New Zealand Treasury

Financing Infrastructure Projects: Public Private Partnerships (PPPs)

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New Zealand Treasury
Policy Perspectives Paper 06/02

March 2006

THE TREASURY
Kaitohutohu Kaupapa Rawa

NZ TREASURY POLICY PERSPECTIVES PAPER 06/02	Financing Major Infrastructure Projects: Public Private Partnerships (PPPs)
MONTH/YEAR	March 2006

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ISSN 1176-9513

Summary

It is often proposed that major public infrastructure projects should be carried out as “public private partnerships” (PPPs), under which the government franchises a private sector group to finance, build and operate the project over a substantial part of the infrastructure’s economic life (often 30+ years).

The main benefits usually attributed to PPPs are accelerated provision of infrastructure projects as a result of using private sector finance, and better value for money due to private sector innovation and whole-of-life cost minimisation, than can be obtained under conventional private sector procurement.

This paper argues that

- There are other ways of obtaining private sector finance without having to enter into a PPP;
- most of the advantages of private sector construction and management can also be obtained from conventional procurement methods (under which the project is financed by the government, and construction and operation are contracted out separately);
- the advantages of PPPs must be weighed against the contractual complexities and rigidities they entail. These are avoided by the periodic competitive re-tendering that is possible under conventional procurement.

The paper concludes that PPPs are worthwhile only if all three of the following conditions are met:

1. The public agency is able to specify outcomes in service level terms, thereby leaving scope for the PPP consortium to innovate and optimize.
2. The public agency is able to specify outcomes in a way that performance can be measured objectively and rewards and sanctions applied.
3. The public agency’s desired outcomes are likely to be durable, given the length of the contract.

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Financing Infrastructure Projects: Public Private Partnerships (PPPs)

Introduction

PPPs are said to bring projects forward and offer better value for money.

This paper concerns itself with infrastructure concession agreements, under which a government agency awards a long-term contract to a private party to design, build and operate a facility that provides services either to the public or back to the government agency. Typical examples from overseas would include toll roads, prisons, stadiums, water treatment plants and military training facilities.

While few public private partnerships of this kind (PPPs[1]) have been undertaken in New Zealand, they have been popular in a number of countries for advancing the construction of large public infrastructure projects. They are said to offer "the potential to bring forward projects and free up public funds for other projects"[2] and "offer the potential for government agencies to achieve better value for money through value drivers such as improved risk sharing, innovation, better asset utilisation and the adoption of commercial production and management practices".[3]

This paper discusses the main advantages and disadvantages of PPPs with particular regard to institutional circumstances in New Zealand.

PPPs are very complex and this paper cannot do justice to all the issues they give rise to.[4] Moreover, PPPs have been and continue to be controversial. Attention is drawn to the disclaimer on page i which is particularly pertinent in the case of this paper.

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1 Sometimes also known as private finance initiatives (PFI).

2 The Independent, 11 December 2002.

3 Senator Nick Minchin, Australian Minister of Finance and Administration, June 2002.

4 A fuller treatment can be found, for example, in Webb and Pulle (2002), Osborne (2000), Fiscal Affairs Department (2004), de Bettignies and Ross (2004) and in a recent publication by the Office of the Auditor General (2006).

What is a PPP?

PPPs can take many forms, but the minimum characteristics of a PPP of the kind discussed in this paper are the following:

PPPs are whole-of-life contracts for the financing, construction and operation of infrastructure facilities.

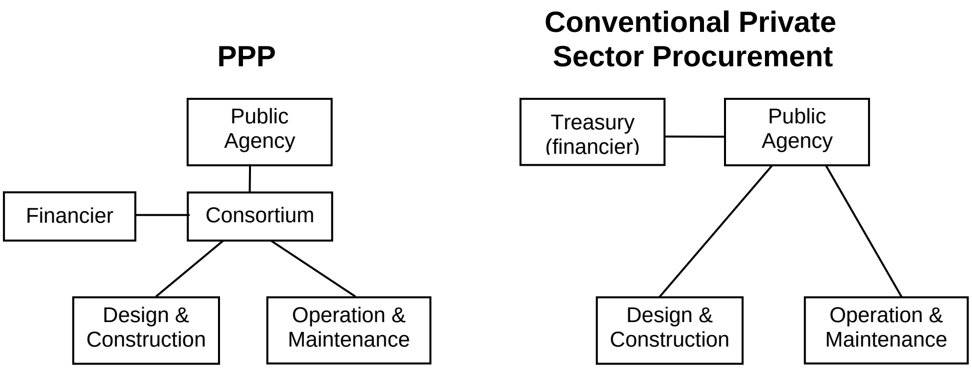
- A public agency enters into a contract with a private company or consortium to provide finance and arrange design, construction and on-going operation of a facility ('on-going operation' might involve provision of full services or it might only involve providing maintenance of the facility, with services to the public being provided by a government agency);

