# 8 Public–private partnerships

**Key points**

- Under a public–private partnership (PPP) arrangement the private sector is typically contracted to design, build, operate, manage and finance new infrastructure and meet government obligations for a set period of time.
- In Australia and the United Kingdom, PPPs account for around 5 and 16 per cent respectively of public investment in infrastructure.
- Advocates claim that PPPs bring forward the delivery of infrastructure projects, draw on private sector expertise and offer an alternative financing vehicle to traditional government procurement.
  - The bundling of PPP services for major infrastructure projects is claimed to provide whole-of-life cost savings, and increased efficiency by delivering services of a higher-quality or at a lower cost.
- Opponents claim that PPP contracts involve high transaction costs and efficiency is undermined by limited competition in the bidding process. They also claim:
  - that PPPs do not offer value for money because the premium required by the private partner is in excess of the risk they assume
  - the benefits of bundling design, construction and operation can be obtained by governments without entering into PPPs
  - inadequate risk transfer has occurred in some projects and government, and ultimately the taxpayer, has had to bear the financial consequences.
- While PPPs are used for economic infrastructure projects that generate revenues from user charges, public funding may be committed to meet expected revenue shortfalls. They are also being used extensively for social infrastructure, where governments commit to payment for services delivered. Both require explicit costing of government funding commitments, but whether this imposes discipline on the investment decision depends on the transparency of these funding commitments.
- Most economic infrastructure PPP projects are not recorded on government balance sheets, bypassing expenditure controls and reducing parliamentary and public scrutiny of projects.
  - Off balance sheet accounting can obscure the level of government liabilities or fiscal costs required to meet future PPP contractual service payments and guarantees.
  - However, it is possible that more PPP projects could be reclassified and recorded on government balance sheets under new international accounting rules.

There are many definitions of public–private partnerships (PPPs) (box 8.1). PPPs typically involve a partnership between the public and private sector where the private sector is contracted to design, build, operate and manage and, most importantly, finance new infrastructure or services and meet government obligations for a set period of time (typically 20 to 30 years).

Included in the contract is the right to receive payments from the government and/or charge users of the facility a fee (a toll in the case of roads) in order to recover the costs of construction, operation and maintenance. The contract is generally subject to performance indicators and quality standards, with penalties imposed for any failure to maintain service standards on a continuing basis.

PPPs generally fill a gap between traditionally procured government projects and full privatisation (Grimsey and Lewis 2005). They cover a range of contractual forms (table 8.1).

This chapter is focused on the financing of PPP projects by the private sector under a build, own, operate and transfer (BOOT) type arrangement — where ownership of the asset is transferred to the government or a government authority at the end of the contract period.

PPPs have been used for economic infrastructure such as roads, railways, water filtration plants and waste water services, electricity supply systems and ports.

Box 8.1 **PPP definitions**

- Government has a business relationship with the private sector. It is long-term, with risks and returns being shared, and with the private sector involved in financing, designing, constructing, owning or operating public facilities or services (Hodge 2005).
- Depending on the country concerned, PPPs can cover a variety of transactions where the private sector is given the right to operate for an extended period a service that is traditionally the responsibility of the public sector (Grimsey and Lewis 2005).
- PPPs are medium- to long-term ventures in which there are key contractual or legal relationships between the public and the participating private sector. PPPs refer to projects in which there is cooperation between the public and private sectors in one or more of the development, construction, operation, ownership or financing of infrastructure assets, or in the provision of services (Brusewitz 2005).
- PPPs refer to a variety of arrangements in which the private sector is involved in the provision of government infrastructure services (Parliament of NSW 2006a).

Table 8.1 **Types of PPPs**

| *Contract type* | *Characteristics* |
|---|---|
| Design Build (D&B) | The government specifies the asset it requires in terms of its functions and desired outcomes. The private sector is responsible for designing and building the asset and managing any related risks. The asset is transferred to the government to operate. |
| Operate Maintain (O&M) | An existing government-owned asset is managed by the private sector for a specified period. The private sector will be responsible for providing the services to the customer (retail or wholesale), maintaining the asset to a specified condition and ensuring that management practices are efficient. |
| Design Build Operate (DBO) | Effectively, this is a D&B and O&M contract rolled in together. The private sector is usually responsible for financing the project during the construction period. The government purchases the asset from the private sector for a pre-agreed price prior to (or immediately after) commissioning the asset and takes all ownership risks from that time on. The private sector retains the management function and related risks. |
| Build Own Operate Transfer (BOOT) | The private sector is responsible for design and construction, finance, operations, maintenance and all commercial risks associated with the project. It owns the project through the concession period and the asset is then transferred back to the government at the end of the term, often at no cost. |
| Build Own Operate (BOO) | Similar to BOOT projects, but the private sector retains ownership of the asset in perpetuity. The government also agrees to purchase the services produced by the asset for a fixed length of time. |
| Lease Own Operate (LOO) | Similar to BOO projects, but an existing asset is leased from the government for a specified period. The asset may require refurbishment or expansion but no 'new build' assets are necessary. |
| Alliance | An agreement between the private sector and the government to share the benefits or the costs associated with project risks. The parties agree to a benchmark price, time and service level. Any benefits (or costs) achieved are shared between the parties according to a pre-agreed formula. |

*Source*: Adapted from AusCID (2005).

They have also been used for social infrastructure such as schools, hospitals, housing, and law and order facilities.

PPP projects typically have several characteristics in common. Their initial capital costs are high, the infrastructure takes time to build, and the assets generally have long lives and exist to support complementary economic and social activities (chapter 2).

The sponsors typically face construction cost and revenue risks (for example, traffic volume risk). Revenue risks are the main influence on financial outcomes.

Revenues from economic infrastructure projects are predominately derived from third parties (for example, toll-road users).

Social infrastructure projects, on the other hand, are usually paid for out of public money. Typically, there is no market risk to the private-sector provider of social infrastructure because payment streams are generally subject to long-term contracts with government. Construction cost risks are the main influence on financial outcomes (Parliament of NSW 2006a). Operational risks can exist in a limited number of applications, such as hospitals and prisons.

## 8.1 Applications and trends

Typically, private-sector sponsors create a special purpose vehicle (SPV) or stand-alone business to finance and deliver a PPP project. The SPV is a common legal technique used in private financing to quarantine and administer risks. It is an entity with legal status that allows for favourable treatment of accounting, fiscal, regulatory and financial issues. In most cases, the use of an SPV is a requirement imposed on the private-sector sponsors by the public sector, the financiers, the guarantors or the contractors of the project (Trujillo et al. 1997).

### Applications

Project finance is commonly used to raise long-term debt capital for PPP projects.[1] A feature of project finance is its non-recourse nature. Essentially, the lender looks at the cash flows and earnings of the project as the source of funds from which they will be repaid, and the assets of the project as collateral for the loan.

Under limited or non-recourse financing, private-sector sponsors have no obligation to make payments on the project loan if revenues generated by the project are insufficient to cover the principal and interest payments.[2]

Financing of a project's capital typically involves a range of sources of equity and debt — these determine the SPV capital structure. Traditionally, equity for infrastructure projects has been provided by parties involved in some aspect of the project such as construction contractors. However, institutional investors (such as

1 Long-term financing of PPP projects is necessary if the assets require high up-front capital expenditure, which cannot be viably recovered over the short term without increasing the project and service costs (Yescombe 2007).

2 With limited or non-recourse financing the lender's security is confined to the project assets. The personal liability of the private-sector sponsors is either excluded entirely or confined to the amount actually recovered from the project assets and cash flows.

superannuation funds) are increasingly investing directly in infrastructure projects. Further, several specialist infrastructure investment funds have been established (for example, by Macquarie Bank) (BDW 2002).

The capital structure of the SPV – its debt to equity ratio – depends mainly on the security of the expected cash flow and the tax arrangements, but also on the reputation of the private sector sponsor. Typically, debt constitutes a relatively high proportion of the financing of the infrastructure project. PPPs that involve a government guaranteed stream of payments for services are more suited to servicing debt and tend to have higher leverage ratios than projects relying more on user charges.[3] Nevertheless, lenders recognise the risk of an SPV defaulting and expect the private-sector sponsors to place some of their capital at risk as an incentive to perform. Another reason the private-sector sponsor will hold a small share of the SPVs equity is to ensure that it cannot be construed as a subsidiary for legal and accounting purposes (National Treasury (South Africa) 2001).

In some cases, there has been an initial 100 per cent debt financing because equity investors have incentives for tax reasons to defer equity contributions until construction is completed in order to minimise the holding cost of non income-producing assets. This development represents a shift in capital management from 'asset sweating' — improving the physical utilisation of existing capital — to 'asset leveraging' — improving the financial valuation of existing equity through asset ownership.

The tax deductibility of interest payments also affects the optimal level of debt in the capital structure. However, offsetting this bias toward debt is the requirement to pay resident shareholders franked dividends. Lowering the tax payments to government through higher levels of debt reduces the company's ability to pay shareholders dividends with imputation tax credits attached. This will be relevant in countries, such as Australia, which have a dividend imputation tax system (Brown, C., University of Melbourne, pers. comm., 19 November 2007).

## Innovations

Private sector businesses use a number of innovative financing techniques to spread risk and lower their total cost of finance. These include securitisation of PPP loans, the credit guarantee finance scheme, tax-exempt private activity bonds, refinancing of debt and equity sales in specialised secondary markets.

3 For example, Infrastructure Partnerships Australia (IPA) noted that in their experience most social infrastructure projects have a debt-to-equity ratio of 90:10, while economic infrastructure projects have a debt-to-equity ratio of 60:40 (IPA, pers. comm., 30 January 2008).

