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Risk Management in Public Private Partnerships



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Abstract

Public Private Partnerships (PPPs) are arrangements wherein private parties participate in, or provide support for, the provision of infrastructure, and a PPP project results in a contract for a private entity to deliver public infrastructure-based services. A fundamental feature is that the government does not own the infrastructure but, rather, contracts to buy infrastructure and related ancillary services from the private sector over time.

A common misconception about PPP projects is that they are principally about private sector financing of public infrastructure. This is not strictly correct. Financing is only one element of the calculation. The very essence of a PPP is that the public sector does not primarily buy an asset; it is purchasing a service under specified terms and conditions. This feature provides the key to the viability (or not) of the transaction.

A PPP is at base a risk-sharing relationship, in this case to bring about certain desired public policy outcomes. Any project needs to be structured to achieve optimal risk allocation. Value for money is a key facet of the policy and if sufficient risk cannot be transferred to private parties, it is unlikely that a PPP will deliver value for money. At the same time, unloading inappropriate forms of risk merely adds unnecessary cost to a PPP agreement. Only 'efficient' levels of risk should be transferred. Risk management - identification, assessment, allocation and mitigation of risks - is central to determining the success of the project and achieving value for money.

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Risk Management in Public Private Partnerships

What is a partnership?

Last year there was a radio report of a prison disturbance in England. The prisoners complained about the behaviour of warders. Nothing unusual in that, you may say, except in this case the inmates objected to the warders being "too nice". Warders used first names, ate with inmates in the canteen, and couldn't be figures of hate. It was a private prison - a development in itself as unthinkable as this media report not so many years ago.¹

A private prison is one illustration of a public private partnership (PPP). Other examples come from toll roads, light rail systems, bridges, tunnels, waste water treatment, hospitals, courts, museums, schools, government accommodation.

These examples probably make clear what I have in mind by a PPP. But, since any relationship involving some combination of the private, voluntary and public sectors is prone to be labelled a 'partnership', it may be useful to clarify what is meant by a partnership in this context, and the relationships involved.

Length. First, the service provision needs to be long-term and relational. A short-term contract for the provision of a good or service is presumably not a partnership - otherwise a partnership would be created every time a public sector organisation orders a round of sandwiches for lunch from a private caterer.

Trust. The partnership is a high-trust relationship. Underpinning the partnership will be a framework contract which sets out the 'rules of the game' and provides the partners with some certainty. While this PPP contract provides the basic architecture of the arrangement, it does not (and cannot) specify all components and allow for all outcomes. A PPP has to be built on trust, like all successful partnerships.

Risk. A PPP is at base a risk-sharing relationship, in this case to bring about certain desired policy outcomes. The notion of risk-sharing implies that both sides to the agreement have something to lose if the partnership underperforms.

Type. While some partnerships are created for the purpose of policy formulation, priority setting, and coordinating organisations from the various sectors (eg crime prevention strategies, educational action), our concern is with asset-based services and long-term service provision contracts related to infrastructure.

Accordingly, for our purpose, PPPs can be defined as agreements where public sector bodies enter into long-term contractual agreements with private sector entities for the construction or management of public sector infrastructure facilities by the private sector entity, or the provision of services (using infrastructure facilities) by the private sector entity to the community on behalf of a public sector entity. But what is infrastructure?

What is infrastructure?

Infrastructure is easier to recognize than define. Investment in infrastructure is thought to provide “basic services to industry and households”, “key inputs into the economy”, and “a crucial input to economic activity and growth”, although what is “basic”, “key” and “crucial” varies from country to country and from one time to another.² For example, steel production was once regarded as essential infrastructure in many countries. In fact, there is nothing inevitable or natural about the current level of publicly provided provision. One hundred years ago, public spending (services and business undertakings) in Britain was 8 per cent of GDP - the same as in Australia in that year of its Federation. Income tax in Britain was the equivalent of 3p in the pound.

The litmus test used to be that infrastructure had to be provided by government-owned enterprises (the predominant approach in Europe) or by privately owned utilities subject to rate of return regulation (the approach in much of the United States). This conviction derived from a number of inherent features, such as the existence of:

- Network services, providing integrative activities which bind economic activity together;
- Public goods, from which it is difficult (and perhaps not desirable) to exclude non-payers (the non-excludability principle);
- Externalities, whereby benefits and costs are conferred upon those not a party to the transaction (eg spillovers);
- Natural monopolies, for which scale economies make it efficient to have only one provider (for example, of an electricity grid).

