

## **PUBLIC-PRIVATE PARTNERSHIPS: IMPLICATIONS FOR PUBLIC FINANCES**

*Marco Cangiano, Richard Hemming and Teresa Ter-Minassian\**

### **Introduction**

Public-private partnerships (PPPs) refer to arrangements where the private sector supplies infrastructure assets and services that traditionally have been provided by the government. PPPs are involved in a wide range of social and economic infrastructure projects, but they are mainly used to build and operate hospitals, schools, prisons, roads, bridges and tunnels, light rail networks, air traffic control systems, and water and sanitation plants. PPPs can be attractive to both the government and the private sector. For the government, private financing can support increased infrastructure investment without immediately adding to government borrowing and debt, and can be a source of government revenue. At the same time, better management in the private sector, and its capacity to innovate, can lead to increased efficiency; this in turn should translate into a combination of better quality and lower cost services. For the private sector, PPPs present business opportunities in areas from which it was in many cases previously excluded.

The main purpose of this paper is to provide an overview of some of the issues raised by PPPs, with a particular focus on their fiscal consequences. Following a brief discussion of country experience with PPPs in section 1, section 2 describes the main characteristics of PPPs. Section 3 covers some economic analysis that is relevant to the major issues raised by PPPs, and section 4 focuses on the institutional framework that is needed for their success. A key to success is risk transfer to the private sector, and section 5 addresses the challenges involved in assessing who bears PPP risks and the implications of limited risk transfer. Section 6 covers the important topic of fiscal accounting and reporting, and offers interim guidance while an internationally accepted accounting and reporting standard for PPPs is being developed.

### **1. Experience with PPPs**

A number of advanced OECD countries now have well-established PPP programs. Perhaps the best-developed program is the United Kingdom's Private

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\* International Monetary Fund (IMF). The authors are advisor in the Office of Budget and Planning, senior advisor and director in the Fiscal Affairs Department, respectively.

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Finance Initiative (PFI), which began in 1992. The PFI is currently responsible for about 14 per cent of public investment, with projects in most of the key infrastructure areas. Other countries with significant PPP programs include Australia (and in particular the state of Victoria) and Ireland, while the United States has considerable experience with leasing. Many continental European Union (EU) countries, including Finland, Germany, Greece, Italy, the Netherlands, Portugal and Spain, now have PPP projects, although their share in total public investment remains modest.<sup>1</sup> Reflecting a need for infrastructure investment on a large scale, and weak fiscal positions, a number of countries in Central and Eastern Europe, including the Czech Republic, Hungary, and Poland, have embarked on PPPs. There are also fledgling PPP programs in Canada and Japan. PPPs in most of these countries are dominated by road projects. Similarly, the recently announced EU Growth Initiative envisages the use of PPP-type arrangements primarily to develop a trans-European road network (European Council, 2003).

In the rest of the world, PPPs have made fewer inroads. However, Mexico and Chile have pioneered the use of PPPs to promote private sector participation in public investment projects in Latin America. In Mexico, PPPs were first used in the Eighties to finance highways and, since the mid-Nineties, a growing number of public investment projects in the energy sector. There are plans to extend the use of PPPs to the provision of other services. Chile has a well-established PPP program that has been used mainly for the development of transportation, airports, prisons, and irrigation. Some other countries, most notably Brazil, are planning significant use of PPPs. There is also a proposal for a regional approach to infrastructure development in Latin America that would involve PPP-type arrangements, much as in the EU.<sup>2</sup> While PPPs are also beginning to take off in Asia, especially in Korea and Singapore, progress elsewhere is limited, although there is strong interest in PPPs in some countries, including South Africa.

While a number of countries have developed PPP programs, it is too early to draw meaningful lessons from their experiences. The U.K. government has recently published a comprehensive assessment of the PFI (HM Treasury, 2003), informed in part by the results of independent studies, which is favorable both in terms of procedures and outcomes. Otherwise, while there are particular aspects of country experiences that support some of the points made in the paper, there are as yet few general lessons that can be drawn, especially from the experiences of emerging market economies and developing countries.

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<sup>1</sup> There is evidence that PPPs are growing especially rapidly at the subnational level. Torres and Pina (2001) report that about 30 per cent of the services provided by larger EU subnational governments are delivered through PPPs.

<sup>2</sup> The proposal is part of a wider development financing strategy being discussed by the Rio Group of Latin American countries. The Rio Group was set up in 1986 to enhance consultation and coordination between Latin American countries on political, economic, and social issues.