The main benefit of these innovative financing techniques is to improve the liquidity of PPP assets, and the release of capital reserves for other investment opportunities. Where innovative products can increase portfolio diversity the benefits may include a reduction in the cost of borrowing. It may also be possible to access tax-exempt borrowing, lowering the direct cost of capital, although this comes at a cost to tax revenues. These techniques potentially have a flow-on effect to the public sector and users through project cost savings, lower user charges and lower contract payments. However, as the recent financial crisis has demonstrated, the potential for lowering financing costs should not be overemphasised.

### *Securitisation*

Securitisation converts illiquid financial assets (such as mortgages and loans) with a predictable cash flow into a tradable commodity. Financial assets are transferred from the originating organisation (typically banks) to a SPV (usually a company or trust). The SPV finances the purchase of these assets by issuing a conventional bond or note to institutional investors in domestic or international capital markets.

Securitisation has a number of advantages for the originating organisation:

- removing the applicable financial assets and related liabilities (financing costs) from their balance sheet. This outcome can improve financial ratios such as debt to equity and return on capital
- isolating the assets from potential bankruptcy risk of the originator
- improving liquidity (including access to a diversified source of funds)
- matching the maturity of assets and liabilities.

'Synthetic' securitisation (a form of securitisation) is a recent innovation applied to PPP loans in the United Kingdom.[4] It involves a transfer of the credit risk inherent in the loans, rather than the underlying assets themselves, from the originating organisation to a SPV.[5] The 'synthetic' securitisation of PPP loans is often faster, less complex and cheaper to create and transfer (box 8.2).

4 The volume of PPP primary debt in Australia is insufficient to support any Australian-based synthetic securitisation of PPP loans. However, some Australian debt could have ended up as part of global collateralised loan obligations — but not to a significant extent (ABN-AMRO, pers. comm., 16 January 2008).

5 Credit risk is the risk of financial loss arising from the failure of a customer to repay principal and interest.

Box 8.2 **'Synthetic' securitisation**

The SPV enters into a credit default swap (CDS) with the originator. Under the CDS, the originator pays the SPV part of the interest which the originator receives on loans to its borrowers. In return, the SPV must pay the originator's losses on those loans in the case of adverse credit events. In effect, the originator is paying a fee to the SPV in return for a guarantee or insurance equivalent (Wood 2007).

In order for the SPV to make these loss payments, if necessary, it issues notes (debt securities) to investors on terms that the principal amount payable to the note holders is reduced if the SPV has to pay the originator. The issued notes are divided into tranches which differ in seniority and risk exposure — with losses first affecting the junior tranche (unrated), next the mezzanine (rated AA to BB) and finally the senior tranche (rated AAA).

Each tranche pays a periodic payment (the swap premium), with the junior tranche offering yields commensurate with the greater risk. The junior tranche can equate to 3 per cent of the whole pool (Wood 2007).

The SPV need not sell tranches for the full amount of the underlying credit exposure. Since there has been no outright purchase of assets, funds only have to be raised to meet the provisions of the notional exposure agreed to in the CDS contracts (RBA 2005).

The main objective of 'synthetic' securitisation for the originating organisation is to achieve compliance with capital adequacy requirements. The Basel Capital Accord of 2004-05 (Basel II) established a framework for measuring the capital adequacy and minimum capital requirements. As such, banks must hold capital reserves appropriate to the risk the bank exposes itself to through its lending and investment practices.

Generally speaking, these rules mean that the greater the risk to which the bank is exposed, the greater the amount of capital the bank has to hold to safeguard its solvency and overall economic stability. For example, capital reserve requirements can be very high for loans that are rated below investment grade (that is, a 'BBB' rating).

The transfer of credit risk under a 'synthetic' securitisation reduces the amount of capital reserve required by the originating organisation to support loans under the Basel II regulatory arrangements. 'Synthetic' securitisation consequently assists banks to comply with the Basel framework and releases capital for other investment opportunities. This can generate economic gains if external borrowing sources are constrained, or if there are differences between internal and external financing costs.

It is accepted by HM Treasury that such securitisations are external to PFI contracts. Consequently, they should not be included in gain-sharing arrangements with the government, as occurs when PPP projects are refinanced (NAO 2006).

Securitisation does not remove risk, it simply transfers the risk to another entity, which takes on the risk for a fee. This works well for instruments with idiosyncratic risks with low covariance with other instruments in the portfolio, but becomes problematic when there is systemic risk. Failure to accurately assess the total risk of such instruments, or to price that risk appropriately is at the heart of the sub-prime crisis. This was compounded by the moral hazard introduced as banks, feeling that they had off loaded the default risk, felt no incentive to manage these risks more actively. The Basel framework has been found wanting as it did not encourage banks or regulators to recognise the true exposure to systemic risks of specific asset classes (Tarullo 2008).

### *The Credit Guarantee Finance scheme*

The Credit Guarantee Finance (CGF) scheme being piloted by the UK Government is aimed at:

- reducing the premium paid in the cost of borrowing by the private sector, and generating cost savings for the government through lower service fees
- reducing to a minimum any transaction costs associated with the CGF, preventing any delays to the procurement of the project as a result of the application of CGF, and avoiding the need for any extra due diligence over and above that required by private sector risk takers to the scheme
- requiring private financiers to guarantee the debt, thus assuring that the benefits to the public sector of private sector risk taking will be realised.

Under this scheme, the government raises debt at gilt market rates, which it then on-lends to the private sector at the market rate (as a CGF loan). This loan is strictly for the main construction-phase facility and a standby facility. Working capital requirements are not provided through the scheme.

Under the scheme, the government obtains an unconditional repayment guarantee from a credit-rated private-sector guarantor (a bank or monoline insurer). In doing so, the government avoids providing any guarantee for the funding raised (BDW 2006). The government's main risk in lending is therefore the creditworthiness of the guarantor, rather than the risk of default of the PFI project or the insolvency of the PFI contractor (HM Treasury 2006a).

It was noted by Yescombe (2007) that the absolute benefit of CGF could be limited because:

> Commercial banks will charge the same guarantee fee as the credit margin they would have charged had they lent direct, and the monoline guarantors also charge the same guarantee fee as they would have charged for a bond issue. The benefits are therefore limited to the difference between the base cost of funds for the public sector and that for the lenders, that is, in the case of a bank loan the interest-rate swap market and credit premiums — perhaps around 0.7 per cent in total — plus the unmeasurable benefit of a competitive rate for the underlying funding. However, there is also a political benefit as it takes the sting out of the argument that public-sector funding is cheaper. (p. 314)

Further, the HM Treasury has identified certain limitations to the application of the CGF scheme, depending on the type of project.

- The cost savings only arise where the public sector covers a majority of the project costs, including debt service costs.
- Where there is a need for multiple sources of finance and CGF would be one of these sources of funding, the Government would be reluctant to be involved in inter-creditor arrangements, although it would be willing to fund a project with more than one guarantor.
- The CFG may not be appropriate where the risk profile of the project is untested in the financial markets. It would be best applied to PFI programs that are well established with well recognised commercial and financial arrangements (HM Treasury 2004).

The UK Treasury found that despite the potential limitations of CGF, two pilot projects undertaken to test the practicality of using CGF reported cost savings in the order of 8 to 16 per cent of the financing costs could be achieved (HM Treasury 2006a).

### *Tax-exempt private activity bonds*

In the United States, the federal government tax-exempts private-activity bonds (PABs) issued by the private sector for investment in public infrastructure as part of a PPP arrangement. Tax-exemption places the private sector on an equal footing with the public sector (which also issue tax-exempt bonds), thereby fostering competition.[6]

6 Investors who purchase debt instruments, such as tax-exempt bonds, do not pay federal income tax (and often state income tax) on the interest paid to them by the issuer. Issuing tax-exempt debt is less costly to the issuer, because investors are willing to accept a lower interest rate in exchange for the resulting interest income being tax-free. However, as shown in chapter 5, the

Private-activity bonds have been used for a long time in the United States (chapter 5). However, their misuse led to various restrictions on their applications (Zimmerman 1991). Currently their use is restricted to the financing of water, power, waste disposal, education, healthcare and low-income housing PPP projects, and, more recently, transportation infrastructure PPP projects.

In 2005, legislation was enacted which allowed US States to issue and transfer to private companies up to US$15 billion in tax-exempt PABs for toll roads and truck–rail intermodal facilities. The projects that qualify for such funding include any:

- surface transportation project receiving federal assistance under Title 23 of the US Highway Code
- projects for an international bridge or tunnel for which an international entity authorised under federal or state law is responsible and which receives federal assistance under Title 23 of the US Highway Code
- facility for the transfer of freight from truck to rail or rail to truck (cranes, loading docks and computer controlled equipment) which receives federal assistance under Title 23 of the US Highway Code or Title 49 of the US Transportation Code.

In 2006, Texas became the first state to receive federal approval to raise around US$1.8 billion in private-activity bonds for the development of State Highway 121. The Texas Department of Transport was allowed to issue these bonds on the condition that the private company awarded the contract would become the ultimate borrower and arrange to repay the PABs with toll revenues (TxDOT 2006).

The use of PABs potentially results in substantial cost savings for the private sector. For example, the US Department of Transport estimated that tax-exempt PABs can reduce interest rates by as much as two percentage points below rates on comparable taxable bonds. For example, on a US$100 million bond, this differential would amount to a debt service cost savings of US$2 million per year (USDOT 2004).

Tax-exemption does come at a cost to the federal government. For example, the US Department of the Treasury estimated a revenue loss of US$7.2 billion for the fiscal year 2007 (Belmonte 2006).[7]

discount on interest costs is less than the estimated loss in tax revenue, suggesting that total costs might be higher.