The trend away from public to private provision of infrastructure has been underpinned by a marked change in thinking and practice on these matters. There has been the perception, for example, that a move from ‘taxpayer pays’ to ‘user pays’ (ie from ability-to-pay to the benefit principle) in the provision of infrastructure services (water, power) is likely to be associated with a better economic use of the services. Many industries considered to be natural monopolies, eg electricity generation and telecommunications, have been broken up geographically into different regional firms or, with deregulation, separated into competitive (or potentially competitive) sectors vis-à-vis those sectors that remain natural monopolies (the distinction between power supply and high-voltage transmission, and between railway operation and rail track services). In those activities which have natural monopoly characteristics, substitution of price-cap regulation for rate-of-return regulation (ie fixing of maximum prices rather than the mark up over costs) has created strong incentives to reduce costs, while third party access to certain facilities that are not economic to duplicate has widened competition in the upstream and downstream markets served by the facilities. All of this has laid the groundwork for PPP arrangements.³

PPP arrangements

Partnerships for infrastructure have been initiated in Australia, Britain, Canada, France, Greece, Ireland, Italy, Japan, Netherlands and South Africa. Now the techniques have been adapted to promote investment both in local government services and in infrastructure projects more generally elsewhere. Also, partnerships have been extended to joint ventures for regional regeneration projects, and partnerships for decision-making and participation by

the voluntary sector. A recent US study identified six different meanings of partnership, covering technology, power, transportation, environmental policy, education, health, welfare, prisons, law enforcement and community activities.⁴

In the case of infrastructure projects, ‘infrastructure financing’ and ‘infrastructure investment’ need to be distinguished. The former can arise from the privatisation of existing facilities, whereas infrastructure investment involves the development, operation and ownership either by the private sector alone or in a joint venture between government and the private sector entity. The distinction is analogous to buying an existing office block, already fully let, as opposed to developing a new site – the financing requirements and risks are obviously quite different in the two cases.

PPPs can take many forms and may incorporate some or all of the following features:

- The public sector entity transfers facilities controlled by it to the private sector entity (with or without payment in return) usually for the term of the arrangement;
- The private sector entity builds, extends or renovates a facility;
- The public sector entity specifies the operating features of the facility;
- Services are provided by the private sector entity using the facility for a defined period of time (usually with restrictions on operations and pricing); and
- The private sector entity agrees to transfer the facility to the public sector (with or without payment) at the end of a build-operate-transfer (BOT) arrangement, while with a BOO (build-own-operate) project, the private sector entity finances, builds, owns and operates an infrastructure facility effectively in perpetuity.

When should PPPs be used?

Under what circumstances should governments invite private sector entities to enter into long-term contractual agreements for the financing, design, construction and/or operation of capital intensive projects? Whether or not a service should be delivered by means of a PPP project depends on the answer to three key questions:

- 1 which (if any) part or parts of the proposed service is a service which government itself should deliver to its citizens? (the core services question);
- 2 for all other aspects of the service and supporting physical infrastructure, what is the project model that delivers the best value for money? (the value for money question); and
- 3 do the outcomes of the value for money question satisfy the public interest criteria articulated in the policy and if not, can the public interest be satisfied by either building safeguards into the contract or through regulatory measures? (the public interest question).

The combined response to the three central questions - core services, value for money and public interest - determines the underlying model for the project.⁵ Obviously if the whole service is considered to be core, there will be no scope for a PPP arrangement. Nevertheless, one merit of a partnerships agenda is to determine the point at which the core ends and

ancillary services begin. Not all public services provided to the community are necessarily core in the sense that government needs to provide these services itself. Moreover, core services are usually delivered in a context which does not preclude participation by private parties. The services performed by doctors and nurses within public hospitals, teachers within government educational facilities and judges within courts are widely regarded as ones which it is a function of government to provide. However, there is no reason, in principle, why supporting infrastructure and ancillary services within those service areas cannot be delivered by the private sector.

In this respect, PPPs can allow for a range of roles for the parties and in a hierarchy from a maximum to minimum retention of service delivery by government, the various models are broadly as follows:

- Public sector delivery of services (considered to be 'core' public services) with private entities providing infrastructure-related services only (for example, a public hospital);
- Public sector delivery of core services with private parties providing infrastructure-related and ancillary services (for example, a courthouse or school);
- Public sector delivery of core services with private parties providing infrastructure and related ancillary services, together with some services to the community (for example, a sporting facility); and
- Private sector delivery of a full range of services to the community inclusive of infrastructure (for example, some transport projects).

Table 1: Range of partnership models

	Role of the private sector increasing			
Private party role	Infrastructure services only	Infrastructure and ancillary services	Infrastructure and partial private-to-public service delivery	Infrastructure and service delivery to users
Government role	All public-to-public services	Delivery of core public services	Delivery of core public services	No operational role
Example	Public buildings	Non-core hospital services, non-judicial court services	Community facilities linked to educational facilities (eg after-hours usage)	Rail, roads, port facilities, car parks

Table 1 summarizes the range of service delivery models available. In addition, because of their flexibility, PPPs can also cover a range of commercial scenarios, varying from:

- 1 an arrangement where demand is effectively controlled by government and the costs of service delivery are substantially or fully funded by government (for example, non-judicial court services); to
- 2 an arrangement where government has little control over demand and shares the costs of service provision with users (for example, public transport services); to
- 3 an arrangement where government has no control over demand, costs of service delivery are fully funded by users and government's role is limited to providing some supporting infrastructure (for example, land) or project facilitation in areas such as planning. A port project may be an example of this model.