## 2. Characteristics of PPPs

There is no clear agreement on what does and what does not constitute a PPP. A PPP has recently been defined as “the transfer to the private sector of investment projects that traditionally have been executed or financed by the public sector” (European Commission, 2003, p. 96). But in addition to private execution and financing of public investment, PPPs have two other important characteristics: there is an emphasis on service provision, as well as investment, by the private sector; and significant risk is transferred from the government to the private sector. Other ways in which the role of government in the economy has been reduced over the last 20 years – including privatization, joint ventures, franchising, and contracting out – share some or all of these characteristics.<sup>3</sup> However, in their typical form, PPPs are distinct from these in that they represent cooperation between the government and the private sector to build new infrastructure assets and to provide the related services. As is discussed below, concessions and operating leases – which have also been used to reduce the role of government in the economy – are forms of PPP.

### 2.1 Basic features

A typical PPP takes the form of a design-build-finance-operate (DBFO) scheme. Under such a scheme, the government specifies the services it wants the private sector to deliver, and then the private partner designs and builds a dedicated asset for that purpose, finances its construction, and subsequently operates the asset and provides the services deriving from it. This contrasts with traditional public investment where the government contracts with the private sector to build an asset but the design and financing is provided by the government. In most cases, the government then operates the asset once it is built. The difference between these two approaches reflects a belief that giving the private sector combined responsibility for designing, building, financing, and operating an asset is a source of the increased efficiency in service delivery that justifies PPPs.

The government is in many cases the main purchaser of services provided under a PPP. These services can be purchased either for the government’s own use, as an input to provide another service, or on behalf of final consumers; a prison, a school, and a free-access road would fall into these respective categories. Private operators also sell services directly to the public, as with a toll road or railway. Such an arrangement is often referred to as a concession, and the private operator of a concession (the concessionaire) pays the government a concession fee and/or a share of profits. Typically, the private operator owns the PPP asset while operating it under a DBFO scheme, and the asset is transferred to the government at the end of

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<sup>3</sup> Joint ventures are usually set up to exploit the commercial potential of existing government assets, franchising involves competition between private companies to be a monopoly supplier (often in a local market), and contracting out refers to the outsourcing of supply to the government. The terms franchising and contracting out are often used interchangeably.

the operating contract, usually for less than its true residual value (and often at zero or a small nominal cost).

The term PPP is sometimes used to describe a wider range of arrangements. In particular, some PPPs exclude functions that characterize DBFO schemes. Most common in this respect are schemes which combine traditional public investment and private sector operation of a government-owned asset. This arrangement sometimes takes the form of an operating lease, although in cases where the private operator has some responsibility for asset maintenance and improvement, this is also described as a concession.<sup>4</sup> Operating leases and similar arrangements are typically regarded as PPPs. However, private sector involvement in asset building alone – which can take the form of a design-build-finance-transfer (DBFT) scheme or a financial lease – is not strictly speaking a PPP, since it does not involve service provision by the private sector. While this paper does not seek to explicitly exclude any type of arrangement from the definition of a PPP, including cases where the public sector partner is a public enterprise rather than the government, it pays most attention to PPPs which involve both investment and service delivery by the private sector, and private financing and ownership. Hence the focus is on DBFO schemes.<sup>5</sup>

## 2.2 Financing

The private sector can raise financing for PPP investment in a variety of ways. Where services are sold to the public, the private sector can go to the market using the projected income stream from a concession (e.g., toll revenue) as collateral. Where the government is the main purchaser of services, shadow tolls paid by the government (*i.e.* payments related to the demand for services) or service payments by the government under operating contracts (which are based on continuity of service supply, rather than on service demand) can be used for this purpose. The government may also make a direct contribution to project costs. This can take the form of equity (where there is profit sharing), a loan, or a subsidy (where social returns exceed private returns). The government can also guarantee private sector borrowing.

PPP financing is often provided via special purpose vehicles (SPVs). An SPV is typically a consortium of banks and other financial institutions, set up to combine

<sup>4</sup> Operating leases are discussed in more detail in section 5.

<sup>5</sup> Among the many design-build-finance-operate (DBFO) variants are build-own-operate (BOO), build develop operate (BDO), and design-construct-manage-finance (DCMF). In all such schemes, the private sector designs, builds, owns, develops, operates and manages an asset with no obligation to transfer ownership to the government. In other schemes, such as buy-build-operate (BBO) and lease-develop-operate (LDO), the private sector buys or leases an existing asset from the government, renovates, modernizes, and/or expands it, and then operates the asset, again with no obligation to transfer ownership back to the government. Finally, in the most common schemes such as build-operate-transfer (BOT), build-own-operate-transfer (BOOT), and build-transfer-operate (BTO), the private sector designs and builds an asset, operates it, and then transfers it to the government when the operating contract ends, or at some other prespecified time. The private partner may subsequently rent or lease the asset from the government.