7 This estimate was based on all interest bearing tax-exempt bonds in the 2007 fiscal year, regardless of when the bonds were originally issued (Belmonte 2006).

### *Refinancing*

Refinancing is the process by which the terms of the finance put in place at the outset of a PPP contract are later changed through negotiation. It usually occurs when construction is complete and the risk profile of a project is much lower. Refinancing can include a refinancing of the debt, or change in the debt to equity ratio, with an issue or buy-back of shares or just the sale of shares.

The aims of refinancing are to improve the cost of borrowing for the private-sector sponsor and to improve the liquidity of PPP assets.

#### *Debt*

Debt refinancing can be an effective and flexible risk management tool for projects with a risk-profile that changes significantly over the life of the asset. In such circumstances, debt refinancing may result in an optimal outcome if the terms of the borrowings are adjusted commensurately with the risk at a particular point in time.

Reduced interest cost, however, is not the only rationale for soliciting debt refinancing. Indeed, some argue that debt refinancing is more about increasing the debt amount by lowering the coverage ratio — the ratio of the cash flows from the project against debt service — and lengthening the term of the debt (Yescombe 2007).

Other covenants might warrant change in the life of long-lived assets or loans because debt refinancing can introduce a series of new risks into a PPP arrangement. It is essential to maintain a reasonable balance between the benefits of debt refinancing against perceived project-wide or sector-wide implications, including transaction costs.

Risks associated with debt refinancing, such as increases in termination liabilities or an extension of the contract period, have to be balanced against the potential benefits. Debt refinancing also introduces other ‘not so clear’ risks that need as much consideration. For example, increasing the overall level of debt can exacerbate the probability of default, which, in turn, potentially destabilises the company’s ability to deliver quality services.

Debt refinancing can also lead to problems arising from asymmetry of information (chapter 2). For example, the private sector could increase the amount of debt to accelerate the benefit to its shareholders by way of early payout of inflated dividends. The implication of this is that the public sector would be left with increased termination liabilities.

In response, policy makers in some countries have developed guidelines to prevent refinancing that generates large returns to the private sector and at the same time increases the risk to the public sector without due regard to value for money.

In the United Kingdom, the refinancing of all PFI projects is subject to a requirement for gain sharing. Since 2002, it is mandatory for any refinancing gains to be shared equally between the public and private sectors. A voluntary code applies to pre-July 2002 PFI projects for which the government would generally expect to receive 30 per cent of the gains from debt refinancing. To February 2006, the Government has received £137 million from these arrangements (NAO 2006). In response to the substantial fall in interest rates as a result of the financial crisis, new rules were introduced in November 2008 to split any gains from refinancing on a 70 per cent public and 30 per cent private basis (Jameson 2008).

In Australia, the Victorian and NSW Government policy is that they are entitled to a 50 per cent share of any refinancing gain provided that the projected equity return at the time of refinancing (taking into account any refinancing) exceeds the original estimate (DTF 2005; NSW Treasury 2007b). In both the NSW New Schools and Lane Cove Tunnel projects, for example, the concession arrangements include the right for the Government to share 50 per cent of any gain derived by the private sector from refinancing these projects (NSWDET 2006; RTA 2004).

*Sale of equity interest*

In the United Kingdom, the sale of equity interests in PFI projects is an emerging innovation. It involves transferring the ownership of assets from the original PFI equity-owners to investors in specialised secondary capital markets.[8] This typically takes place as projects move into the post-construction operational phase of their life cycle.

The original equity holders (usually project sponsors) tend to be the ones with the financial expertise and, as such, their presence during the construction phase — usually the most risky phase — is critical for risk management. Indeed, in the United Kingdom, most PFI arrangements specify that the sponsors must retain their equity until the project has made the transition into the operational phase (Semple Fraser 2006; Yescombe 2007).

Once projects have reached the operational phase, the original project sponsors are usually in a position to dispose of their shares ‘at a reasonable price’ if they choose.

8 Secondary Market Funds include Henderson Global Investors, Infrastructure Investors, Innisfree and Secondary Market Infrastructure Fund (NAO 2006).

Indeed, in the United Kingdom, a survey of PFI projects indicates that share sales had occurred in 32 out of 80 projects (around 40 per cent) (NAO 2006).

For project sponsors, the ability to sell their equity holdings in the secondary market, frees up capital that they can re-invest back into the primary market. An increased supply of capital in the primary market lowers the cost of capital, mainly because of reduced liquidity premium. The project sponsors would require a reward commensurate with the level of risk they bear (such as construction risk). Subsequently, the risk premia for equity holders during the operational phase — where most PFI projects generate stable and regular incomes is less. Consequently, there is typically an adjustment to reflect this change in risk.

Such allocation of risk-return dynamics affects the risk-adjusted return for all investors over the life of the asset. This translates into the efficient pricing of PPP projects that potentially benefit users by way of reduced user charges and/or lower funding requirements for government for the provision of public goods and services.

## Trends

Among the studied countries, PPPs are at different stages of development and use:

- Australia, the United Kingdom and France have had extensive experience with PPPs (OECD 2007; Yescombe 2007).
- In the United States, more than half the states have PPP-enabling legislation, and some states including California, Texas, Virginia and Florida have been actively using PPPs for the provision of transport infrastructure (Deloitte Research 2007).
- In Canada, PPP activity is conducted on a one-off basis rather than through a comprehensive government program, in contrast to the United Kingdom and Australia.
- In New Zealand there are very few PPPs.

### *Australia*

In Australia, PPPs have been used to deliver both economic and social infrastructure projects. At the national level, 39 projects totalling almost A$17 billion were contracted with private parties between 2000 and 2006 (table 8.2).

Table 8.2 **PPP investment in infrastructure projects, 2000 to 2006**

| *Government* | *PPP projects* | *Value of PPP projects* |
|---|---|---|
| | no. | A$m |
| Australian Government | 2 | 706 |
| New South Wales | 15 | 8 000 |
| Victoria | 16 | 4 500 |
| Queensland | 2 | 2 500 |
| Western Australia | 1 | 200 |
| South Australia | 1 | 40 |
| Tasmania | 1 | 90 |
| ACT | 0 | 0 |
| Northern Territory | 1 | 600 |
| **All** | **39** | **16 636** |

*Sources*: COAG (2007b); DOD (2006); NSW Treasury (2006a); Parliament of Australia (2006).

In 2006-07, PPPs in Australia accounted for around 5 per cent of public investment in infrastructure (chapter 2). New South Wales and Victoria have made the greatest use of private provision of capital for public infrastructure.

In New South Wales, PPPs have averaged around 11 per cent of government capital works since 1993-94, and are expected to make up between 10 to 15 per cent of public investment in the future (Parliament of NSW 2006b). Of the 15 PPP projects completed between 2000 and 2006, just under 50 per cent are classified as social infrastructure projects. They included the building of new schools, a public housing project, a community health centre and a hospital.

In Victoria, PPPs accounted for around 10 per cent of public investment between 2000 and 2006 (Parliament of Victoria 2006). Of the 16 PPP projects completed between 2000 and 2006, 50 per cent were social infrastructure projects. They included the building of a county court, a hospital, correctional facilities, and the mobile data network designed to upgrade Victoria's capacity to deal with large scale emergencies.

### *Canada*

Historically, Canadian PPP projects were related to the delivery of transport infrastructure. Since 2002, however, they have been more widely used in areas such as healthcare and accommodation, notably in Ontario and British Colombia (Middleton 2002).

Since 2002, around 100 PPP projects have been initiated, of which 80 per cent are either operational or at the procurement stage. Collectively, the total capital cost of these projects is around C$15 billion. Over one-third of the projects currently being considered are in the healthcare sector (Akkawi 2006).

### *European countries*

France has a long history of PPPs dating from the 16th century. Their PPP contracts are performed under Delegation de gestion du service public contracts and include:

- *Concession* contracts which are similar to BOT (build, operate and transfer) or DBOT (design, build, operate and transfer) contracts. For example, the contractor chosen at the end of the tender process finances, builds and delivers the project for a specified period and at the end of the contract transfers the asset to the public sector.
- *Affermage* (franchise) contracts cover the operation of infrastructure but not the provision or upgrade of infrastructure or project financing. The water sector uses affermage contracts extensively (chapter 9).

In 2006, more than 20 000 PPP contracts were in force with private operators. These contracts have been used to develop a range of infrastructure facilities from railway, electricity and water provision networks, to motorways, waste management, district heating, stadiums, museums, hospitals, prisons and courts (Bergère 2006).

For key infrastructure sectors (water, urban waste, district heating, urban transport, toll motorways and car parking), PPP contracts were valued at around €21 billion — which represents 63 per cent of public investment in 2006. By value, the water sector had the largest private sector involvement with over €8 billion, comprising 71 per cent of total investment. Toll motorways are 100 per cent privately financed and total around €6 billion (Bergère 2006).

In contrast to France, the Netherlands and Germany are relative recent users of PPPs:

- The Federal Government in Germany declared in 1999 that it would implement PPPs as a new form of cooperation between the state and the private sector. Between 2000 and 2005 more than 300 PPP projects were planned, and in some cases completed, in several sectors (DIFU 2005).
- In 1999, the Netherlands Government established the PPP Knowledge Centre to initiate and stimulate the use of PPPs. Since then, five PPP projects have reached financial closure, comprising two road projects, a school, a rail service and a wastewater treatment plant. A number of accommodation PPP projects are

currently being considered (OECD 2006b). Overall, PPP projects account for a very small share (less than 1 per cent) of public investment in infrastructure.

