBFO contracts will be seen as the public sector purchasing access to and use of service assets, rather than the procurement of a capital asset. At present most involve the latter. In theory, the contractor should take responsibility for investing in capital assets, financing that investment and managing the facilities for the local authority. The risk is associated with the commitment to supply the service over an extended period for a specified level of payment. The risk is transferred to the contractor. In theory no local authority should give undertakings or guarantees in respect of contractor obligations and liabilities. If it were to do so, it would simply retain the commercial risk that should be transferred.

Davis Langdon & Everest (June 2000) gave an example of this in the construction of a building.

Applying value management through the life of a project		
Stage	Objective	Techniques
Concept	Get the right project	Benchmarking, function analysis, life-cycle costing
Feasibility	Select the best option	Life-cycle costing, option evaluation, risk analysis, value engineering
Design	Achieve cost-effectiveness	Life-cycle costing, risk reviews, value engineering
Construction	Optimise supply-chain efficiency	Value-based advice, value engineering
Use	Continuous Improvement	Life-cycle cost comparisons, surveys, value-engineering operations

Source:[http://www.davislangdon.com/upload/StaticFiles/EME%20Publications/CostModels/ValueForMoney\\_CM\\_30Jun00.pdf](http://www.davislangdon.com/upload/StaticFiles/EME%20Publications/CostModels/ValueForMoney_CM_30Jun00.pdf)

Davis Langdon & Everest (June 2000) in their study found better results in terms of value addition when they did activity-wise cost breakdown rather than a traditional cost breakdown. The cost structure, in their study, under both circumstances, was presented as follows:

### Construction cost breakdown for bar/restaurant

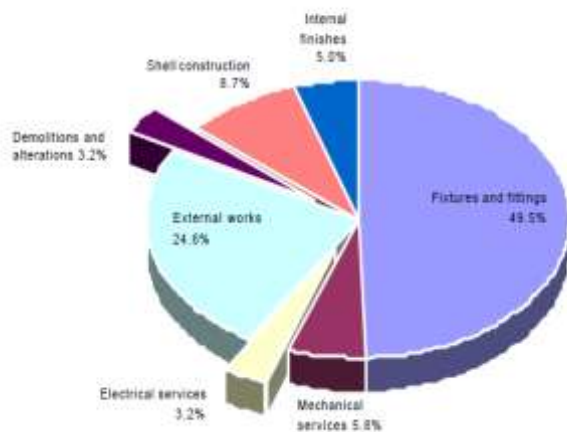


Fig. 1.3

### Functional cost breakdown for bar/restaurant

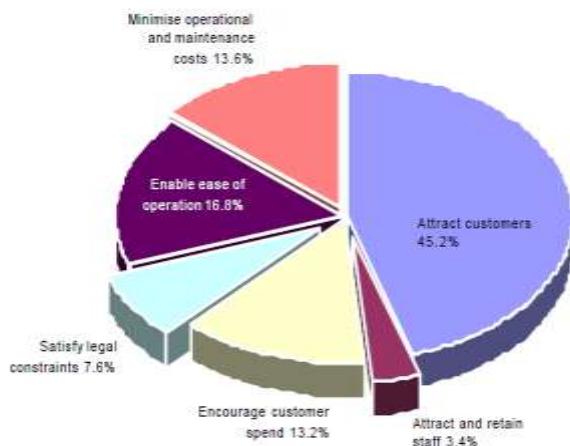


Fig. 1.4

Source: [http://www.davislangdon.com/upload/StaticFiles/EME%20Publications/CostModels/ValueForMoney\\_CM\\_30Jun00.pdf](http://www.davislangdon.com/upload/StaticFiles/EME%20Publications/CostModels/ValueForMoney_CM_30Jun00.pdf)

The functional cost breakdown allocated the construction costs activity-wise. It demonstrated that expenditure was focused on attracting customers and on operational issues, and that relatively little was spent on encouraging customers to increase their expenditure. The study generated more than 200 creative ideas to improve the scheme and, thereby, add value to the project.

### The Case of Royal Hospital in Northern Ireland

Responsible for providing trauma care for all of Northern Ireland, the Royal Victoria Hospital is an internationally renowned centre of excellence in trauma care. The agreement, between Royal Hospitals and Hewlett-Packard is one of the first to be concluded under the Government's public and private partnership initiative. Under the terms of the agreement, Hewlett-Packard, working closely with local distributor Cardiac Services Ltd, will replace all existing clinical equipment and computer systems within key operating theatres and the regional intensive care unit. The deal, for a five year period, also includes training, maintenance and all consumable items.