and coordinate the use of their capital and expertise. Insofar as this is their purpose, an SPV can facilitate a well-functioning PPP.<sup>6</sup> However, an SPV can also be a veil behind which the government controls a PPP either via the direct involvement of public financial institutions, an explicit government guarantee of borrowing by an SPV, or a presumption that the government stands behind it. Where this is the case, there is a risk that an SPV can be used to shift debt off the government balance sheet. Private sector accounting standards require that an SPV should be consolidated with an entity that controls it; by the same token, an SPV that is controlled by the government should be consolidated with the latter, and its operations should be reflected in the fiscal accounts.<sup>7 8</sup>

Where a government has a claim on future project revenue, it can contribute to the financing of a PPP by securitizing that claim. With a typical securitization operation, the government would sell a financial asset – its claim on future project revenue – to an SPV. The SPV would then sell securities backed by this asset to private investors, and use the proceeds to pay the government, which in turn would use them to finance the PPP. Interest and amortization would be paid by the SPV to investors from the government's share of project revenue. Since investors' claim is against the SPV, government involvement in the PPP appears limited. However, the government is in effect financing the PPP, although recording sale proceeds received from the SPV as revenue masks this fact.<sup>9</sup>

### 3. The economics of PPPs

PPPs themselves have not been subject to extensive economic analysis. However, there is a good deal of analytical work that can be brought to bear on the issues that are raised by PPPs.

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<sup>6</sup> SPVs are specific to individual PPP projects, and should therefore be distinguished from institutions set up to facilitate PPPs and infrastructure investment in general. The National Development Finance Agency in Ireland and Infrastrutture SpA in Italy are examples of the latter.

<sup>7</sup> The International Financial Reporting Interpretations Committee (IFRIC) of the International Accounting Standards Board (IASB) identifies four criteria for consolidation: SPV operations are decided by the originator; the originator controls the SPV; the originator benefits most from the SPV; and the originator assumes SPV risk (see IFRIC, 1999).

<sup>8</sup> While there are as yet no obvious examples of problems created by SPVs set up in connection with PPPs, SPVs have been a concern in other spheres. A recent proposal to establish an SPV to facilitate the leasing of 100 Boeing aerial refueling tankers by the United States Air Force is a case in point. The Congressional Budget Office concluded that the SPV would, in effect, be substantially controlled by the federal government, and that its transactions should therefore be reflected in the federal budget (see United States Congressional Budget Office, 2003).

<sup>9</sup> For further discussion of securitization, see Chalk (2002) and IMF (2003). While they are not connected to PPPs, securitization operations in Italy have raised questions as to their appropriate accounting treatment. In one case, the government sold real estate at below market price to an SPV to use as collateral in issuing bonds on its own account to pay the government. Eurostat decided that the bonds should be counted as debt and the sale of the real estate should be recorded on budget, because the risks and rewards related to ownership had not been transferred to the SPV.

### 3.1 *Ownership and contracting*

The standard arguments for and against government ownership are relevant to PPPs. As a general rule, private ownership is to be preferred where competitive market prices can be established. Under such circumstances, the private sector is driven by competition in the product market to sell the goods and services at a price consumers are willing to pay, and by the discipline of the capital market to make profits. However, various market failures (natural monopoly, externalities etc.) can justify government ownership, although government failure can simply substitute for market failure.<sup>10</sup> At a fairly general level, these arguments can be used to motivate PPPs as a means of combining the relative strengths of government and private provision in a way that responds to market failure but minimizes the risk of government failure.

Recent advances in the theory of ownership and contracting provide a more specific analytical justification for PPPs. The trade-off facing a government seeking to arrange for the provision of a particular service is between quality and efficiency. The government has the capacity to achieve a desired quality standard, but it may have difficulties doing so while also containing costs. The private sector can use its better management skills and capacity for innovation to more actively pursue opportunities to reduce costs, but service quality may be compromised in the process. However, private provision may be workable if the government can write a fully specified, enforceable contract with the private sector. Hence PPPs would be well suited to situations where the government can clearly identify the quality of services it wants the private sector to provide, and can translate these into measurable output indicators. The government can then enter into a contract with the private sector which links service payments to monitorable service delivery. This being the case, PPPs tend to be better suited to cases where service requirements are not expected to vary substantially over time, and technical progress is unlikely to radically change the way in which the service is provided.

The case for PPPs is weaker where the government cannot write complete contracts because service quality is non-contractible. In general, services for which overall quality is inherently non-contractible (e.g., national defense, public law and order, diplomatic missions) are not candidates for PPPs, although contractible elements of these services are (e.g., building and maintaining military bases, police stations and courts, and embassies). However, even if service quality, or elements of quality, are non-contractible, the normal presumption should probably be that private ownership is to be preferred because of the potential efficiency benefits it offers (Shleifer, 1998). The onus should then be on those favoring government ownership to make the case in its favor, by reference to the considerations that argue against private ownership.