Advocates of PPPs argue that their use in the Netherlands point to the efficiency benefits of PPP. As the Netherlands public-sector finances are in a healthier state than those in other European countries, this suggests that their use of PPPs was not motivated by wanting to avoid public-sector financing and disclosure of expenditure on infrastructure (OECD 2006b).

### *New Zealand*

The NZ Government has not been involved in any PPP arrangements (NZ Treasury, pers. comm., 30 August 2007) — possibly because of the extent of privatisation. However, there are a limited number of partnering arrangements with local authorities — including a BOOT project (Auckland Indoor Arena), a DBMO project (the Wellington sewerage treatment plant), a joint venture (the Canterbury regional landfill facility), an alliance (Auckland's Grafton Gully road construction), and a franchise agreement (to operate Papakura water and wastewater services) (Controller and Auditor-General 2006).

While there are few restrictions on the use of PPPs in New Zealand, the few are notable, namely:

- the *Corrections Act 2004* — which prohibits the Crown from entering into any contract for the management of any prison
- section 136 of the *Local Government Act 2002* — which restricts any water service contract with the private sector to a maximum of 15 years and requires a local authority to retain control over pricing, management, and policy development relating to the delivery of water services
- the *Land Transport Management Act 2003* — which provides a disincentive to private-sector involvement in road projects (Katz 2006).

These restrictions arose out of a government coalition agreement with minor parties (NZ Treasury, pers. comm., 30 August 2007).

### *United Kingdom*

In the United Kingdom, the Private Finance Initiative (PFI) has generated a large number of PPPs. Under the PFI:

- The private sector constructs the capital asset and is responsible for its continuing operation and maintenance. The public sector pays the private sector

a stream of committed revenue payments for use of the facilities over the contract period, which is generally between 15 and 30 years.

- Contracts typically specify broader output requirements. For example, the specifications for a hospital are expressed in terms of the medical services required rather than a building design. It would be up to the private sector bidder to come up with a design that meets the public sector client requirements.
- An appropriate amount of risk, as comprehensively defined by HM Treasury, is transferred to the private sector — otherwise the project has to be classified as a public-sector project and remain on the government balance sheet and contribute to measures of government borrowing (HM Treasury 2003a).

PFIs were initiated in the United Kingdom in 1992. In 2005-06, their use accounted for around 10 to 15 per cent of public-sector investment with almost 600 projects completed, valued at £53 billion. These included 185 new or refurbished health facilities, 230 new or refurbished schools and 43 new transport projects (HM Treasury 2006a; 2007). In 2006-07, PFIs accounted for 16 per cent of public investment in infrastructure (chapter 2).

### *United States*

PPPs in the United States have been used to deliver both economic and social infrastructure projects since the mid-1990s.

At the state and local level, the dominant area of investment, both in number of projects and total dollar value, is water and wastewater facilities. Around 4000 drinking water systems (7.5 per cent) are operated and maintained through a PPP (NCPPP, pers. comm., 28 July 2007). In comparison, less than 2 per cent of wastewater treatment plants are managed under a PPP arrangement (USEPA 2002).

PPPs in the transportation sector (roads, airports, rail terminals, bridges and tunnels) have been increasingly used to supplement a strong tradition of public provision. Between 1993 and 2005, the US Government invested around US$750 billion in highway improvements. Of this, around 3 per cent (US$21 billion) was invested in 43 major highway facilities using various PPP financing models. California, Florida, Texas and Virginia accounted for 50 per cent (or US$10.6 billion) with 18 major highway PPP projects (Grote 2006).

The US Department of Transport has attributed the increased use of PPPs in the transportation sector to a widening gap between infrastructure needs and the current rate of government investment (box 8.3)

Box 8.3 **Transportation infrastructure funding shortfalls**

The US Department of Transport claims that the:

- average annual cost to maintain highways and bridges is projected to be US$78.8 billion from 2005 to 2024 — with a 12.2 per cent (US$8.5 billion) shortfall compared with 2004 capital expenditures
- estimated cost to improve (as well as maintain) the infrastructure is US$131.7 billion — with an 87.4 per cent (US$61.4 billion) shortfall.

The funding shortfall is attributed to the inability of federal grants and gasoline tax revenues to keep pace with increased demand for upgraded and new highways. In addition, the shortfall is exacerbated by federal law that encourage financially constrained planning because projects cannot be pursued unless and until federal funding is available. States are constrained by a pay-as-you-go (PAYGO) financing which restricts their ability to undertake effective long-term planning for new projects.

The alternative to PAYGO financing — issuing bonds — has been a minor source of borrowing. In many states, voter approval is legally or constitutionally required to authorise the issue of general obligation bonds. Further, rating agencies could downgrade their credit rating if a state already has a large debt burden, which can result in higher interest charges on all their debt. The federal government has encouraged state governments to borrow against future grant revenues using Grant Anticipation Revenue Vehicles (GARVEE) bonds. However, federal grants have grown slowly because of political constraints on increasing taxes.

*Sources*: FHWA (2007b); Samuel and Poole (2007).

The federal government has also entered into a number of PPP arrangements to upgrade housing for military personnel under the Military Housing Privatisation Initiative established in 1996. As at February 2007, the Department of Defence had awarded 71 projects to the private sector — upgrading over 147 000 military family housing units at a total cost of around US$20 billion (USDOD 2007).

## 8.2 Policy issues

The key policy issues relating to PPPs are fiscal constraints on government borrowing, the accounting treatment of PPPs, risk allocation between the contracting parties, the public justification for PPPs, the tendering process, taxation and the sustainability of highly leveraged financing.

## Fiscal constraints

There is evidence to suggest that a number of Australian states used PPPs because they were reluctant to borrow for large capital projects that would compromise their credit rating.

Preserving credit ratings remains a high priority. For example, the WA Government adheres strongly to a policy of retaining a AAA credit rating. To retain this rating, it has committed to the following fiscal rules:

- maintain a net debt-to-revenue ratio for the total non-financial public sector at or below 47 per cent
- ensure that real per capita own-purpose expenses for the general government sector do not increase.

The first rule places a constraint on the amount of money that the WA public sector can borrow to finance capital spending, potentially limiting the size of the government's capital works program. The second rule limits the ability of the government to incur future operating maintenance and depreciation expenses flowing from capital spending in the general government sector (COAG 2007b).

The Victorian Government is committed to maintaining a AAA credit rating and the current low level of state net debt (DTF 2007a; 2007b). Similarly, the SA Government is committed to 'prudently managing State finances to maintain a triple-A credit rating' (Government of South Australia 2007, p. 2).

In New South Wales, fiscal rules are enshrined in legislation. The *Fiscal Responsibility Act 2005* sets fiscal targets that rely on maintaining the level of government debt 'as a proportion of gross state product at or below its level as at 30 June 2005'.

Fiscal rules also apply in the other studied countries (Canada, the European Union member states including the United Kingdom, New Zealand and the United States). These, along with those applying in Australia, are discussed in chapter 4.

## Transparency of financial commitments

A policy concern is that PPP projects generally establish a long-term funding commitment by the public sector but most economic infrastructure projects are recorded 'off balance sheet'. Consequently, the debt associated with PPP projects is not recorded on the government's accounts in the year in which it was incurred by the private sector, but rather as a series of smaller annual recurrent payments (as forgone toll revenues, rental streams or debt servicing expenditures) over the life of

the project. The level and cost of underlying public debt is not transparent to the public and the balance sheet reflects a stronger financial position than it would otherwise.

### *Accounting treatment of PPPs in Australia*

PPPs are sometimes known as service concession arrangements. There is no Australian or international accounting standard or definitive guidance material on accounting by a grantor of a service concession (Parliament of Victoria 2006). There is, however, Australian Interpretation 12, *Service Concession Arrangements* (which is equivalent to the International Accounting Standards Board's IFRIC Interpretation 12, *Service Concession Arrangements*), which applies to service concession operators.

The Australian Accounting Standards Board has established an Advisory Panel to make recommendations on whether, and how, Australian Interpretation 12 might apply to grantors. The International Public Sector Accounting Standards Board also has its own project to examine service concession arrangements, which is in its early stages.

Most PPP arrangements have the characteristics of a lease agreement — the notable exception is user-pay agreements (Parliament of Victoria 2006). Consequently, reliance has been placed on the Accounting Standard AASB 117 *Leases* and on guidance material issued by the Heads of Treasury Accounting and Reporting Advisory Committee in the absence of authoritative guidance.[9]

In Australia, lease arrangements are classified as either an operating or finance lease.

- An operating lease is similar to a rental arrangement in that a payment is made by the lessee (the government in the case of PPPs) to use an asset. Under an operating lease, the lessor (the private provider) retains exposure to the risks and benefits incidental to the ownership of the asset.
- A finance lease is a form of borrowing by the lessee (the government) to obtain an asset. It is usually long-term and covers the majority of the economic life of the asset. The lessor's role is primarily to provide finance. At termination, the asset is usually transferred to the lessee for a specified sum, typically by

9 The guidance material reflects the principles detailed in the UK Reporting Standard FRS 5, Reporting the Substance of Transactions: Private Finance Initiatives and Similar Contracts. In accordance with this standard, the NSW Treasury noted that social and economic infrastructure is accounted for in a different manner due to their unique risk profiles (NSW Treasury, pers. comm., 16 January 2008).

incorporating a guaranteed residual value in the contract. The government effectively assumes all the risks and benefits of ownership, including maintenance, repairs, insurance and obsolescence.

*Implications*

The distinction between operating and finance leases has important implications for the management of government financial reporting. Under Accounting Standard AASB 117, the lessee (the government) treats operating lease payments as an expense. In contrast, a finance lease agreement represents a form of financing from the lessor (private provider) to the lessee (the government) that ultimately leads to the purchase of the asset. An asset and a liability are recorded on the lessee's (the government's) balance sheet where the lease asset is depreciated and the lease liability is reduced by repayments over the lease term.