In structuring the most appropriate approach, the focus should be on the output specifications, the public interest, the capabilities of both government and the private sector, the optimal risk allocation environment and commercial viability. The objective remains one of achieving effective and efficient value for money outlay.

'Related ancillary services', in this context, encompasses a number of operational services including information technology services, accommodation services arising out of the infrastructure, building related services such as maintenance and some support services. Notably, in all cases, whether involving the construction of a hospital, road, courthouse, school or sporting facility, land and property is required for the delivery of the PPP service. In short, a property asset is usually a physical prerequisite to the carrying out of the service. Also, in the case of many projects that involve an element of surplus land, property disposal or development may play a vital role in establishing affordability and value for money.

It may seem that, from a property point of view, the analysis of a PPP project involves many of the same principles as a joint venture/development arrangement in an open commercial environment. Perhaps the main difference between the PPP and the various property-based public/private joint ventures which have preceded it lies in the fact that the PPP is endeavoring to encourage participants to view the arrangements as the delivery of a service. This contrasts with the more traditional institution-led view of regarding the assets *per se* as having intrinsic value. When a government department or agency enters into a long-term contract for infrastructure and related ancillary services to be delivered when and as required, senior management is freed from the everyday issues of infrastructure ownership and management and the delivery of related ancillary services. Management's focus on service delivery is not distracted by construction time and cost overruns, maintenance needs, infrastructure not quite fit for purpose, and staff and client unrest that could be resolved by a refurbishment if only funds were available. This leads into the issue of finance.

Fiscal imperatives

Governments frequently have been motivated into entering into PPP arrangements by the desire to reduce debt (and contain taxation), while facing pressure to improve and expand public facilities. However, the argument that PPPs are the only way of delivering the public infrastructure (and the services) that the community wants is as exaggerated as is the view that the use of private finance for capital investment projects can never be good value for money as the public sector can always borrow funds more cheaply than the private.

Consider, first, the argument that PPPs have allowed investment to take place that otherwise could not have been afforded. This may well be the case from the point of view of an individual public sector entity. But it may not hold up overall, for PPPs still draw on public funds. What differs is that the public payments are made over a very different time frame. When infrastructure is provided under a PPP, the government does not own the asset but, instead, enters into a contract to purchase infrastructure and related ancillary services over time from the private sector. These operating payments must cover operating costs as well as giving a return on capital. Therefore a project delivered under a partnerships approach will have a similar (although not identical) effect on the Government's annual operating surplus to that if the asset was publicly funded.