- The contract is typically for 20-30 years, or a substantial part of the life of the facility;

- At the end of the contract, control of the facility is usually returned to the government or a local authority.

Typically, a government agency will specify the outputs or services required. The job of producing detailed designs, finding the finance, organizing the construction and on-going management of the facility is let to a private consortium by way of a competitive tender. The private consortium is typically organized by a lead contractor who brings together financiers, engineering firms, construction companies and facilities management companies, etc, to provide individual services.

For a project to be a PPP as defined in this paper, all of these elements need to be carried out by the private sector. If coordination and financing are carried out by a public sector agency but, all other elements are carried out by the private sector, then the arrangement can be called "conventional private sector procurement". The following illustrates this distinction:



To complete the picture, "public sector provision" describes the situation where the remaining elements, and in particular the operation of the infrastructure, are also carried out by a public sector agency.

This paper does not evaluate PPPs against public sector provision, but against conventional private sector procurement, under which the Crown provides the finance, and construction and operation are contracted out separately.

The point to note here is that public sector provision is not the only alternative to PPPs. Where a PPP is politically acceptable to the government, then presumably "conventional private sector procurement" will also be acceptable.

Some of the advantages normally ascribed to PPPs, such as risk transfer, the introduction of private sector expertise and private sector performance incentives, are obtainable to a large extent also under conventional private sector procurement. It is not the purpose of this paper to evaluate conventional private sector procurement against public sector provision. The purpose of this paper is to evaluate the merits of replacing conventional private sector procurement with a PPP, i.e. to evaluate the distinction drawn in the above illustration.

New Zealand Law and Practice

There have been few PPPs in New Zealand.

Generally, there are no legal barriers to entering into PPPs except as follows:

- The Corrections Act 2004 prohibits the Crown from entering into any contract for the management of any prison.
- Section 130 of the Local Government Act 2002 prohibits PPPs for water and wastewater services.
- The Land Transport Management Act 2003 imposes procedural restrictions on roading PPPs.

There are some instances of delivery of public services by the private sector (conventional private sector procurement), but these are not widespread either.

There have been very few New Zealand PPPs of the kind described above, but one example is described in the appendix. There have been no substantial PPPs entered into by a central government agency.

New Zealand no longer has a Ministry of Works. Design and construction is almost always contracted out to the private sector. While operation and maintenance is often carried out by the public sector, this is certainly not always the case. For example, Transit New Zealand (the public agency responsible for building and maintaining state highways) contracts out all maintenance of state highways, as well as design and construction. Another example is the Auckland Central Remand prison, the operation of which was contracted out in 2000.[5]

[5] The management contract was not renewed in 2005 as a result of the Corrections Act 2004.

Advantages of PPPs

Compared with conventional procurement, the advantages of PPPs are…

Better whole-of-life project evaluation: Under conventional procurement, individual private sector companies do not evaluate the whole-of-life viability of a project because they are only invited to tender for portions of the project. The whole-of-life assessment is carried out by a public agency which doesn't normally bear the financial consequences of getting it wrong to the same extent as a consortium in a PPP would.

…better whole-of-life project evaluation,

Public sector assessments often suffer from an optimism bias. (While the same is also true for many private sector projects, it is probably difficult to establish empirically whether, or the extent to which, public sector projects suffer more from optimism bias than private sector projects)[6]. Under a PPP the private sector has arguably a stronger incentive than a government agency to be realistic about the prospects of a project. This is because of the considerable financial investment the consortium has put at risk. One would expect the private sector not to submit a tender if the business case does not stack up.

It seems clear that there are stronger incentives to correctly identify the whole of life costs of construction and operation, and the likely revenue stream, under a PPP, if project risk is transferred to the private sector.