In Australia, most economic infrastructure PPP projects have traditionally been treated by the government as operating lease agreements. Consequently, the debt (total value of payments payable by the government to the private-sector provider) has not been recorded as a liability in the government's financial reports. In effect, all the risks and benefits incidental to ownership are treated as though they have been retained by the private-sector provider.

Following the introduction of the new Australian-equivalent International Financial Reporting Standards (AIFRS) in 2004-05, several PPP arrangements have been or will be reclassified as finance lease agreements.[10] This development increased Victorian Government leased infrastructure assets by A$605 million and their finance lease liabilities by around A$1 billion (VAGO 2006).

In contrast, the accounting treatment for social infrastructure projects is to record them as finance lease agreements, irrespective of whether they are privately financed or financed using government debt. For example, repayment of the capital cost for the privately financed New Schools project in New South Wales is deemed to be a finance lease. The Government is deemed to be the owner of the schools because it primarily retains demand and residual value risk. A liability offset by an asset of equivalent value is recorded on the Government's balance sheet, once the facilities are operational. The fees for maintenance and other services are expensed (NSW Auditor-General 2006).

10 For a project to be classified as a finance lease, the Victorian Government has to finance 90 per cent or more of the asset costs. Moreover, the service contract must cover 75 per cent or more of the useful life of the asset and the contract must include 'a bargain basement provision' — whereby the Government can purchase the asset at the end of the contract term for substantially less than its realised value.

*Accounting treatment elsewhere*

As noted by Grimsey and Lewis (2002), most service contracts with the private sector under PPP arrangements fall somewhere between the strict definitions of an operating and finance lease.

Although there is no applicable accounting standard for grantors in PPPs, the Australian Accounting Standards Board's accounting framework requires reporting of all arrangements based on their economic substance rather than their legal form (Parliament of Victoria 2006). For example, in the case of a toll-road concession arrangement, legal ownership of the land rests with the government. However, the PPP asset is currently recorded in the operator's financial statements because it receives the economic benefits (user charges in the form of tolls) and accepts the majority of the risks associated with the project.

In the United Kingdom, the Financial Reporting Advisory Board has been concerned by the lack of consistency in accounting for PFI assets. All that has been agreed thus far is that the asset should appear on one party's balance sheet, not on both, nor on neither (FRAB 2007). As at July 2007, around 45 per cent of PFI projects by total capital value were included on the government's balance sheet (HM Treasury 2007).

In the 2007 Budget Statement, the UK Government announced that it will prepare financial statements based on the International Financial Reporting Standards (IFRS) from 2008-09. As happens in Australia, this will have implications for the accounting treatment of PFIs.

There is also evidence to suggest that most PPP projects in the United States remain off balance sheet (Deane et al. 2005). At the federal level, PPPs used by agencies to finance the acquisition of capital assets are treated in the budget in a manner that is inconsistent with two fundamental principles of federal budgeting, namely:

- financial commitments should be recognised upfront in the budget, at the time those commitments are made
- the budget should be comprehensive in capturing all financial activities of the government (CBO 2003b).

There remain significant differences about the appropriate budgetary treatment of PPPs between the Congressional Budget Office and the Office of Management and Budget. This has resulted in a piecemeal approach to the recording of federal commitments (CBO 2003b).

## Risk allocation between the contracting parties

Under a PPP arrangement there is a reallocation of some of the risk to the private sector, which is intended to reduce the level of risk to the government and ultimately taxpayers. Depending on the form of the contractual arrangement, the risk reallocation can cover construction, financing, performance, demand and residual value risk (chapter 2).

Governments have established guidelines that make it explicit that their aim is to ensure an optimal allocation of risk. For example, the Victorian Government's PPP guidelines state that:

> The principal governing risk transfer is that the risk will be allocated to whoever is best able to manage it at least cost, taking into account public interest considerations. This does not mean that all risk is transferred. If risk is transferred inappropriately, the Government will pay a premium. The ability to secure risk transfer on worthwhile terms requires the scope of the project to be drawn sufficiently widely. (DTF 2000, p. 10)

Similarly, the stated aim of the NSW *Working with Government Guidelines* is 'to optimise risk allocation so that value for money is maximised in each project on a whole-of-life basis' (NSW Treasury 2006b, p. 44). The aim is not to maximise risk transfer from the government to the private sector. For example, inflation and interest rate risks associated with the Bonnyrigg 'Living Communities' PPP project are shared between the NSW Department of Housing and the private contractor (NSWDH 2007).

### *Material adverse effects in toll-road projects*

One example of the inappropriate allocation of risk can be found in toll-road projects. The greatest risk to the viability of a toll-road project is revenue risk associated with traffic volumes. This risk has been addressed with the inclusion of 'material adverse effect' (MAE) clauses in the Concession or Project Deed.[11]

The MAE clauses typically allow the private sector to seek redress against the government should it implement policy changes or approve projects that cause detriment to the PPP project revenue during the concession period (Hepburn et al. 1997). Compensation can be in the form of an increased concession term, or a right to increase the toll or user charges, or in monetary form, or a combination of those forms (Chew et al. 2004).

11 In New South Wales the MAE acronym stands for 'materially adverse event'.

In the past, MAE clauses were used to reduce risk to the private sector by the granting of options over the project's cash flows. This option effectively increases the cash flows available for, and lowers the risk of returns to, equity investors. For example:

- in the case of the M2 Motorway in Sydney, a real after-tax internal rate of return (IRR) of 12.2 per cent for a hypothetical initial equity investor is to be achieved before the Hills Motorway Group is obliged to pay the government the concession fees in cash
- the private companies that operate CityLink in Melbourne and the Eastern Distributor in Sydney can defer payment of concession fees in cash if a real after-tax IRR of 10 per cent for a hypothetical initial equity investor is not achieved (Brown 2005).

Until the IRR is reached, the companies can reportedly elect to issue promissory notes in lieu of payment. Under the terms of the agreement, the government cannot present any of the promissory notes for payment until the earlier of either the end of the period of the contract or the achievement of the required IRR (Brown 2005).

If the IRR hurdle has been set on the basis of overestimated traffic volume forecasts (there is evidence to suggest this has been the case), then clearly the public sector bears some portion of the revenue risk. Consequently, by deferring the concession fee payment, the government may not be fully compensated for the granting of options over the project's cash flows (Brown 2005).

*Consequences*

One of the problems with MAE clauses is that they have the potential to transfer some of the cost of risk to the public in the form of a loss of flexibility or loss of 'option value'. This loss of option value occurs because MAE clauses commit governments to particular courses of action over the life of a PPP contract (around 30 years). Such long-term commitments can be detrimental to the public interest if necessary infrastructure provision is prevented (Hepburn et al. 1997).

Since 2005, there is evidence to suggest that there are fewer, less restrictive MAE clauses in toll-road contracts. As a result, the private sector is effectively assuming more of the downside traffic risk with governments sharing in excess toll revenue (Brown 2005).

Indeed, as confirmed in the second report on *The Cross City Tunnel and Public Private Partnerships*, the transfer of patronage and therefore revenue risk to the private sector was clearly demonstrated when the major equity investor devalued their holding in the Cross City Tunnel project by A$102 million, in view of lower

than projected toll revenue (Parliament of NSW 2006b). The net devaluation on the subsequent sale of the Cross City Tunnel was considerably more than A$102 million and was borne by the private sector with no loss to the taxpayer.

## Justification for PPPs

The decision to use PPPs is based on the principle that they provide greater 'value for money', or improved services for the same amount of money, as the public sector would spend to deliver a similar project (Grimsey and Lewis 2005).[12]

There are six key drivers that affect whether PPP projects represent value for money. These are risk transfer (the allocation of risk), the long-term nature of projects (including whole-of-life costing), the project specification, competition in bidding, performance measurement and incentives, and private sector management skills (Arthur Andersen and Enterprise LSE 2000; Grimsey and Lewis 2005).

In Australia, the Netherlands and the United Kingdom, an assessment is made by comparing outputs and costs of PPP proposals against the public sector comparator (PSC) in determining whether a PPP project offers value for money.[13]

The PSC estimates the hypothetical risk-adjusted cost if a project were to be financed, owned and implemented by government. In Australia and the United Kingdom, four core cost elements are considered in comparing the PSC and the PPP project in determining value for money. These are the project costs (capital and operating), value of risk to be transferred to the private sector, value of risk retained by the public sector, and competitive neutrality adjustments (removal of any net advantages or disadvantages that accrue to a government business by virtue of government ownership).

The PSC is calculated as the net present value of an estimated net cash flow based on a specified government discount rate over the required life of the project. The discount rate chosen is contentious because it depends on an analysis of the risks without any certainty of their likelihood and it can greatly affect the relative value of the PSC. For example, using a higher discount rate will favour the PPP project because PPP costs to the public partner are spread out over more time.

12 Value for money equates to the best available outcome after taking account of all the benefits, costs and risks over the whole life of the procurement.

13 Canada, France, Germany, New Zealand and the United States do not have established procedures such as the PSC approach when assessing value for money (Grimsey and Lewis 2005).

There is no clear consensus among economists, policymakers and practitioners about what the discount rate should be and whether it should be the same for each PPP project. Consequently, different methodologies have been used for valuing risk allocation and for discounting cash flows in Australia and the United Kingdom. For example, in the United Kingdom, the government has taken the approach that one discount rate should be used for all projects across the public sector. In contrast, some jurisdictions in Australia, notably New South Wales and Victoria, have advocated that a specific discount rate should be determined for each project (NSW Government 2007).[14]

Despite criticisms of the PSC approach, the value for money tests based on PPP–PSC comparisons have provided some information on the expected overall gains from PPPs.