The contract features Hewlett Packard's 'managed equipment services' (MES), which includes asset auditing, fully managed medical equipment maintenance, asset ownership transfer coupled with throughput-based financial services, and total cost of ownership benchmark studies for clinical equipment. By transferring asset ownership and adopting throughput-based financing options - pay-by-use - the Royal Victoria Hospital should reduce the risk of ownership of clinical equipment within its anaesthesia directorate, while at the same time greatly improving cash flow.

The service level agreement has been written in such a way as to ensure maximum availability of equipment to clinical practitioners when they require it. This ensures the optimum level of both service and equipment availability for clinical practitioners, while increasing transfer of risk to the supplier.

The key advantages of MES for Royal Hospitals as a way of financing new projects include releasing capital that has been locked into existing assets, reduced administration and structural costs, and a lower overall cost of ownership over the whole life of equipment.

## Research on Value for Money (VFM) in Selected Projects

Since India is now embarking on the concept of Value for Money as stated in the Approach Paper to PPPs dated Feb 2010, it may be good to see the results of selected projects including their Value for Money measurements. The following is a list compiled by Graeme A. Hodge and Carsten Greve (March 2009). In all these studies, it is evident that projects that had not demonstrated value for money ultimately could not produce desired results.



**Table 1:** Selected PPP evaluations over the past decade

Study	Sample/Cases	Country	Type of publication	Better VFM?	Comments/Conclusions
Bloomfield <i>et al.</i> (1998)	A Massachusetts correctional facility	United States	Case study	No	<ul style="list-style-type: none"> <li>• 7.4% more expensive through P3 lease purchasing</li> <li>• 'inflated sales pitches' camouflaged real costs and risks to the public, and the project was 'wasteful and risky'</li> </ul>
Arthur Andersen & LSE Enterprise (2000)	29 business cases analysed	United Kingdom	Initial evaluation	Yes	<ul style="list-style-type: none"> <li>• 17% cost savings estimated against the PSC</li> <li>• risk transfer accounted for 61% of forecast savings</li> </ul>
Savas (2000, p. 240)	General observations	United States	Literature review	Yes	<ul style="list-style-type: none"> <li>• '[The private sector through PPPs] build more quickly and more cost effectively than governments usually can . . .'</li> </ul>
National Audit Office (2000)	7 business cases from NAO (2000)	United Kingdom	Business cases	Yes	<ul style="list-style-type: none"> <li>• 10–20% cost savings estimated</li> </ul>
Walker and Walker (2000, p. 204)	General observations of Australian cases	Australia	Literature review	–	<ul style="list-style-type: none"> <li>• PPP infrastructure financing deals seen as 'misleading accounting trickery' with eroded accountability to Parliament and the public</li> <li>• private project consortium real rates of return were up to 10 times those returns expected for the public</li> </ul>
Teisman and Klijn (2001)	General observations	4 EU countries	Review of strengths and weaknesses	–	<ul style="list-style-type: none"> <li>• PPPs have strengths and weaknesses</li> </ul>
DoT (2002)	250 London Underground projects (1997–2000)	United Kingdom	Unknown	–	<ul style="list-style-type: none"> <li>• Cost over-runs averaging 20% were found</li> </ul>
Mott Macdonald (2002)	39 traditional projects and 11 PFI projects selected	United Kingdom	Multiple cases reviewed	Yes	<ul style="list-style-type: none"> <li>• Traditional 'public' infrastructure provision arrangements were on-time and on-budget 30% and 27% of the time, but PFI-type partnerships were on-time and on-budget 76% and 78% of the time, respectively</li> </ul>
Pollock <i>et al.</i> (2002)	3 NHS hospitals and 8 trusts	United Kingdom	Review and re-analysis	No	<ul style="list-style-type: none"> <li>• The PFI justification is a 'sleight of hand'</li> </ul>
Pollitt (2002)	10 major PFI cases	United Kingdom	Review of National Audit Office cases	Yes	<ul style="list-style-type: none"> <li>• the best deal was probably obtained in every case, and good value for money was probably achieved in 8 of the 10 cases</li> </ul>
Audit Commission (2003)	10 traditional and 8 PFI schools were compared	Scotland	Audit report	No	<ul style="list-style-type: none"> <li>• 'We found no evidence that PFI projects delivered schools more quickly than projects funded in more conventional ways'</li> <li>• 'The public sector comparator has lost the confidence of many people . . .'</li> </ul>
Greve (2003)	Case study of Farum Municipality	Denmark	Case analysis	No	<ul style="list-style-type: none"> <li>• PPP assessed as 'the most spectacular scandal in the history of Danish Public Administration'</li> <li>• It resulted in raised taxes for the citizens of Farum, higher debt for citizens and a former mayor currently on trial in the courts</li> </ul>
Fitzgerald (2004)	8 PPP cases from Victoria	Australia	Report to government	Uncertain	<ul style="list-style-type: none"> <li>• The superiority of the economic partnership mode over traditional delivery mechanisms was dependent on the discount rate adopted in the analysis</li> <li>• Opposite conclusions were reached when using an 8.65% discount rate at one extreme (where the PPP mechanism was 9% cheaper than traditional delivery) compared to an evaluation adopting a 5.7% discount rate (where the PPP mechanism was 6% more expensive)</li> </ul>
Edwards <i>et al.</i> (2004)	8 cases from roads and 13 hospital case studies	United Kingdom	Case reviews and interviews	No	<ul style="list-style-type: none"> <li>• Contracts reviewed 3 years in</li> <li>• 'PFI is an expensive way of financing and delivering public services . . .'</li> <li>• 'the chief beneficiaries are the providers of finance and some of . . . the private sector service providers . . .'</li> </ul>
Ghobadian <i>et al.</i> (2004b, p. 300)	General observations	United Kingdom	Literature review	–	<ul style="list-style-type: none"> <li>• 'we have no firm evidence that the current PFIs would deliver on their long-term objectives . . .'</li> </ul>
Grimsey and Lewis (2004, pp. 81, 245)	Selected global observations across several sectors	Several countries	Literature review	Yes	<ul style="list-style-type: none"> <li>• 'preliminary evidence does seem to indicate strongly that PPPs offer one solution to the public procurement problem . . .'</li> <li>• 'there is not one "model" of a PPP . . .'</li> </ul>
Pollitt (2005)	General observations of UK cases plus 5 cases	United Kingdom	Literature review	Yes	<ul style="list-style-type: none"> <li>• 'it seems difficult to avoid a positive overall assessment'</li> </ul>
Shaoul (2005)	General observations of UK cases	United Kingdom	Literature review	No	<ul style="list-style-type: none"> <li>• PFI has turned out to be very expensive with a lack of accountability</li> <li>• Suspects that PFI policies 'enrich the few at the expense of the majority and for which no democratic mandate can be secured'</li> </ul>
Boardman <i>et al.</i> (2005, p. 186)	5 North America cases covering roads, waste management and water desalination	Canada and United States	Case reviews	No	<ul style="list-style-type: none"> <li>• unless contracts both compensate the private sector for risks and then ensure that they actually bear it, 'P3s will not improve allocative efficiency'</li> </ul>