Figure 1: Comparison of Public Funding and Partnerships on Cash Flows

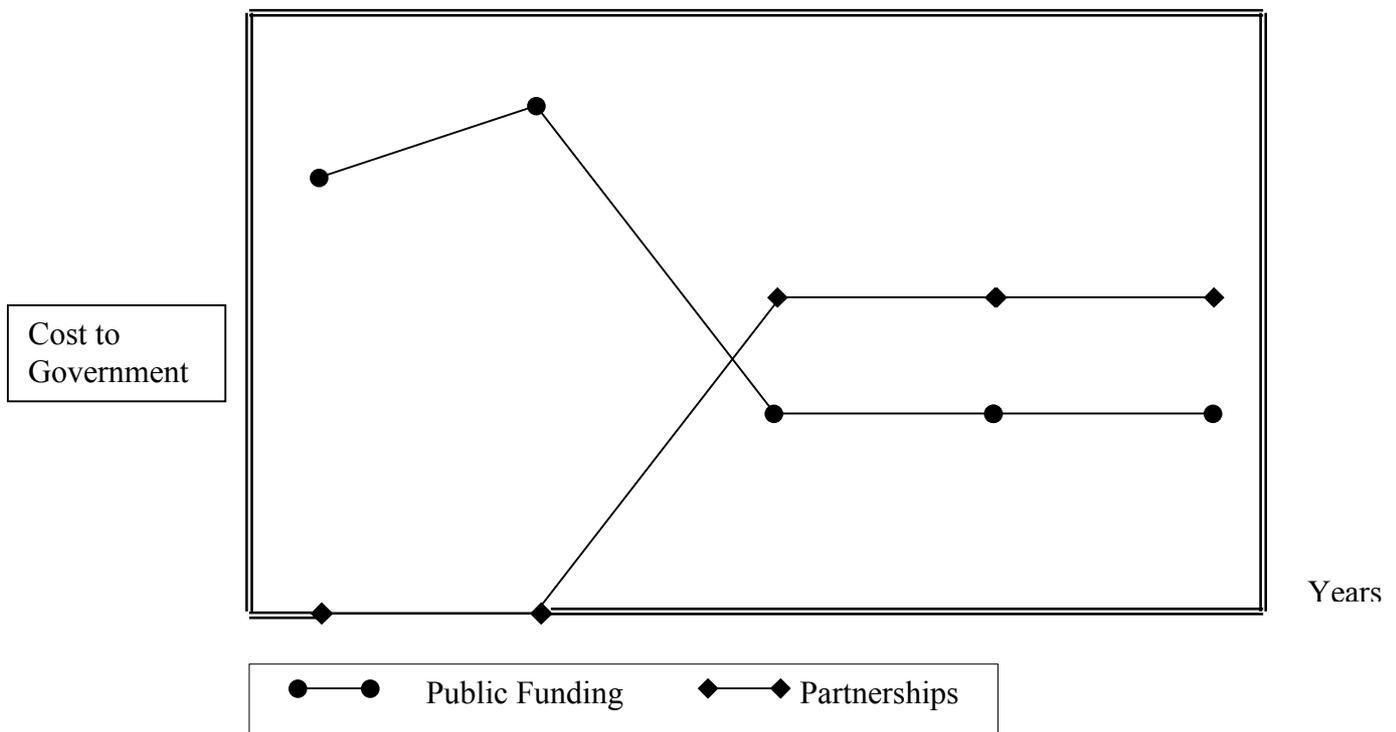


Figure 1 illustrates the cash flow differences between public funding and a PPP project. From the public sector side, PPPs require little or no upfront capital expenditure but involve a larger operating expenditure over time to purchase the services. By contrast, the public asset approach requires a large upfront capital funding commitment and relatively lower operating expenditure over time. Thus, the PPP route may on these grounds hold some attractions to a government with a backlog of infrastructure projects and facing an uncertain fiscal climate. But the major merit is in terms of the predictability of costs and funding. A PPP ensures that whole-of-life costing and budgeting are considered, providing infrastructure and related ancillary services to specification for a significant period, and including any growth or upgrade requirements. This provides budgetary predictability over the life of the infrastructure and reduces the risks of funds being diverted (for example, away from scheduled refurbishment) during the life of the project, impacting upon residual value risk to the asset.

Another important consideration is the leverage derived from payment by government beginning only when output specifications are achieved - in practical terms, when commissioning tests are passed. Governments must have access to facilities or services, and payment is conditional on the private party achieving key performance indicators and may be interrupted or abated in the event of failure to deliver.

These comparisons have overlooked differential financing costs? What of the view that public sector finance is always cheaper than that obtained by private sector borrowers, and thus PPPs cannot be good value for money? The first thing to be said is that the lower government financing cost argument ignores the fact that public debt is not riskless. For central government debt there is the risk that debt can be monetized, while at the regional level of government there is the risk of adverse economic performance. In effect, governments enjoy lower risk as they can resort to general and 'inflation' taxation to avoid bankruptcy. The private sector is, however, exposed to this 'taxation risk', an externality ignored in risk evaluation, but which needs to be built into social risk calculations. Thus conventional public financing of investment projects (as reflected in the discount rate for public sector comparators) needs to take account of the indirect costs that arise from higher public borrowing in the form of possible adverse macroeconomic outcomes and externalities.⁶

The corollary is that the higher credit rating of governments and hence their lower borrowing rates are really irrelevant to the choice between public and private ownership and that, subject to three conditions, the cost of capital should be assumed to be the same for both the public and private sectors. These conditions are:

- 1 that the risks associated with the specific project (variance in returns) are mainly 'commercial' rather than policy-related in character;
- 2 that the private capital market is reasonably efficient; and
- 3 that private sector financing transaction costs (being on a smaller scale) are not overwhelmingly large relative to those usually incurred by the public sector.

These three conditions probably do hold for many new infrastructure projects so that, provided the rewards match the risk, private ownership should not entail any extra capital cost (and indeed if the private sector is more efficient at project design and managing the capital, the capital cost would be lower).

The more important point, however, is that both arguments ignore the fact that financing is only one element of the calculation. The very essence of a PPP is that the public sector does not just buy an asset; it is purchasing a service under specified terms and conditions. This feature provides the key to the viability (or not) of the transaction.

Risk-sharing

Traditionally, infrastructure procurement has been viewed as asset procurement; decisions relating to the provision, production, and financing of assets as well as the operation and maintenance of the services were undertaken by the public sector. Assets were procured from private sector contractors the responsibilities of which were limited to the construction of the asset, and the risks associated with the operation of the facility remained with the public sector. With a PPP, the emphasis is upon the purchase of services not the procurement

of an asset. Under the PPP contract, the government pays for services provided to it by the private sector over time. These services are delivered utilising the new infrastructure built by the private sector entities as part of the service arrangement.