- It has been reported that privately-financed projects in the United Kingdom delivered savings on average of around 17 per cent over traditional forms of service delivery. Projected savings are, however, sensitive to risk transfer valuations that accounted for 60 per cent of forecast cost savings (Arthur Andersen and Enterprise LSE 2000).
- For a selection of PPP projects in Victoria, the estimated savings using a 8.65 per cent nominal pre-tax discount rate have ranged from 28 per cent for a wastewater facility at Echuca–Rochester, to 5 per cent for the Spencer Street Station Redevelopment (Fitzgerald 2004).
- In New South Wales, the first contract under the New Schools project is estimated to save 7 per cent or A$10 million, compared to the traditional method of procurement, with the second contract estimated to save 23 per cent or A$45 million. The savings predominately come from the estimated cost of risk transferred to the private sector (NSW Auditor-General 2006).

However, these benefits might be over- or under-estimated. As noted by Grimsey and Lewis (2005):

> The PSC approach is itself not a 'first best' approach but a cost-effective compromise between a full cost–benefit analysis of all project options (as in Germany) and simply selecting the 'best' private bid (as in France) which at the same time ensures that all projects are treated in a like for like way and are subject to a broadly similar and systematic test for [value for money]. (p. 365)

The extent to which PPPs provide value for money is inconclusive as the actual outcomes under alternative arrangements is always unknown. Further, as noted by the Parliament of Victoria (2006):

14 A traditional discounted cash flow analysis might not be an adequate valuation method if there are embedded options in the contract (chapter 2).

> Judging whether value for money is being achieved through private financing of public infrastructure is difficult due to the lack of independent evaluation work undertaken to date in both the United Kingdom and Australia. The Committee concurs with the view of Fitzgerald and other commentators that this needs to be addressed. (p. 136)

## Management of the tendering process

It is essential that there is sufficient competition in the tendering process to ensure that the private sector provides the highest valuation for the contract (and is willing to accept the lowest price).

If there are a limited number of bidders, the competitive pressure will be weak. This can potentially undermine the principle that PPPs provide value for money, or improved services for the same amount of money, compared to the traditional procurement approach. However, the benefits of competition have to be weighed against the cost incurred by bidders in participating in the tendering process.

It was noted by the Parliament of Victoria (2006) that there is a lack of depth in the Australian construction market. There are a small number of large contractors with the financial and technical capability to undertake large and complex projects. The lack of depth was highlighted when two competing consortia for the EastLink project involved related companies which were competing against each other.

Only three consortia were short-listed for the development of the new A$850 million Royal Children's Hospital in Melbourne. However, PFI contracts in the United Kingdom averaged four bidders each. This was considered to be an optimal number to provide strong competition because it would be unlikely that the costs of encouraging and managing additional 'serious' bids would outweigh any benefits of additional competition (HM Treasury 2003a).

## Taxation and PPPs

Until recently, the potential issues concerning taxation and PPPs in Australia related principally to Section 51AD and Division 16D (the so-called leasing provisions) of the *Income Tax Assessment Act 1936* (Cwlth).[15] The aim of these provisions was to prevent tax-exempt entities (typically governments) from transferring tax benefits related to depreciation and other costs to private sector financiers.

15 In 1999, the Ralph Report (Review of Business Taxation) recommended that Section 51AD and 16D be abolished, as part of a package of reforms relating to tax-exempt leasing.

It has been claimed that these provisions were unique to Australia and acted as an impediment to private-sector investment in public infrastructure (BDW 2003). In effect, these provisions acted to deny taxation deductions where it was deemed that government had control of the assets or where the contractor was deemed to have assumed insufficient risk (box 8.4).

Box 8.4 **Taxation provisions and their impact on investment in PPP projects**

Section 51AD and Division 16D were specific 'anti-avoidance' provisions designed to protect the Australian Government's income tax revenue from certain arrangements involving the use of property by parties whose income is tax-exempt.

- Section 51AD applied to property acquired or constructed by a taxpayer, which was predominately financed by non-recourse debt. It denied taxpayer deductions for interest on borrowings, depreciation and investment allowances, with all income remaining taxable.
- Division 16D applied to non-leveraged arrangements and treated certain non-leveraged finance leases and similar arrangements with tax-exempt entities which do not predominantly involve non-recourse finance, as the provision of a loan. As such, depreciation and associated benefits of ownership of property were denied tax deductions.

In August 2007, the Australian Government introduced amendments to the *Income Tax Assessment Act 1936* (Cwlth) which modified the treatment of leasing and similar arrangements between taxpayers and tax-exempt entities (including foreign residents) for the financing and provision of infrastructure and other assets. Transactions entered into on or after 1 July 2007 are not subject to Section 51AD and Division 16D.

The amendments contained in Division 250 of the *Income Tax Assessment Act 1936* (Cwlth) will apply (broadly) to a taxpayer if tax preferred end users — such as tax-exempt entities (government and charities) and non-residents — directly or indirectly use, or effectively control the use of an asset. In addition, the taxpayer must not have the predominant economic interest.

This is the case if the following conditions are satisfied:

- more than 80 per cent (55 per cent for non-resident end users) of the cost of acquiring or constructing the asset is financed by limited recourse debt
- at the end of the arrangement, the asset may be transferred to a tax preferred end user at less than the market value of the asset

- the arrangement is effectively non-cancellable and the period of the arrangement is greater than 30 years or 75 per cent of the asset's remaining effective life (whichever is less) and either
  - the asset has a guaranteed residual value
  - the arrangement is a debt interest or
  - the value of the financial benefits provided in relation to the tax-preferred use of the asset exceeds 70 per cent of the adjustable value of the asset.

If Division 250 applies to an arrangement, private-sector investors in PPPs are not entitled to capital allowance deductions. However, the arrangement is treated as a deemed loan, with tax payable on a notional return calculated on a compounding accruals basis. Unlike section 51AD, Division 250 does not result in the taxpayer being assessed on the full amount of the financial benefits received. Further, the taxpayer is entitled to deduct interest payments (and other similar holding costs).

Prior to these amendments, the private sector faced expensive contractual structures to circumvent the restrictions of section 51AD. For example, non-recourse or limited recourse funds had to be replaced with sufficient equity, floating charge debt, or some form of purchased guarantee, to reduce the portion of non-recourse funding to less than 50 per cent of the financial backing of the project (Grimsey and Lewis 2002).[16]

Further, there is now less need for the private sector to approach the Australian Taxation Office (ATO) for a private binding ruling before building infrastructure. Advice will have to be sought just for situations where financing or pricing has to be confirmed or amended to ensure that no party generates a 'windfall gain' from the transaction (BDW, pers. comm., 18 January 2008).

## Sustainability of highly leveraged financing

From the beginning of 2000 until the global financial crisis in mid 2008, there were two prominent market conditions enabling increased leverage in project-financed investments. These were the soaring valuation of infrastructure assets and the availability of cheap credit.

The credit quality is perceived to deteriorate as the equity component of the capital structure diminishes with an uplift in project leverage. For some recent

16 The use of non-recourse debt restricts the default exposure of the acquiring owner or lessor to the income stream generated by the property or the value of the property in question. In contrast, all the assets and income of a borrower are at risk if floating charge debt is used.

infrastructure deals, the debt-to-EBITDA (earnings before interest, taxes, depreciation and amortisation) ratios reached a multiple of between 12 and 30 at transaction inception. As some industry participants noted, such gearing levels are far in excess of the norm for this type of investment (Bysouth 2005; Wilkins 2006).

The highly priced and leveraged deals in this period raised concerns about the possibility of an asset price bubble forming in the bourgeoning field of infrastructure investment (Bysouth 2005; Clowes 2007). These concerns are related to a deterioration of the credit quality of infrastructure funds:

> … the infrastructure sector is in danger of suffering from the dual curse of overvaluation and excessive leverage — the classic symptoms of an asset bubble similar to the dotcom era of the last decade. (Wilkins 2006, p. 1)

> … it appears there might be a pricing bubble forming within the infrastructure asset class, with investors seeking stable returns by investing in infrastructure funds. Those investors, however, could end up being exposed to overpriced and overleveraged assets, with valuations and debt driven upward by the fierce competition among infrastructure funds. (Wilkins 2006, p.6)

Adding to these concerns was the subprime mortgage financial crisis which began in the United States in 2007, and spread to global financial markets coming to a head in mid-2008. The view expressed by Parbrook (2007) of possible repercussions of this development including a tightening of market liquidity and a reassessment of risk appetite among investors has come to pass, but whether this will result in a new trend of 'deleveraging' in capital markets remains to be seen.

In addition, the prospective implementation of the revised Basel Capital Accord (Basel II), and any revisions stemming from the response to the financial crisis, could increase the cost of funds to banks that lend to project-financed investments because of the more stringent minimum capital requirements for project loans. This change in global banking regulation potentially restricts project financing activity because bank loans have accounted for up to 80 per cent of the debt finance for such investments (Esty and Sesia 2004).

## 8.3 Strengths and weaknesses

Public–private partnerships can support increased infrastructure investment without adding to government borrowing and debt.[17] They can, however, generate future liabilities in the form of expenditure commitments and contingent liabilities that should be recognised in government accounts. Less controversially, they bring

17 They can even be a source of government revenue when private operators sell services directly to the public, and pay the government a concession fee and/or share of the profits.

forward the delivery of infrastructure projects when governments face fiscal constraints that prevent the use of traditional government procurement methods.