Even if the quality of service is contractible, build quality may be more problematic. The main concern in this connection is that shortcuts in construction

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<sup>10</sup> For an analysis of market and non-market failure, see Wolfe (1993).

can be hidden for many years, which creates future liabilities for the government and can necessitate costly renegotiation. Non-contractible build quality provides compelling justification for combining asset creation and operation, which is the defining feature of a typical PPP. This is because the private operator has clear interest in the quality of an asset, given its influence on the capacity to deliver a service effectively and efficiently (Grout, 1997).

### 3.2 Risk analysis

PPPs involve a range of different risks. These can be usefully divided into five, somewhat overlapping, categories: construction risk, which is related to design problems, building cost overruns, and project delays; financial risk, which is related to variability in interest rates, exchange rates, and other factors affecting financing costs; performance risk, which is related to the availability of an asset, and the continuity and quality of service provision; demand risk, which is related to the ongoing need for services; and residual value risk, which is related to the future market price of an asset.<sup>11</sup> These risks are present in public, private, and PPP projects. PPPs seek to transfer risk from the government to the private sector. While an inflow of private capital and a change in management responsibility alone can be beneficial, significant risk transfer is necessary to derive the full benefit from such changes. The impact of risk transfer on financing costs, and the pricing of risk to ensure efficient risk transfer, then have to be addressed.

#### 3.2.1 Risk transfer and financing costs

Transferring project risk from the government to the private sector should not affect the cost of financing a project. This follows from the Modigliani-Miller theorem, which says that the cost of capital depends only on the risk characteristics of a project, and not on how it is financed. However, the source of financing can influence project risk. With complete markets in risk bearing, project risk is independent of whether it is borne by the government or the private sector. With incomplete markets in risk bearing, project risk depends on how widely that risk is spread. Since the government can spread risk across taxpayers in general, the usual argument is that this gives the government an advantage over the private sector in terms of managing risk (Arrow and Lind, 1970). But the private sector can spread risk across financial markets, which may not put it at a significant disadvantage, and private sector risk managers may be more skilled than those in government. The outcome is likely to be that project risk is lower in the private sector.<sup>12</sup>

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<sup>11</sup> These five main risks can be further subdivided. Detailed risk matrices, together with indications of who should bear each type of risk, are provided in South Africa and the State of Victoria, Australia.

<sup>12</sup> The government's ability to forcibly spread risk across taxpayers, while financial markets have to be provided with an incentive to accept risk, may put the private sector at more of a disadvantage as far as (continues)

This result may appear to rest somewhat uneasily with the fact that private sector borrowing generally costs more than government borrowing. However, this mainly reflects differences in default risk. The government's power to tax reduces the likelihood that it will default on its debt, and the private sector is therefore prepared to lend to the government at close to the risk-free interest rate to finance risky projects. This being the case, when PPPs result in private borrowing being substituted for government borrowing, financing costs will in most cases rise even if project risk is lower in the private sector. Then the key issue is whether PPPs result in efficiency gains that more than offset higher private sector borrowing costs.<sup>13</sup> The impact of PPPs on efficiency is taken up below.

### 3.2.2 Pricing of risk

When considering the PPP option, the government has to compare the cost of public investment and government provision of services with the cost of services provided by a PPP. Since risk transfer is key to the increased efficiency of PPPs, the government wants to relieve itself of risks that it believes the private sector can manage better than the government. To do this, the government needs to price these risks, so that it knows what it has to pay the private sector to assume them. In this connection, it is important to distinguish between project-specific risk and market risk. Project-specific risk reflects variations in outcomes for individual projects or groups of related projects. Thus for a road project, specific risk could derive from interrupted supply of building materials, labor problems, or obstruction by environmental groups. Project-specific risk is diversifiable across a large number of government or private sector projects and does not need to be priced by the government. Market risk, which reflects underlying economic developments that affect all projects, is not diversifiable and therefore has to be properly priced.

The government and the private sector typically adopt different approaches to pricing market risk. The government tends to use the social time preference rate (STPR) or some other risk-free rate to discount future cash flows when appraising projects, while private bidders for PPP projects will include a risk premium in the discount rate they apply to future project earnings.<sup>14</sup> Given this mismatch, the government may reject reasonable bids by the private sector for a PPP project. As a consequence, the choice between public investment and PPPs may be biased in favor of public investment, which is counterproductive if the objective is to promote PPPs as a more efficient alternative to public investment and government provision of

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large and very risky projects are concerned. The scope for the private sector to spread risk will also be somewhat limited in countries with less developed financial markets.

<sup>13</sup> The private sector may in some cases face lower borrowing costs than the government. This might be the case where there are serious concerns about government liquidity and/or solvency, and is also likely to be the case for foreign partners of many developing country governments.