In theory, the conception of risk allocation as a result of this emphasis on service purchase and delivery is straight-forward. The government frees itself entirely from asset-based risk (including design, construction, operation and residual value risk), and becomes the purchaser of a product that is risk-free in the sense that government does not pay if the service is not delivered or not delivered to the specified standards. That is, the public sector is purchasing the long-term provision of a service of a guaranteed standard, as well as the security that if the service is not provided at the right time or to a satisfactory quality then reduced payments are made or compensation is received.

That is the underlying philosophy. In practice, risk allocation in a PPP is more complex. Rather than shifting all risk to the private sector, the policy aims at allocating risk to the party that is best suited to manage it and demonstrating value for money for any expenditure by the public sector. Those in a best position to manage a particular risk should do so at the lowest price. Unloading inappropriate forms of risk onto the private entity merely adds unnecessary cost to a PPP agreement - the private sector doesn't bear risk cheaply. Driven by the requirement for 'value for money', the government may agree to assume some risks for which the private party would charge too dearly if the risk transfer to the private party were to remain complete. Only 'efficient' levels of risk should be transferred to the private party, reducing individual risk premia and the overall cost of the project.

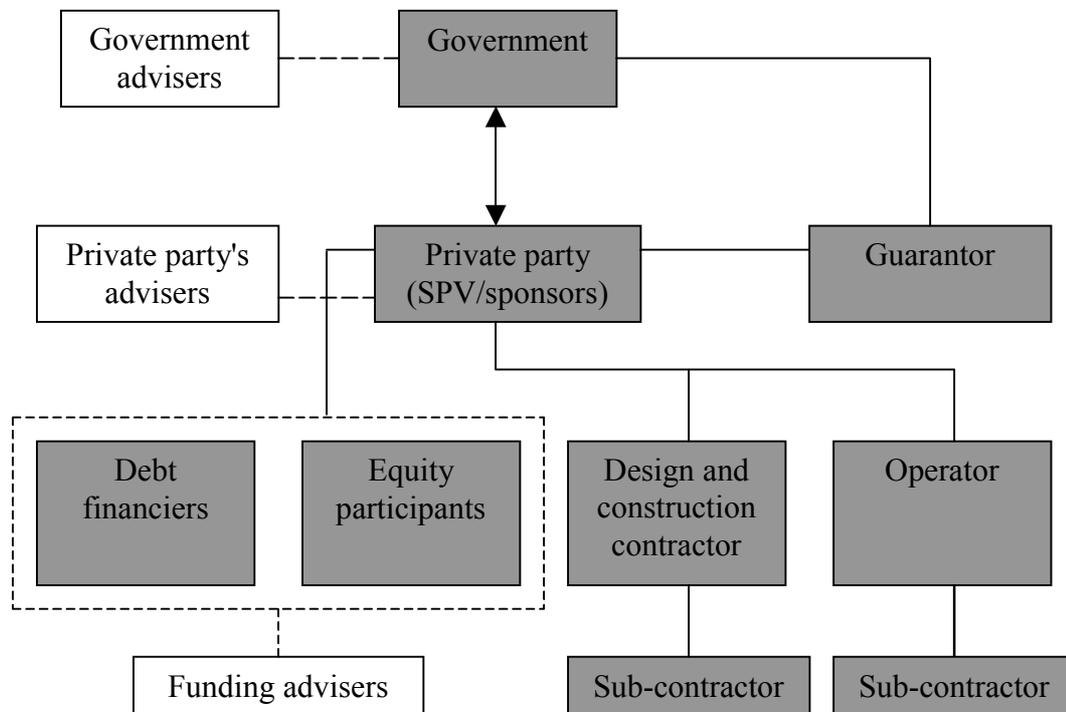
Thus the conceptual framework underlying PPPs is that, because the government is a service recipient providing full payment only on satisfactory delivery of these services, it initially transfers all project risk to the private party. It is then a matter for government to determine, on a value for money basis and having regard to the cooperative framework of the partnership, what risks it should 'take back' to achieve an optimal risk position. Taking back means a deliberate decision by government to assume or share a risk that would otherwise lie at the door of the private party. The outcome of this analysis is reflected in the contract.

The upshot is that a PPP contract differs from a standard procurement contract because it is not part of a traditional product supplier/buyer relationship. Under a PPP, the parties allocate risks between them and work together in an ongoing relationship to meet project objectives. It is also more complex than a procurement agreement. For example, the contractual framework for a Country courthouse in Victoria included a Crown lease, a court services agreement, a multi-party agreement for financiers, a commercial site and building, bond issuance contracts, and sub-contracts for operation, maintenance and finance.