It is also claimed that the bundling of PPP functions for major infrastructure projects can provide whole-of-life cost savings, and increase efficiency by delivering services of a higher quality or at a lower cost (Grimsey and Lewis 2007; IMF 2004b). The main efficiency gains arise where the contract arrangements allocate risk to where it is best managed (chapter 10).

A number of studies have found that PPPs are more likely to deliver projects on time and within the contract price compared to traditionally procured projects. It has also been claimed that the use of project finance creates an incentive to ensure PPP projects are delivered on time when cash flow generated by a project is the main source for repaying debt (Grimsey and Lewis 2005).

In a recent study undertaken for Infrastructure Partnerships Australia, it was estimated that PPP projects would generate around A$6 billion in potential savings over the next decade compared to traditionally procured projects. Underlying this estimate is the assumption that PPPs account for a 10 to 15 per cent market share of public investment in infrastructure (ACG 2007).

## Cost effectiveness

One of the key strengths of a PPP arrangement is that functions including design, construction, financing, operating and maintenance of the asset in question are usually bundled together. This provides opportunities to align incentives for low cost construction with minimising life-time costs of operation, thereby reducing whole-of-life costs.

It is claimed that the bundling of these activities provides value for money that cannot be obtained by contracting services individually under a traditional procurement approach. In contrast, capital-constrained governments can lower construction costs of a publicly financed project at the expense of much higher long-term costs of maintenance and operation (Webb and Pulle 2002).

From a review of eight PPP projects in Victoria, Fitzgerald (2004) concluded that there was credible evidence of the benefits that flow from PPPs including innovation of design, timeliness of delivery, certainty of price and a whole-of-life approach to maintenance.

*Optimism bias*

Both public- and private-sector projects have the potential to suffer from optimism bias. That is, project appraisers have a tendency to underestimate project costs and duration or overestimate project benefits. The private sector has arguably a stronger incentive than a government agency to correctly identify the whole-of-life costs of construction and operation, and the likely revenue stream, if project risk is transferred to the private sector.

In July 2002, the *Review of Large Public Procurement in the UK* was undertaken for HM Treasury (MacDonald 2002). The study identified high levels of optimism as one of the principle causes of poor performance of the UK public-sector construction projects.[18]

It was concluded that the performance of projects procured using PPPs was much better, due in part to the more rigorous approach to risk analysis and the establishment of a robust and realistic business case. Generally, the PPP projects were completed ahead of schedule (whereas 17 per cent of traditionally procured projects were delayed). Moreover, these PPP projects experienced 1 per cent cost overrun on average (relative to an average cost overrun of 47 per cent for traditionally procured projects).

The findings from a study undertaken by the UK National Audit Office of PFI construction performance provide further evidence that PPP projects can be a more cost-effective option:

- 73 per cent of government projects were not delivered within the contract price compared to just 22 per cent for PPP projects
- 70 per cent of government projects were delivered behind schedule compared to just 24 per cent for PPP projects (NAO 2003).

In Australia, the Allen Consulting Group and researchers at the University of Melbourne recently completed a study comparing the performance of PPPs and traditionally procured projects at the behest of Infrastructure Partnerships Australia (ACG 2007).

Based on a sample of 21 PPPs and 33 traditionally procured projects, they found that traditional projects were subject to significant optimism bias in cost and time overruns:

18 Optimism bias is defined as a measure of the extent to which actual project costs (capital and operating) and duration (time from business case to benefit delivery (project duration) and time from contract award to benefit delivery (works duration)) exceed those estimated.

- cost overruns measured from contractual commitment to project completion, were 1.2 per cent for PPPs compared with 14.8 per cent for traditionally procured projects
- on a value-weighted basis, measured from contractual commitment to project completion, PPPs were found to be completed 3.4 per cent ahead of time on average, while traditionally procured projects were completed 23.5 per cent behind time on average.

The Cross City Tunnel PPP project is one example of optimism bias in the private sector. Traffic patronage was overestimated by the winning tenderer and revenue was subsequently lower than anticipated. As a consequence, the private operator became insolvent as it was unable to meet its interest repayments. The Cross City Tunnel was acquired in September 2007 by ABN-AMRO and Leighton Contractors Consortium who will assume day-to-day management and maintenance responsibility under a PPP arrangement with the NSW Government.

The problem with optimism bias is that it can lead to inefficient investment decisions – that investments go ahead which do not meet the required performance benchmarks. While the data also suggest that PPP projects are more efficient during the construction phase than traditional procurement, care is needed in applying this interpretation as a like with like comparison is not possible. It could be that the private partner is simply more realistic in the costing and timing estimates than the public sponsor.

## Capital market disciplines

Project financing imposes financial and managerial disciplines on the private sector. It is claimed that the private sector has a stronger incentive to make the right commercial design, construction and maintenance decisions when they are required to finance a PPP project and their capital is deployed at risk.

In non-recourse or limited recourse project finance, the risks for the lender are higher — the loan can only be repaid when the project is operational. If a major part of the project fails, the lenders are likely to lose a substantial amount of money. Consequently, lenders have an incentive to minimise the risks associated with the project and usually seek indirect credit supports in the form of guarantees, warranties and other covenants from the private-sector sponsors, their affiliates and other third parties involved with the project.

The lender and also equity providers have incentives to make sure that PPP projects are supplied on time and to the required standard when the generated revenue stream is the main source for repaying debt. In effect, having privately provided

finance at risk acts as a catalyst for superior management to that under government financed projects (Grimsey and Lewis 2005).

As noted by the Victorian Government (DTF 2007c):

> The importance of the finance element of privately provided infrastructure lies in the incentive it can provide for the performance of that infrastructure, and the disciplines external financiers can provide on the delivery of projects to time and budget. While the key objective of government is to achieve a more comprehensive upfront consideration of risks in conventionally financed projects, it is difficult to replicate the strength of private financing incentives within a conventional financing process where all risks of delivery reside with Government. (p. 3)

## Contractual complexity

Project financing is extremely complex. It can take a much longer period of time to structure, negotiate and document project financing than traditional financing, and the legal fees and related costs associated with project finance can be high. The risks assumed by lenders can be greater in non-recourse project financing than in more traditional financing. Consequently, the cost of capital can be higher than traditional financing.

Structuring PPPs is also complex and involves high upfront costs because there is a need to reconcile the aims of a large number of parties involved. On the public-sector side there are public authorities creating and implementing PPP policies, as well as those procuring the PPP. On the private-sector side, there are investors, lenders and companies providing construction and operational services. Most of these parties require an understanding of policy and finance issues and how their part of the project is linked to and affected by the roles played by other parties (Yescombe 2007).

### *Information asymmetry*

The long-term nature of PPP contracts can exacerbate the principal–agent problem commonly referred to as information asymmetry (chapter 2). This problem occurs where the agent who controls a business has access to more information than the principal who owns it. This asymmetry of information can be used to give the agent an unreasonably large share of the benefits of a business (Yescombe 2007).

The agent, in this case the private-sector sponsor, can have more information about project costs, risks and legal solutions than the public sector agency awarding the contract. Consequently, the private-sector sponsor has the scope to inflate the investment costs when competition is limited. This can lead to higher tariffs to

users, higher operating subsidies if required, and a higher potential exposure of the public sector to contingent or direct liabilities.

A PPP contract, however, has the potential to overcome or militate against the increased costs derived from asymmetric information between the contractual parties, provided that:

- at the contract invitation and bidding stages, the private-sector sponsors are required to reveal such characteristics as their management experience as well as alternative approaches to implement a project including the costs and effects associated with each approach (Kee and Forrer 2002)
- the risk transferred to the private-sector sponsors triggers incentives for efficient financing and operation of the PPP project (Kee and Forrer 2002)
- the contract sets out performance measures that can be used to reward or penalise the private-sector sponsor
- the public sector establishes an enforcement structure that ensures contract compliance by the private-sector sponsors (Nordtveit 2005).

In addition, governments should put in place measures to address the consequences of asymmetric information. These include comprehensive auditing of the financial model used to derive projections of the operator's costs and rate of return, in-depth review of the operator's funding arrangements, and regular reporting of ongoing and future payments by government under the contract.

## Transaction costs

Transaction costs include contracting and negotiating costs, the cost of arranging finance, as well as (after the formal contract agreement) monitoring, renegotiating and termination costs. These costs can be borne by the government or the private sector, or both and raise the cost of this financing vehicle. These costs are eventually borne either by taxpayers or reflected in user charges.

The downside of PPPs from the government's perspective is that they involve high transaction costs associated with:

- contractual development (legal and financial)
- longer contract development time (which can be up to two years or even longer)
- tendering (which requires extra legal and commercial scrutiny to be applied in the bidding stages, particularly in relation to the need to consider potential issues over the long term).

### *Notional thresholds*

In order to justify the high transaction costs, some States in Australia only consider infrastructure projects of a certain minimum value as likely candidates for PPPs.

- The Australian Government's notional threshold is A$100 million (Department of Finance and Deregulation, pers. comm., 31 January 2008).
- The NSW Government's notional threshold is A$50 million, which could apply to the bundling of a small number of similar projects, or a regional infrastructure management package.
- The Victorian Government's notional capital cost threshold is between A$50 and A$100 million. However, the Government would consider smaller projects for PPP procurement if deemed suitable (Department of Treasury and Finance, pers. comm., 1 February 2008).
- Queensland's notional threshold is A$100 million.

In the United Kingdom similar experience has shown that the PFI procurement route is inappropriate for individually procured projects with capital expenditure under £20 million because of the relatively high procurement costs (HM Treasury 2006b).

Importantly, the PFI is regarded as unsuitable for those projects where there are rapid technological or other changes which make it difficult for both procuring authorities and bidders to confidently predict the service delivery requirements and to include sufficient contractual flexibility at a reasonable price (HM Treasury 2006b).