<sup>14</sup> For example, under the capital asset pricing model (CAPM), which is widely used by the private sector, the expected rate of return on an asset is defined as the risk-free rate of return plus a risk premium, and the risk premium is the product of the market risk premium and a beta coefficient which measures the covariance between the returns on that asset and market returns.



services.<sup>15</sup> Moreover, even if the PPP route is chosen (maybe because of political preference), the allocation of risk between the government and the private sector may not be efficient, since the private sector may choose techniques of production or other project design features which are less efficient, simply because they carry lower risk.<sup>16</sup> Also, the private sector may respond to the underpricing of risk by compromising on the quality of construction and service supply to the extent possible without obviously violating its contract with the government. On the other hand, it is also possible that the government overprices risk and overcompensates the private sector for taking it on, which would raise the cost of PPPs relative to direct public investment. Finally, there may be incentives for the government to compensate for an underpricing of risk by extending guarantees, which may also end up costing the government more over the longer term.

### 3.3 *Competition, regulation, and efficiency*

Much of the case for PPPs rests on the relative efficiency of the private sector. While there is an extensive literature on this subject, the theory is ambiguous and the empirical evidence is mixed. But if a common theme emerges, it relates to the importance of competition as a source of efficiency in both the private and public sectors. This explains the use of franchising as means of having the private sector engage in repeated competition for a market which is inherently monopolistic yet still contestable (as distinct from having continuous competition in a market). However, the scope for competition in the activities undertaken by PPPs is more limited, because they tend to be less contestable for reasons mentioned above – social infrastructure is undervalued and economic infrastructure involves large sunk costs. But an area where competition is clearly feasible is in bidding for the award of construction and service contracts, and this is crucial if PPPs are to benefit from having the private sector put its capital at risk, and from its management skills and capacity to innovate.

Incentive-based regulation is also important. Where a private operator can sell to the public, but there is little scope for competition, the government usually regulates prices. However, the challenge is to design well-functioning regulation which increases output (towards the social optimum), holds down prices, and limits monopoly profit while preserving the incentive for private firms to be more efficient

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<sup>15</sup> In those cases where the government uses a discount rate that includes a market risk factor, this is usually arbitrary and low. It therefore changes the size of the bias but does not remove it. Grout (1997) concludes that the long-standing practice of using a STPR of 6 per cent in the United Kingdom, which includes a risk factor, has been biased against the PFI projects. However, this bias should be removed with a recent reduction in the STPR to 3.5 per cent and a requirement that there should be more systematic assessment of risk in comparing public investment and PFI options.

<sup>16</sup> While it is not strictly speaking a PPP, the privately financed Channel Tunnel Rail Link between the United Kingdom and France was chosen over a road tunnel – which the government considered building and operating itself, and which would have offered better service to users – because the private sector's higher discount rate led it to favor the option that was lower cost and offered quicker, more secure returns (see Kay, 1993).

and reduce costs. Of the two most common forms of regulation, rate of return regulation suffers from the problems involved in establishing appropriate cost benchmarks in a monopolistic situation. It is therefore weak on incentive grounds. The main alternative, price regulation, caps price increases, and therefore has potential for success on both counts. However, the fact that caps are often adjusted to reflect rate of return considerations means that rate of return and price regulation tend to be quite similar in their effects. Yardstick competition, in which rate of return regulation is based on costs in closely related domestic or in international firms, or a hypothetical efficient firm, has more promise, although it is informationally demanding. Finally, profit sharing between the government and the private partner is an alternative form of regulation which preserves incentives, although it could still lead to excessive profits. This being the case, it tends to work better where the government is the main purchaser of services (Laffont and Tirole, 1999).

#### **4. Institutional framework for PPPs**

Successful PPPs deliver high-quality services to consumers and the government at significantly lower cost than would be the case with public investment and government provision of the same services. The preceding discussion suggests that PPPs are more likely to result in efficiency gains that offset higher private sector borrowing costs if they have the following characteristics: the quality of services is contractible; there is adequate risk transfer to the private sector; and there is either competition or incentive-based regulation. These features should be reflected in the policy framework for PPPs, along the lines of that provided, for instance, by the State of Victoria, Australia.<sup>17</sup> However, an appropriate institutional framework is also needed if PPPs are to succeed. While the challenges in this connection are greater in emerging market economies and developing countries, and a PPP program should proceed with caution when such a framework is not in place, advanced OECD countries also face challenges in this regard. Although not exhaustive, the following are elements of such a framework.

Political commitment and good governance are prerequisites for success. A PPP is a major commitment on the part of the private sector, which needs to know that politicians are also committed to private involvement. Uncertainty in this regard gives rise to political risk that is not conducive to making long-term business decisions. At the same time, potential private partners need to know that the government is fair in its dealing with the private sector, and will meet the commitments it makes under PPPs. It is also important to establish clear channels of responsibility and accountability for government involvement in PPPs. Widespread corruption in government would be a serious obstacle to successful PPPs, in the same way that it prevented successful privatization (Lora and Panizza, 2003).