Optimization of design and operation in order to minimize whole-of-life costs: Under a PPP, if the designers and builders have a financial stake in the project over its whole life, they will have an incentive to design features and construction standards so they are optimized against the long-term cost of maintenance and operational requirements. The incentives to do so are likely to be stronger than under conventional procurement.

…stronger incentives to innovate and minimize whole-of-life costs,

The extent to which better optimization will result depends on a number of factors:

- The state of knowledge about construction methods and long-term maintenance and operational requirements. Where a public agency undertakes many similar projects, such as Transit NZ, there may be less scope for innovation and optimisation than in the case of more specialised projects that are done on a one-off basis, e.g. a city council contracting for a water treatment plant.

- The extent of scope given to the PPP consortium to vary designs and innovate. The scope is greater when the public agency specifies its requirements in terms of service levels. The less it can do so, i.e. the more it specifies the contract in input terms or in terms of physical or engineering specifications, the less scope there is for the private sector to achieve whole-of-life efficiencies beyond those already obtained by the public agency in developing its contract specifications. For example, the public agency may find it difficult to define a motorway project in a

6 This author is not aware of any credible studies on this point.

dense urban setting by way of service level specifications only. Poorly defined service level specifications could leave too much room for the private sector party to minimize costs at the expense of the traveling public or adjoining properties. The public agency may therefore choose to define the project in a way that leaves little room for innovation and whole of life optimization.[7]

- The extent to which the public sector agency, under conventional procurement, is influenced by budgetary considerations or other objectives. For example, under conventional procurement, budget constraints may lead to cheap construction at the expense of future increased operation and maintenance costs. Or, if the Government's capital budget is less constrained than its operating budget, the agency may over-specify at the design stage in order to keep future operating costs down.

In sum, the scope for private sector innovation and whole-of-life optimization (relative to conventional procurement) is another advantage of transferring risk to the private sector. But sometimes it will be not very significant.

Access to additional capital: The government does not have to provide capital in the case of PPPs. This can be an advantage where the government has a poor credit rating and is not able to raise finance, and where financial markets cannot readily distinguish between general government borrowing and government borrowing for a specific revenue-earning infrastructure project. This is not at present an issue in New Zealand.

In any case, where the infrastructure relies for its revenue on a public agency paying a user fee (e.g. prisons), then it is likely that the PPP financier will face no better credit rating for this project than the government, and is not, therefore, likely to have better access to capital, even if the government has a poor credit rating.

… and access to additional capital without affecting the gross debt target,

Off-balance sheet financing: When people say that PPPs will give access to more capital, i.e. will bring forward projects and free up public funds for other projects, they usually mean that PPPs are a way of financing projects without breaching the government's self-imposed borrowing limit. This appears to have been the motivation for PPPs in the UK and in Australia, at least in the early days.

The New Zealand Government must maintain prudent levels of total debt.[8] To manage total debt at prudent levels the Government focuses on ensuring SOEs have debt structures that achieve best commercial practice and has a self-imposed borrowing limit in the form of a gross sovereign-issued debt target.[9] PPPs could provide the opportunity to raise funds beyond what would be normally possible under the gross sovereign-issued debt target.

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7 See also the discussion below on performance enforcement.

8 Section 26G of the Public Finance Act.

9 Budget Policy Statement 2005.

Financing public projects without breaching the government's sovereign-issued debt limit (referred to here as off-balance sheet financing) is feasible where projects are financed from 3rd party revenue, such as toll roads.

This is more difficult in the case of infrastructure that does not earn revenue from third parties, such as prisons, and roads financed from "shadow tolls".[10] In such situations the Crown typically bears the demand risk. While accounting rules are in a state of flux on this point,[11] it appears that where the demand risk is not transferred, financial liabilities arising from obligations under a PPP contract would need to be recorded on the Crown's balance sheet irrespective of who raised the capital.[12]

... but this can also be achieved in other ways than by entering into a PPP.

Note, if the Crown finances a project that would have been viable as an unsubsidised PPP, the debt would be matched on its balance sheet by a corresponding asset, namely the value of the income stream accruing to the infrastructure (e.g. a toll road). The net worth of the Crown is not immediately affected, although the set of financial risks faced by the Crown does change. The higher gross debt does not, therefore, reflect a higher economic burden on tax payers. In any case, the higher debt gradually reduces back to zero over the life of the asset. In such cases, there may be a case for treating the debt in the same way as SOE debt structures, and there may be ways of managing public perceptions of increased debt by, for example, reporting investments in income-earning assets separately from other assets.