### *Size of transaction costs*

For all PFI projects that had a capital value over £20 million and closed between 2004 and 2006, the contract development time lasted 34 months on average. The average time for schools, hospitals and other projects was 25, 38 and 47 months respectively. The shortest overall tendering period was 16 months and the longest 73 months (NAO 2007).

Significant amounts of money are expended in developing project proposals, tendering for projects, and negotiating complex legal and financial structures. For example, it is claimed that the successful sponsors for the Melbourne CityLink project (a A$1.8 billion contract) spent A$28 million, or around 1.6 per cent of the contract price, tendering for the project prior to the financial close. Similarly, tendering for the Eastlink project (a A$2.5 billion contract) is claimed to have cost A$30 million or 1.2 per cent of the contract price (Parliament of Victoria 2006).

A report by Butler and Stewart (1996) also found the total cost of tendering for a PFI project to all potential contractors to be just under 3 per cent of expected total costs. In comparison, the total tendering costs accounted for just under 1 per cent of expected total costs under traditional procurement.

The UK Audit Commission estimated that the bidding costs associated with PFI education projects for both the public and private sectors accounted for between 5 and 15 per cent of the capital cost of the projects — with an average at around 7 per cent (Ball and King 2006).

The government also incurs substantial costs in determining a project's feasibility as a PPP, managing the tendering process, and negotiating the legal and financial structures that govern the PPP. Further, the government has significant ongoing monitoring and contract management costs.

These significant costs ultimately mean that PPPs will rarely be appropriate for small-scale projects. In Australia, these costs have been reduced in recent times with the development of more streamlined contract documentation and tender processes.

## Higher direct cost of financing

One concern about PPP projects is that they might not provide value for money because government-issued debt is cheaper than that raised by the private sector, making private financing and development more expensive for taxpayers (Pollock, Shaoul and Vickers 2002; Walker and Walker 2000). This claim is based on the government's higher credit rating, which in turn is based, in large part, on its power to tax, which reduces the likelihood that it will default on its debt.

However, apart from this private finance risk premium, there are other factors affecting the total cost of financing using PPPs that must be considered when choosing the appropriate financing vehicle.

Pierce and Little (2002) claim that:

> … when it comes to raising finance for a project, it is the risk of the individual project that determines the real cost of finance. The difference between the private and the public sectors is that private-sector capital markets explicitly price in the risks of a project into the sources of finances. In the public sector, taxpayers implicitly subsidise the cost of the project by bearing the risk of cost overruns, time delays or performance failures, which are not priced into the government's borrowing rate. (p. 1)

Moreover, it is claimed that as the private infrastructure market has grown, and financing vehicles have become more sophisticated, the difference in the cost of

financing between the public and private sector has narrowed (Deloitte Research 2007). For example, with the maturing of the private finance market in the United Kingdom, the financing cost difference between the private and public sectors is now in the range of 2 to 3 percentage points (Yescombe 2007). Consequently, the key issue is whether PPP projects result in efficiency gains that more than offset the higher rate of return required in private-sector financing.

For a PPP project, the direct cost of finance is the combined cost of its debt and its equity, taking account of the debt-to-equity ratio. The direct cost of PPP finance, the weighted cost of equity and debt finance, can be reduced by increasing debt leverage, given the relatively lower cost (and risk) of debt to that of equity to the lender.

As noted in a Credit Suisse (2006) report on PPP valuation, some investors have employed aggressive financial leverage techniques to maximise their returns on equity. These techniques are typically aimed at reducing and deferring equity injections by increasing and prolonging debt leverage. To defer equity injections, debt maturities have been extended so that private-sector sponsors can 'deleverage' at a later time over the term of the concession. As a consequence, increased leverage has come at a price of lower credit quality in private-sector debt financing.

A review of prevailing capital market conditions at that time was is instructive in illustrating why the deterioration in credit quality of securities has not led to substantive increases in the cost of debt as would have been expected:

> In the past few years, the investment grade market has witnessed an extraordinary compression between higher rated and lower rated assets as cash-rich investors have searched for higher absolute yields. Lower interest rates and an extremely tight and stable spread environment have combined to lower borrowing costs, leaving many investors with no choice but to take on additional risk through investing in lower credit quality assets. (Credit Suisse 2006, p. 46)

The experiences of the 2008 financial crisis have demonstrated that such misalignment of pricing and credit quality is not sustainable, and adjustment will occur eventually.

The *actual* cost of finance is usually unknown for ongoing projects. The actual rate of return on equity cannot be ascertained without data on realised profits or losses. Where the bond rate or loan rate is tied to a variable interest rate such as a LIBOR (London Interbank Offered Rate), the cost of debt fluctuates from time to time and relative to the rate of government borrowing.

The higher cost of financing for PPPs relative to government-issued debt has prompted suggestions for alternative financing arrangements:

- Leigland and Thomas (1999) considered municipal bonds a more efficient financing option than PPPs for countries with a low level of public debt, access to well-developed capital markets, and a public sector endowed with project management skills.
- Trujillo et al. (1997) noted that additional efficiency gains can be derived from standard PPP arrangements by unbundling financing from other project responsibilities such as construction, management and operations. The proposed financing scheme involved setting up a SPV sponsored by government on behalf of infrastructure users or taxpayers to hold equity and debt contributions from the government, and borrow from the capital market. Under this approach, the government can retain the project via its direct involvement in financing.

## Reduced public accountability

Most economic infrastructure PPPs are not recorded on the government's balance sheet. In effect, these off balance sheet arrangements could result in the failure to provide key financial information to capital markets or anyone concerned with monitoring the financial performance of governments, including taxpayers. In such cases, accountability to the Parliament and the public is reduced.[19]

Government contracts with the private sector are subject to a number of policies and statutory Acts that specify conditions for release of information. Contract summaries are the principal vehicle for the public to receive information relating to PPPs.

However, specific types of information are excluded, such as:

- commercial-in-confidence material, including the private entity's cost structure or profit margins
- matters relating to intellectual property and trade secrets
- matters that could potentially place the private-sector sponsor at a commercial disadvantage with competitors in bidding for future projects.

As noted by the Parliament of Victoria (2006):

> The use of commercial in confidence reasons by government to limit public and parliamentary access to key information on major PPP contracts has diminished the accountability of government to the Parliament for substantial state expenditure.

19 The Australian Loan Council requires all States and Territories to disclose their full contingent exposure to privately financed projects. Exposure is to be measured by the government's termination liabilities in a case of private-sector default and disclosed as a footnote to, rather than a component of Loan Council Allocations in the Budget Papers.

> Public confidence in PPPs depends on a strong transparency and accountability framework. The Committee considers that the Auditor-General has a major and ongoing role in informing Parliament and the community on the effectiveness of PPPs in Victoria. (p. 16)

An inquiry into PPPs by the Public Accounts Committee of the NSW Parliament recommended that, in addition to contract summaries, all contracts relating to PPPs be available in their entirety to the public in due course. Further, details of significant variations by either side to the contracts should also be made available (Parliament of NSW 2006a).

In response to criticisms that commercial-in-confidence exemptions have been used to limit public disclosure of PPP contracts, the NSW Government enacted the *Freedom of Information Amendment (Open Government – Disclosure of Contracts) Act 2006*. This Act establishes mandatory public disclosure requirements for major contracts with the private sector and is intended to improve public accountability.

The Act includes a new commercial-in-confidence definition that limits the scope for exemptions and clarifies the obligations of government agencies. Accordingly, items not to be disclosed in contract summaries include:

- the contractor's financing arrangements
- the contractor's cost structure or profit margins
- the contractor's full base-case financial model
- any intellectual property in which the contractor has an interest
- any matter the disclosure of which would place the contractor at a substantial commercial disadvantage in relation to other contractors or potential contractors, whether at present or in the future.

Further, the Act requires any material variation to a contract that affects disclosure requirements to be published within 60 days after the variation becomes effective. It formalises disclosure requirements set out in Ministerial Memorandum M2007-01, *Public Disclosure of Information arising from NSW Government Tenders and Contracts*, and the *Working with Government: Guidelines for Privately Financed Projects* (December 2006).

In the United Kingdom, the Government has introduced a number of reforms to improve the transparency and accountability of PFIs, including published estimates of future payments for each PFI, and the capital value of contracts signed to date and in the process of being procured (HM Treasury 2007).

## Overall assessment

PPPs are increasing being used as a financing vehicle for both economic and social infrastructure. They work best where government has considerable skill in contract negotiation and management, and where there is sufficient competition for the projects.

*Risk management* — The potential to lower total costs through alignment of incentives to manage project risks with capacity to do so is considerable. The bundling of design, construction and operation combined with financial penalties for poor risk management through lower user charges and fixed payments for services create the right incentives for productive efficiency. However, the incentive effect depends on the government not assuming contingent liabilities associated with risks better managed by the private partner.

*Transaction costs* — The costs of tendering and negotiating contracts can be considerable – with tendering costs alone estimated at up to 3 per cent of the project cost. The often long tendering and contract negotiation period can also delay projects imposing costs.

*Market and other disciplines* — Private partners have an incentive to develop a realistic financial model that takes into account all costs and revenue flows. The quality of this information is likely to be superior to that of the public sector agency, where the private partner has experience in the area. This should result in greater allocative efficiency as the design should be targeted to meet needs at lowest cost. However, where the government underwrites the revenue for user charges, or is the funder through payments for services, such disciplines may be eroded. Hence while PPPs may assist in improving investment efficiency they are no guarantee that the investments are optimal. Indeed, the potential for PPPs to be seen as not adding to government debt (or future funding obligations) may reduce the scrutiny applied to the investment.