<sup>17</sup> Based on Victoria (2000) and material available at the Partnerships Victoria website: <http://www.partnerships.vic.gov.au/>

An appropriate legal framework can provide reassurance to the private sector that contracts will be honored. In some cases this will require changes or additions to existing laws. For example, Italy and Spain have recently revamped legal frameworks that for many years have been an obstacle to PPPs. In the case of Italy, the 1994 Merloni Law has undergone a number of changes designed to facilitate private participation in infrastructure investment, while the 2001 Legge Obiettivo established a fast-track system for strategically important infrastructure projects.<sup>18</sup> In the case of Spain, the 2003 Concessions Law supplements a number of laws that already allow PPPs, by extending private financing options.<sup>19</sup> In both Italy and Spain, the new laws have also sought to secure creditor rights, and this has also been emphasized in Brazil and Chile, where reassuring investors that the government will honor its future commitments is judged crucial. In Brazil, a draft law has been presented to congress that would govern all aspects of PPPs. The legal framework for PPPs should be supplemented by clear, credible, and efficient dispute resolution mechanisms. Finally, it is important that PPPs should face non-discriminatory taxation and regulation regimes.

PPPs require the development of expertise in the government. This covers the full range of skills required to manage a PPP program. One common complaint about PPPs from the private sector is that bidding and contracting take much longer than in the private sector. Thus one of the functions of Partnerships UK, a specialized government agency in the United Kingdom, is to promote PFI projects within government by providing financial, legal, and technical advice and assistance to support contract negotiations and procurement. The Unità Tecnica per la Finanza di Progetto (UTPF) in Italy is by name a project financing unit, but in practice has a wider advisory and consultative role.<sup>20</sup> However, in both these cases, the focus is on facilitating new PPP projects, while managing a large stock of ongoing projects could represent an equal or more demanding challenge. Particular attention will also need to be paid to skill development by subnational governments, since in many countries the responsibility for spending in areas that are likely candidates for PPPs is devolved to them.

The government will also have to refine its project appraisal and prioritization. First and foremost, the decision whether to undertake a project, and the choice between traditional public investment and a PPP to implement it, should be based on technically sound value-for-money comparisons. It is particularly

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<sup>18</sup> The Merloni law deals specifically with concessions. One requirement of the law is that winner of a concession contract is required to set up an SPV, with a structure and capitalization established by the public agency that awards the contract. For further discussion, see De Pierris (2003).

<sup>19</sup> The law facilitates private financing by allowing a number of financing techniques, including securitization and shadow tolls. Concessions can also be used for practically any kind of infrastructure, and not only for roads as previously. See Montesinos and Benito (2000) and Acereite (2003) for further discussion of PPPs in Spain.

<sup>20</sup> The UTPF was established in 1999 and began operation in July 2000. This unit provides specific expertise to enable the public administration to identify projects that could attract private sector investment. Between 2000 and 2002, the UTPF analyzed some 800 PPP initiatives, but only a handful of projects has commenced.

important to avoid a possible bias in favor of PPPs simply because they involve private finance, and in some cases generate a revenue stream for the government.<sup>21</sup> The PPP Unit of the National Treasury of South Africa provides detailed guidance and technical assistance to agencies related to the feasibility and management of PPPs.<sup>22</sup> In Chile, project evaluation and prioritization involves a number of interested ministries and government agencies, including the Ministry of Finance which ensures that the future fiscal implications of PPPs are consistent with medium-term debt sustainability. More generally, PPPs should not complicate fiscal management, an objective which places a premium on proper accounting and reporting (as discussed in section 6).

## 5. Risk transfer, leasing, and ownership

Risk transfer from the government to the private sector has a significant influence on whether a PPP is a more efficient and cost-effective alternative to public investment and government provision of services. This is clearly something the government should consider in deciding whether to embark upon a PPP and in negotiating the terms of a PPP contract. It should also be a focus of those seeking to assess whether a PPP will indeed yield the benefits that are claimed for it, and in particular whether it is being favored mainly to move public investment off budget. Risk transfer is also relevant to determining the proper accounting and reporting treatment of PPPs, indeed the discussion of risk transfer that follows draws on material that is part of accounting standards. However, risk transfer is a self-contained topic that can usefully be discussed prior to addressing accounting and reporting issues.

### 5.1 Risk transfer and leasing

The private operator is typically the legal owner of a PPP asset for the period of the operating contract. However, if the government bears the risks (and derives the rewards) that are normally associated with ownership, it is in effect the economic owner of the asset. When this is the case, PPP investment is largely indistinguishable from traditional public investment, except that the payment profile for the government is different. Instead of the government making an upfront payment to cover the cost of building an asset, the private sector bears this cost and the government covers the opportunity cost of capital as part of its service payment to the private sector. This is how PPPs can be used to record initially lower government borrowing and debt than with traditional public investment.