The example of SOEs illustrates the point that there are other ways of managing concerns about the effect on gross debt than by entering into a PPP. These should be considered alongside any proposal to enter into a PPP, if the motivation for the PPP is to finance income-earning infrastructure without putting pressure on the government's gross debt target (i.e. off-balance sheet).

<u>Assurance of good maintenance:</u> The whole-of-life approach and the contractual obligations around maintenance ensure that it is fully maintained throughout its life. This is not always the case under the direct management of a public agency, where maintenance needs are sometimes subordinated to other priorities.

In the case where a public agency is the user (such as a schools PPP), this 'advantage' is a double-edged sword: a contractual obligation to provide the money for maintenance comes at the cost of reduced budget flexibility, yet limited deferment of maintenance need not always harm an asset unduly.

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[10] Under a shadow toll, the number of vehicles using a road is counted, and the toll is paid by the government.

[11] See Office of the Auditor-General (2006) and Davies P and Eustice K (2005).

[12] Davies P and Eustice K (2005).

Disadvantages of PPPs

Disadvantages include…

…the very large tendering and contracting costs,

Tendering and negotiation: PPP contracts are typically much more complicated than conventional procurement contracts. This is principally because of the need to anticipate all possible contingencies that could arise in such long-term contractual relationships. Each party bidding for a project spends considerable resources in designing and evaluating the project prior to submitting a tender. In addition, there are typically very significant legal costs in contract negotiation. Having several bidders do this involves a cost which can add up in total to tens of millions. It has been estimated that total tendering costs equal around 3% of total project costs as opposed to around 1% for conventional procurement.[13] The cost of both successful and unsuccessful bids is, in effect, built into total project costs. The Australian Council for Infrastructure Development has expressed the view that "unless tendering processes are well run it is possible that the benefits of using a PPP for delivering the project may be outweighed by the tendering costs".[14] Under conventional procurement, the sunk costs of private contractors are much smaller and contracts (e.g. for operations) often do not exceed 5 years. The risks to be covered off in the contract are therefore significantly less.

… the costs of contract re-negotiation, which are often high,

Contract renegotiation: Given the length of the relationships created by PPPs and the difficulty in anticipating all contingencies, it is not unusual for aspects of the contracts to be renegotiated at some stage. Wherever possible, provisions are included in the contract that spell out how variations are to be priced. But, given the length of time spanned by the contract, it is almost inevitable that circumstances will arise which cannot be foreseen.

Where the need for renegotiation comes from the public agency (which, it appears, is often the case, perhaps as a result of a change in government policy) and no pricing rule is contained in the contract, the Crown can end up paying a heavy price, since the price is not determined in a competitive bidding context. The cost of such changes is difficult to factor into the original project evaluation, since by definition it is unanticipated.

… the difficulties of ensuring good performance, especially with respect to "soft" performance dimensions,

Performance enforcement: One of the difficulties with performance specification in the area of service delivery is that performance sometimes has dimensions which are hard to formulate in a way that is suitable for an arms-length contract. Examples include maintaining good customer relations, and not creating public relations blunders which rebound on the government. In the case of building a motorway through a dense urban setting, a public roading authority will sometimes find it difficult to specify all performance elements in service level terms.

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[13] See BEC and Sir Michael Latham, *Constructing the team,* reproduced in Dr Eamonn Butler & Allan Stewart MP, *Seize the Initiative,* Adam Smith Institute, 1996, quoted in Grahame Allen (2001), p.34.

[14] Australian Council for Infrastructure Development, *Australia at a Crossroads Public/Private partnerships or Perish?,* quoted in Webb and Pulle (2002).

The reputation effect and the prospect of repeat business can sometimes provide incentives to achieve "soft" performance targets. For example, unsatisfactory performance by a prison management company will affect its reputation and therefore its ability to obtain contracts elsewhere.