When considering risks and negotiating a risk allocation position, the public sector entity would prefer to contract with a single party which is fully accountable to government for all contracted services. From a government point of view, risk transfer is most effective if there is a 'whole of cycle' contract with a single private party, to give that party the strongest possible incentive to ensure that the design and construction phase converts into a highly effective operation. Behind the private party, however, there may be a number of private sector interests seeking to be represented through the private party. The distinctive feature of current PPPs is the bundling of finance, design, construction, operations, and maintenance. Because these functions are highly specialized, private sector providers tend to be consortia consisting of engineering and project management firms, construction companies, financial underwriters, and operating enterprises that come together to develop a particular facility.

Typically, this has been in the form of a 'special purpose vehicle' created specifically for the purposes of the project. Figure 2 illustrates the possible complexity of the private party and the differing interests that may underlie its objectives.⁷

Figure 2: Typical private sector consortium



Generally speaking, private parties take on risks if they can be appropriately priced, managed and mitigated. This often involves transferring the risk to a third party, by way of sub-contract or insurance. A consortium of private sector parties is likely to include debt financiers (often in a syndicate arranged through a bank), equity investors/sponsors (who invest in the fortunes of the project and are therefore exposed to both the 'upside' and 'downside' risks), a design and/or construction contractor, and the operator, along with government and government's advisers. Should there be a risk, say, that an innovative design for a project may not be suitable for the designated purpose, that risk may be partly mitigated by appointing an experienced (and insured) designer. The private party then accepts the risk, provided it can earn a commensurate return for accepting it.

However, if the risk is one which carries a significant probability of interrupting or diminishing the payment stream that will service debt, the private party demands a significant premium to accept that risk. This in turn greatly increases the cost of financing the project. The private party's uneasiness in taking these types of risks becomes more acute when the risk is not within its control. In such cases, it may be possible to change the nature of the risk so that the private party can better take it on. Alternatively, if this cannot be done, it may well be more cost-effective for government to 'take back' the risk and reduce the costs of financing the project.

Hence the key to achieving value for money in public service provision via PPPs lies in allocating risk to the party that is best able to manage it, and achieving this risk allocation

may involve the government in some risk 'take back'. But it is not the only means. One of the appeals of PPPs is that they may be a vehicle through which the 'can do' mentality of the private sector is imported into public services. Integrating design, construction, operation and maintenance under private sector involvement offers 'synergy' gains (such as less disputes between builder, operator and owner and a closer examination of capital/maintenance costs) which are not available if the owner is government and the other functions are simply contracted out. Value-for-money, defined as the effective use of public funds on a capital project, can accordingly come from private sector innovation and skills in asset design, construction techniques and operational practices, as well as from transferring key risks in design, construction delays, costs overruns and finance and insurance to private sector entities for them to manage. Nonetheless, the risk allocation process is vital to project success.

Risk allocation strategies

Essentially, the risk allocation between the government and the private party in a PPP project is governed by three things:

- 1 specified service obligations;
- 2 payment/pricing structure; and
- 3 express contractual provisions adjusting the risk allocation implicit in the basic structure.

These elements together allocate risk between the parties.

Service obligations. As we have reiterated, the public sector aim under a PPP is not to procure assets, but to receive services (eg hospital and courtroom accommodation services). Accordingly, a clear services/output specification reflecting government policy objectives is critical to the successful realisation of government aims for a partnership project, including achieving a desired level of risk transfer. To this end,

- service delivery itself must be measurable; and
- both the quantity and quality of the service must be capable of measurement and comparison with key performance indicators.

Service delivery specifications should be drafted in a manner that accurately and clearly communicates government's output requirements, while minimising any prescription as to how the service is to be delivered or the asset maintained. This encourages innovation among the bids concerning the range of service delivery options and pricing proposals, which should in turn provide government with value for money. The actual technical/engineering method of service delivery and estimate of costs required to construct and maintain the asset and deliver the service, should be matters entirely for the private party – at its own risk. Government's only concerns are, first, to be satisfied that the engineering solution is sufficiently robust to sustainably deliver the required services/output; and second, if the asset is to return to government with a useful life beyond the contract term, that it is suitably maintained during the contract term. If government attempts to define how the services are to be delivered (as opposed to simply specifying output specifications), it may unwittingly take back risk that would otherwise have been borne by the private party.

Payments mechanisms. Development of a robust payment mechanism is vitally important in two respects:

- in establishing the necessary degree of risk allocation in a project; and
- to appropriately induce performance by the private sector.

The second outcome is particularly important. If payment mechanisms are out of tune with government objectives for a project, the private party may pursue a course of action geared to revenue flow which does not necessarily meet public sector project objectives.