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<sup>21</sup> Partly in response to such concerns, in Chile and Italy the private sector is allowed to propose projects to be developed as PPPs.

<sup>22</sup> The PPP Unit was set up in 2000, and is used by the Treasury to exercise strict control over PPPs, which are unpopular with trade unions and not seen by the government to be a panacea. Hence, only eleven PPP projects have been implemented to date. See Fourie and Burger (2000, 2001) for further discussion.

In general, ownership of an asset and operating it entail different risks. Where the PPP contract distinguishes between the rights and obligations of the private partner in its capacity as the owner, as distinct from the operator, of an asset, risk transfer can be assessed by reference to the former. Private sector accounting standards provide guidance on how to do this for leases. A standard lease contract is between the owner of an asset (the lessor) and the user of an asset (the lessee). With an operating lease, which is similar to a rental arrangement in that a payment is made by the lessee to use an asset, the lessor bears the risks related to ownership. With a financial lease, which is a form of borrowing by the lessee to obtain the asset, the lessee bears these risks. Whether a lease is an operating or a financial lease depends on the substance of the transaction rather than the form of the contract. Factors that should influence a decision in this regard are discussed in a number of private sector accounting standards for leases, such as those issued by the IASB and the Financial Accounting Standards Board (FASB) in the United States.<sup>23</sup>

While PPPs can be specifically set up as operating leases, it is unusual for them to take the form of financial leases. Financial leases tend to be used by governments to obtain major items of capital equipment such as airplanes, and not to build infrastructure. Indeed, with a typical PPP such as a DBFO scheme, the PPP asset is legally owned by the private operator, and so on the face of it, since only one party is involved, this arrangement cannot be described as a lease. However, an examination of the substance of a PPP transaction may lead to the conclusion that the government, rather than the private owner, bears most of the risks associated with ownership. Where this is the case, the view can be taken that the asset is in effect being acquired by the government through a financial lease, and that the government is the economic, as distinct from legal, owner of the PPP asset.

## 5.2 *Assessing risk transfer and ownership*

Some criteria have been devised to assess the degree of risk transfer involved in PPPs. To a large extent, these derive from the private sector approach to classifying leases, indeed the International Federation of Accountants (IFAC) has issued a standard for the public sector on leases which is closely related to the IASB standard for the private sector.<sup>24</sup> However, IFAC acknowledges that the public sector may enter into a variety of arrangements for the provision of goods and services involving the use of dedicated assets where it is unclear whether a financial lease is involved. Some national standards include quantitative criteria to establish the existence of a financial lease. For instance, the state of Victoria in Australia focuses on three criteria to determine whether a Partnerships Victoria PPP contract should be classified as a financial lease: does the government finance 90 per cent or

<sup>23</sup> See International Accounting Standard (1999).

<sup>24</sup> International Public Sector Accounting Standards (2001). IFAC is a global accountancy organization whose main purpose is to establish high quality accounting standards and to promote international convergence of standards. It also recommends accounting standards for the public sector through its Public Sector Committee (IFAC-PSC).

more of asset costs; does the service contract cover 75 per cent or more of the useful life of the asset; and does the contract include a “bargain basement provision” whereby the government can purchase the asset at the end of the contract for substantially less than its residual value?<sup>25</sup>

Where PPP contracts do not provide a basis on which to distinguish between the risks associated with ownership and operation, the extent of risk transfer can be assessed by reference to the overall risk characteristics of a PPP. This is done in the United Kingdom, where the specific aim, for both separable PFI contracts (with clear ownership and service elements) and non-separable contracts, is to determine whether the government or the private operator “has an asset in a PFI property”. For non-separable contracts, the U.K. approach is based, first and foremost, on the balance of demand risk and residual value risk borne by the government and the private operator. Demand risk, which is an operating risk and is the dominant consideration, is borne by the government if service payments to a private operator are independent of future need for the service. Residual value risk, which is an ownership risk, is borne by the government if a PFI asset is transferred to the government for less than its true residual value.<sup>26</sup> Reference can also be made to various qualitative indicators, including government guarantees of private sector liabilities, and the extent of government influence over asset design and operation. The final conclusion is a professional judgment based on all relevant factors.

Eurostat also provides guidance on the classification of PPP assets based on risk transfer. To this end, Eurostat has recently issued a decision which says that a private partner will be assumed to bear the balance of PPP risk if it bears most construction risk, and either most availability risk (which is also referred to as performance risk) or most demand risk. While focusing on a few key risk categories for the purpose of assessing risk transfer is understandable, the Eurostat decision is problematic.<sup>27</sup> Since the private sector typically bears most construction risk and availability risk, the decision is likely to result in the majority of PPP assets being classified as private sector assets, even though the government will bear most demand risk. This being the case, the decision appears to be more liberal than Eurostat itself has been in classifying PPPs. Thus, in the case of Ireland, Eurostat indicated that early PPP projects involved insufficient risk transfer, and that

<sup>25</sup> Since 1990, the United States Office of Management and Budget has used these three criteria, and three others – related to who owns the asset during the contract period, whether the asset is a general- or specific-purpose asset, and whether there is a private market for the asset – to distinguish an operating lease from a financial lease (or in U.S. terminology, a capital lease). See United States Office of Management and Budget (2002) and United States Congressional Budget Office (2003b) for more details.