However, in other cases neither reputation effects nor contractual remedies will be sufficient. A "command" relationship or "master-servant" relationship, such as exists within an organisation, may be more efficient. In essence, if for whatever reason one isn't able to clearly specify the required services, then a master-servant relationship enables one to change the service requirement as one goes along, at relatively little cost.[15] At the construction stage, a project alliance approach may be most appropriate, while at the infrastructure operation stage a series of short-term contracts may be acceptable as they provide the opportunity for the public agency to take corrective action if it finds that some performance dimensions were inadequately specified or no longer appropriate given changing public expectations.

… and the difficulty for the government not to intervene if the provider threatens to go bankrupt.

Political acceptability: Given the difficulty in estimating financial outcomes over such long periods, there is a risk that the private sector party will either go bankrupt, or make very large profits. Both outcomes can create political problems for the government, causing it to intervene. Examples of the former include the National Air Traffic Services (NATS), which encountered financial difficulties after 11 September 2001. The British government bailed it out rather than let NATS' bankers take it over. Another example is Melbourne's tram and train services, contracted out in 1999. Patronage didn't increase to the levels expected, causing the operator to threaten to fail. The government agreed to increase the operating subsidy.

Both kinds of risk are often reduced by including in the contract loss sharing or profit sharing provisions. But such provisions reduce the extent of risk transfer, and therefore the advantages of PPPs.[16]

Value for Money Test

The "public sector comparator" used in some other countries is a useful tool, but is not evidence that a PPP is superior to conventional private sector procurement.

Some jurisdictions, e.g. Victoria and the U.K., require the establishment of a "public sector comparator" against which a PPP is evaluated.

This "value for money" test is, however, problematic. In particular, it is difficult to factor in the cost of things going wrong over the total life of the project. More generally, the public sector comparator is necessarily hypothetical, so its credibility is difficult to test.

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[15] There is an extensive literature on the choice between entering into explicit contracts and coordinating activities via a command relationship. This is loosely known as the "theory of the firm". See, for example, O. Williamson (1980).

[16] Ehrhardt D and Erwin T (2004)

It should not be surprising that there has been much debate about whether PPPs offer value for money. The limited available empirical evidence favours PPPs. For example, HM Treasury concluded that of 61 PFI projects, 89% were delivered on time or early and all were delivered within public sector budgets.[17]

But, aside from the problems with the public sector comparator, these studies suffer from the fact that few PPPs are more than one third through their lives.

Conclusion

There is little reliable empirical evidence about the costs and benefits of PPPs. This paper has therefore made a qualitative assessment.

A PPP may be a good way of procuring services only if three conditions are met: Project outcomes can be specified in service level terms, performance can be measured objectively and performance objectives are durable.

It concludes that the more complete transfer of risk that is possible under a PPP, results in better project evaluation and stronger incentives to innovate and minimize whole of life costs. But these advantages must be balanced against the large contract negotiation costs, the inflexibilities of a long-term contract and the reduced competitive pressures on performance after the contract has been entered into (compared with a situation where the contract is re-tendered periodically over the life of the infrastructure).

The decision whether to proceed with a PPP rather than with a conventional procurement process turns principally on the following three questions:

1. Is the public agency able to specify outcomes in service level terms, thereby leaving scope for the PPP consortium to innovate and optimize?

2. Is it easy for the public agency to specify outcomes in a way that performance can be measured objectively and rewards and sanctions applied?

3. Are the public agency's desired outcomes likely to be durable, given the length of the contract?

If the answer to any of these three questions is "no", then conventional procurement is likely to be preferable to a PPP.

[17] HM Treasury (2003)

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Appendix: Auckland Indoor Arena

The Auckland Indoor Arena, an entertainment and sporting events centre, is a PPP entered into by the Auckland City Council in May 2004.

Quay Park Arena Management has agreed to build, own, operate and maintain the Arena for 40 years, when ownership of the building and the operating systems will be transferred to the Council. Construction is currently in progress.

As the arena was not commercially viable, the Council provided a subsidy by way of a contribution of $68.2 million towards the capital cost of $80 million.

Quay Park Arena Management has put up the remaining $11 million. It will be entitled to revenue from ticket sales and venue rentals. The agreement provides for the Council to receive royalties, which will in part be used to fund community events at the Arena. However, there is no guarantee that royalties will be received.

The main reason for choosing a PPP approach was that the Council does not understand and has no experience in operating a major events venue. Under the agreement, the private sector partner, which has the experience and skills to run this type of business, is responsible for operations and carries the operational risk.