Depending on the project, elements of the payment mechanism may include:

- service-based elements with payments based on a combination of availability of the service and service performance levels;
- transaction or usage-based elements for which payment is made per transaction unit; and
- benefits-based elements where payment is linked to improvements in the business or organisational environment, such as safety or efficiency improvements.

Service-based payments are particularly suited to accommodation services, from which government may deliver core services, where usage may be variable but availability is important to the smooth running of those services. Usage alone is a relatively crude basis for payment, although to some extent (and depending on context) usage may be a measure of consumer attraction and may implicitly reflect service quality. In the case of information technology services, the number of transactions may reflect the speed of the service which is in turn performance-related. Benefits-based elements can be an important component in the payment mechanism for some projects. This occurs where improvements in safety, efficiency and natural or business environments are important government objectives for a project and are measurable.

Normally, given the range of government objectives involved in PPP projects, payment mechanisms generally include at least the first two, and perhaps all three, of the elements described above. In the case of the Victorian County Court example mentioned earlier, payment is made on the basis of the availability of courtrooms (involving both physical and functional availability to specified performance standards) in combination with actual usage.

Risk take-back. A standardised risk matrix framework is set out in Table 2. Its purpose is to illustrate how a more detailed risk matrix can be constructed to show the range of risks that may apply to each project phase and, broadly, to set out the possible public sector position on allocation. When prepared and used wisely, a risk matrix can be a useful tool to both government practitioners and the private sector.⁸

Table 2: Risk Matrix for Public Sector/Private Sector Infrastructure Investments

Type of risk	Source of risk	Risk taken by
Site risks		
Site conditions	Ground conditions, supporting structures	Construction contractor
Site preparation	Site redemption, tenure, pollution/discharge, obtaining permits, community liaison	Operating company/project company
	Pre-existing liability	Government
Land use	Native title, cultural heritage	Government
Technical risk		
	Fault in tender specifications	Government
	Contractor design fault	Design contractor
Construction risk		
Cost overrun	Inefficient work practices and wastage of materials	Construction contractor
	Changes in law, delays in approval, etc	Project company/investors
Delay in completion	Lack of coordination of contractors, failure to obtain standard planning approvals	Construction contractor
	Insured force majeure events	Insurer
Failure to meet performance criteria	Quality shortfall/defects in construction/commissioning tests failure	Construction contractor/project company
Operating risk		
Operating cost overrun	Project company request for change in practice	Project company/investors
	Industrial relations, repairs, occupational health and safety, maintenance, other costs	Operator
	Government change to output specifications	Government
Delays or interruption in operation	Operator fault	Operator
	Government delays in granting or renewing approvals, providing contracted inputs	Government

Shortfall in service quality	Operator fault	Operator
	Project company fault	Project company/investors
Revenue risk		
Increase in input prices	Contractual violations by government-owned support network	Government
	Contractual violations by private supplier	Private supplier
	Other	Project company/investors
Change in taxes, tariffs	Fall in revenue	Project company/investors
Demand for output	Decreased demand	Project company/investors
Financial risks		
Interest rates	Fluctuations with insufficient hedging	Project company/government
Inflation	Payments eroded by inflation	Project company/government
Force majeure risk	Floods, earthquake, riots, strikes	Shared
Regulatory/Political risks		
Changes in law	Construction period	Construction contractor
	Operating period	Project company, with government compensation as per contract
Political interference	Breach/cancellation of licence	Government
	Expropriation	Insurer, project company/investor
	Failure to renew approvals, discriminatory taxes, import restrictions	Government
Project default risk	Combination of risks	Equity investors followed by banks, bondholders and institutional lenders
	Sponsor suitability risk	Government
Asset risk	Technical obsolescence	Project company
	Termination	Project company/operator
	Residual transfer value	Government, with compensation for maintenance obligations

Optimal risk allocation aims to minimise both the chances of project risks materialising and the consequences if they do, by allocating risks to the party best able to control them at the least cost. It has two elements:

- 1 optimal risk management and impetus to achieve it; and
- 2 value for money.

The first of these is based on the view that the party best able to control a risk should be allocated that risk. The second element – value for money – is related to the first, in that the party best able to manage a risk should also be able to manage it at least cost.

Although many risks are in the control of each party, to some degree certain risks are completely outside the control of both parties. If neither party is in a position of full control, the risk allocation should reflect how the private party ‘prices’ the risk and whether it is reasonable for government to pay that price, taking into account the likelihood of the risk eventuating, the cost to government if it retained that risk and government’s ability to mitigate any consequences if the risk materialises. Alternatively, the parties may share the risk through various risk sharing mechanisms.