Table 1: Continued

Study	Sample/Cases	Country	Type of publication	Better Vfm?	Comments/Conclusions
Hodge (2005, p. 327)	General observations of UK cases plus 3 cases	Australia	Literature review	Uncertain	<ul style="list-style-type: none"> <li>There have been no rigorous and transparent evaluations of all Australian PPPs</li> <li>The few available assessments suggest mixed performance to date</li> <li>Government has moved away from its traditional stewardship role to a louder policy advocacy role, and now faces multiple conflicts of interest (as advocate, developer, steward, elected representative, regulator, contract signatory and planner)</li> </ul>
Auditor-General of New South Wales (2006)	Construction of 19 schools in New South Wales	Australia	Audit report	Yes	<ul style="list-style-type: none"> <li>Between 7% and 23% cheaper</li> <li>Auditor saw as 'persuasive' the business case for these two PFI contracts</li> </ul>
Pollock <i>et al.</i> (2007)	Re-analysis of Mott Macdonald and other reports	United Kingdom	Academic paper	No	<ul style="list-style-type: none"> <li>'there is no evidence to support the Treasury cost and time overrun claims of improved efficiency in PFI' . . . [estimates being quoted are] 'not evidence based but biased to favor PFI . . .'</li> <li>only one study compares PFI procurement performance, and 'all claims based on [this] are misleading'</li> </ul>
Allen Consulting Group (2007)	Sample of 21 PPPs and 33 traditional projects	Australia	Consulting report	Yes	<ul style="list-style-type: none"> <li>PPP's reported as being an 11% cheaper alternative to traditional projects</li> <li>Research project funded by Australia's infrastructure suppliers</li> </ul>
Blanc-Brude <i>et al.</i> (2006)	227 new road sections across 15 EU countries, of which 65 were PPPs	European Union	31 regression analyses	Not tested	<ul style="list-style-type: none"> <li>Ex-ante construction costs of PPPs were 24% higher than traditional procurement</li> <li>This is a similar magnitude to the traditional cost over-runs</li> <li>Whether PPPs deliver lower overall life-cycle costs remains unknown</li> </ul>
Leviakangas (2007, p. 211)	A Finnish toll-road case study	Finland	Financial models	No	<ul style="list-style-type: none"> <li>The hypothesis that private finance enabled welfare gains to be achieved was not confirmed</li> </ul>