Basically, in risk allocation, nothing is free. In bidding for a project, the private party estimates the project risks and their potential impacts on project revenues, and in effect sets premiums to insulate itself from the financial results of materialised risks. The premiums are averaged across the project or all projects in which the private party is involved and are weighted according to the probability and consequences of various kinds of events. In reality, the risk premium set is a form of self-insurance. Nevertheless, the financial consequences of some risk, either in full or in part, may be transferred explicitly to others, including insurance brokers.

Private parties accept most risks, provided the premium paid is sufficiently large. The question for government is whether the risk premium is good value for money or whether it is more cost-effective for government to take on the risk itself, taking into account the likelihood of a particular risk occurring and how government may be able to mitigate the impacts. For this purpose, a risk management plan is needed for determining the risk take-back by government which involves the following elements:

- identify all the project risks. These include the general risks which feature in the risk matrix and the project specific risks (for example, the risk to public health in a water project);
- determine the core services which are to be provided by government and for which the risk cannot be transferred to the private party;
- examine each risk and identify those which government is best placed to manage as a result of the level of control it exercises and those which it may otherwise not be optimal to leave with the private party. These should in each instance be taken back by government;
- ascertain whether any of the remaining risks should be shared in accordance with risk sharing mechanisms as a result of market convention or specific factors relating to the project; and

- adjust the risk allocation inherent in the basic PPP adjustment structure and use the contract to reflect that adjustment and allow for any power imbalance between the parties arising from special government powers.

On practical grounds, the government must identify the risks it will take back before it puts the project to the market, as part of the process of determining government's risk allocation position. These risks are identified on a project by project basis. However, generally speaking, the risks assumed by government are likely to include items such as the risk of legislation or of a policy change discriminating against the project, the risk of government wishing to change (eg increase) the service standards or volumes, some elements of native title risk and some elements of pre-existing latent defect and contamination risk.

Conclusion

Partnerships represent the second generation of policies to bring competitive forces and market disciplines to bear on government provision of goods and services. Unlike the first generation of outright privatization, PPPs involve a sharing of both responsibility and risk in a collaborative framework. They seek to draw upon the best available skills, knowledge and resources, whether they are in the public or the private sector, and deliver value for money in the provision of infrastructure. This is achieved by:

- **Focus on services.** The emphasis is on services received by government, not government procurement of infrastructure. Government pays for services provided by the private party, which are delivered through privately owned infrastructure as part of the service package;
- **Whole-of-life costing.** With a PPP there is the opportunity for full integration – under the responsibility of one party – of up-front design and construction costs with ongoing service delivery, operational, maintenance and refurbishment costs;
- **Innovation.** A PPP approach focuses on output specifications, providing wider opportunity and incentive for bidders to develop innovative solutions in meeting these requirements;
- **Asset utilisation.** Infrastructure developed by government is rarely used to generate third-party revenue, given the absence of commercial motivation. Private sector providers are motivated to develop opportunities for revenue beyond the government payment stream and this is used in part to reduce the cost of services to government; and
- **Risk transfer.** Risk retained by government in owning and operating infrastructure typically carries substantial, and often unvalued, cost. Transferring some of the risk to a private party which can better manage it at least cost can substantially reduce the overall cost to government.

While all of these elements play a role, none is more important than the last. A PPP is at heart a risk-sharing relationship between the public and private sector which exists to bring about a desired public policy outcome in a cost effective manner. Achievement of 'value for money' relies on obtaining an optimal transfer of risk because the entity in the best position to manage a particular risk should be able to do so at the lowest price.

One of the attractions of PPPs is that they offer a middle path between privatisation and public provision. As such, the application of a partnership agenda is an opportunity to reassess the role of public services and the means through which they are delivered. The guiding principle in such a review should be a commitment to bring about desirable social, economic and environmental end-results. Questions of public or private need to be de-emphasised in a partnership programme; it is outcomes, not ownership, that matters.

Notes

- 1 This is not to imply that all private prisons have been equally successful. Experience in the United States is surveyed by Schneider (2000), while Kirby (2000) provides a report into the operation of private prisons in Victoria, Australia.
- 2 A range of views on infrastructure in the OECD countries is given in OECD (1993).
- 3 The evolution in the private provision of infrastructure is outlined in Fox and Tott (1999), Mustafa (1999), Smith (1999) and Kelly (2000). Ribault (2001) traces the experience in France.
- 4 Rosenau (2000). The range of partnerships in the United Kingdom is reviewed by the Commission on Public Private Partnerships (2001).
- 5 A framework for addressing these three issues is provided in Department of Treasury and Finance (2000).
- 6 The issue of the discount rate for public and private infrastructure projects is analyzed in Gilibert and Steinherr (1994) and CEDA (1999).
- 7 This complexity is shown in a case study of a PPP project involving a water treatment facility in Scotland, see Grimsey and Lewis (2001).
- 8 The risk matrix in Table 2 is based on Grimsey and Lewis (1999).

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