Source: Graeme A. Hodge and Carsten Greve, ' PPPs: The Passage of Time Permits a Sober Reflection', *iea economic affairs*, March 2009, pp 33-39

Similarly, in the UK, the noticeable PPP failures have been the Metronet, HM Revenue & Customs Estate, NHS and Housing. The National Audit Office (NAO) in the UK analyses in depth cases of public expenditure and levies appropriate fines for performance falling short of required standards. For example, Metronet had to pay a fine of 11million in April 2004 for poor performance. Brief particulars these cases are available in Appendix I. All these events seemed to illustrate a key potential weakness of PPPs. When they involve essential infrastructure that government will not allow to fail, it is clear that a high proportion of a project's risk remains with the public sector.

## Conclusions

Value for money in PPP projects should be seen as an important benchmark in evaluating PPP projects. For VFM to bring about good results, a lot of thinking has to go into setting up the criteria for its identification and measurement. Risk transfer is a key element and if this does not take place – such as the cases in UK where the government could not let the projects fail, - value for money cannot be achieved. Besides, estimates for the public sector comparator have to be thought of very carefully taking into account life cycle costing. This is an important learning for Governments and multilateral institutions in Asia where infrastructure development is being seen as crucial to maintain high growth rates.

## Appendix I

### Private finance initiatives that failed the taxpayer in UK

Although UK has been the most successful in the generation of PPP projects, the following cases that did not deliver the expected results also need to be studied in depth.

#### Metronet

The most spectacular private finance initiative failure was the collapse of Metronet in 2007. The deal between Metronet, Tube Lines and Transport for London (TfL) was put together in 2003 to upgrade London's creaking Underground network. In 2003 the Metronet consortium began a £17 billion project covering nine out of twelve tube lines. It soon got into difficulties. In April 2004, it was fined £11 million for poor performance, but this was just the start. Further fines followed and in June 2007, Metronet, concerned about cost escalation, requested an extraordinary review by the PPP Arbiter. A short-term cost overrun of £551 million was predicted, rising to £2 billion by 2010, and this was blamed on additional demands made by Transport for London.

But the Arbiter had a different view – most of the cost escalation could be explained by Metronet's inefficiency and only a small fraction of the requested extra payments would be forthcoming. Faced with huge losses, the company went into

administration. The government tried to find private bidders for the Metronet contracts but failed – unsurprisingly given the uncertainty concerning costs. The public sector then became responsible for the upgrades and maintenance. Taxpayers would now pick up the bill for any cost overruns. Within five years, the Metronet consortium collapsed, costing taxpayers £2bn as its functions were taken over by TfL.

## HM Revenue & Customs estate

The PAC concluded in April that the PFI deal covering ownership and management of 60 per cent of the HMRC's estate is also failing to deliver value for money. The 20-year deal signed by Mapeley Steps Contractor in 2001 has cost the taxpayer 20 per cent more than expected so far, the PAC said.

## NHS

Latest estimates suggest that the NHS faces a £65bn bill for 103 new PFI hospitals with an estimated value of £11.3bn at the time they were built. The Government says the schemes provide value for money. But some trusts are now handing over more than 10 per cent of their annual turnover.

The inability of either conventional DBFO PFI or traditional NHS procurement processes to meet the majority of NHS capital requirements has prompted many commentators to argue that a new financing model is required that can bring together the benefits of both without the drawbacks of either. This may be summarised as a more flexible and scalable PFI. Scalability is key: the ability to provide efficient and manageable financing from unit and ward level right up to trust level. The considerable challenges faced by this new approach will include: unlocking the extensive value currently hidden in many trusts' assets; developing and modernising trust facilities, often on a unit by unit basis; and developing services that respond to changing patterns of usage and technology, both sensitively and flexibly.

## Housing

According to the NAO, more than four-fifths of local authorities' 25 PFI housing projects are over budget. Nearly half are running at more than twice the anticipated cost (June 2010 report). And the average delay is two-and-a-half years.

The traditional approach to health service purchasing has tended to leave trusts with a bitter legacy of high maintenance costs, inconsistent support and ineffective replacement programmes. Financial data on the whole-life cost of assets tends to be fragmented, often held in different places, or is even simply not collected. As a result, it can be difficult for a trust to analyse and control the cost of their assets effectively.

Source: <http://www.independent.co.uk/news/business/news/mod-aircraft-deal-worth-163105bn-failed-to-deliver-2080408.html>

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