<sup>26</sup> Residual value risk is borne by the government because the private operator reflects the difference between the expected residual value of the asset and the price at which the asset will be transferred to the government in the price it charges the government for services, or the revenue the government receives from a project. If the asset ends up being worth more or less than the amount reflected in the service payment or government revenue, any resulting gain benefits the government and any or loss is borne by the government.

<sup>27</sup> Eurostat (2004). It is nevertheless interesting that Eurostat does not place more emphasis on residual value risk, since this is a clear ownership risk. It was also highlighted in a Eurostat ruling on securitization in Italy, referred to in section 2.

investment in these projects would be classified as public investment. To date, all PPP investment in Ireland has been treated in this way. A concern is that the decision could open the door to PPPs that are intended mainly to circumvent the SGP.

Assessing risk transfer is likely to remain a difficult exercise. Certainly, full disclosure of the terms of original and renegotiated PPP contracts, along with some simplification and standardization, is essential. However, the legal complexity of PPP contracts means that they will always be hard to interpret, and this will complicate assessments of risk transfer even when the focus is on a few key risks. Moreover, the PPP contract may not tell the whole story, since it is only relevant to *ex ante* risk transfer. Political pressure for the government to bail out large projects (that are too big to fail), and providers of essential services, may mean that the government in fact bears more risk than the contract suggests.

## 6. Fiscal accounting and reporting

There is not yet a comprehensive fiscal accounting and reporting standard specifically for PPPs. While the accounting profession is taking steps to develop an internationally accepted standard, the eventual features of such a standard are not yet clear.<sup>28</sup> In the meantime, the current lack of a standard makes it difficult to close loopholes that enable PPPs to be used to bypass expenditure controls, and to move public investment off budget and debt off the government balance sheet.<sup>29</sup> Moreover, resort to guarantees to secure private financing can expose the government to hidden and often higher costs than traditional public financing. An internationally accepted accounting and reporting standard could promote transparency about the fiscal consequences of PPPs, and in the process make increased efficiency rather than a desire to meet fiscal targets their main motivation. In any event, as PPPs become more commonplace, market analysts and rating agencies are developing the expertise to assess the fiscal risks they involve, and in particular the consistency of future commitments under PPPs and contingent liabilities with debt sustainability. Thus any misuse of PPPs is unlikely to escape market scrutiny for long.

Existing standards provide a starting point to address the accounting and reporting treatment of PPPs. The 1993 System of National Accounts (1993 SNA) and the 1995 European System of Accounts (ESA 95) cover some operations that characterize PPPs, including leases, while ESA 95, supplemented by the ESA 95 Manual on Government Deficit and Debt, covers public infrastructure built and

<sup>28</sup> This is being done under the auspices of the IFAC-PSC. A newly established Interagency Task Force on Harmonization of Public Sector Accounting, which held its first meeting in February 2004, is addressing this topic. With the exception of Donaghue (2002), little has been written about the accounting treatment of PPPs.

<sup>29</sup> Similar considerations led the Fund Board to include leases under the external debt limits of Fund-supported programs.

operated by the private sector.<sup>30</sup> The Government Finance Statistics Manual 2001 (GFSM 2001) fiscal reporting framework – which integrates flows and stocks, and shifts the emphasis toward accrual reporting and balance sheets – is also well suited to reporting on PPPs, although it does not currently provide comprehensive coverage of such operations.<sup>31</sup>

### 6.1 *The current treatment of PPP operations*

Eurostat addresses the accounting treatment of the following PPP operations: operating contracts, concessions and operating leases, financial leases, and the transfer of PPP assets to the government. This treatment is described below using the GFSM 2001 fiscal reporting framework.

- Operating contracts. Where a PPP asset is owned by the private operator, payments under operating contracts for services provided to the government are recorded in the government operating statement as an expense.
- Concessions and operating leases. Concession fees and other payments by private operators of concessions to the government (e.g., profit shares) are recorded in the operating statement as revenue.<sup>32</sup> When the government leases an asset it owns to a private operator, lease payments to the government by a private operator are also recorded as revenue.<sup>33</sup>
- Financial leases. The acquisition of an asset under a financial lease would be recorded in the operating statement at cost, together with incurrence of a lease liability to the private sector. The asset and liability would also be recorded on the government balance sheet. Subsequent depreciation of the asset, and interest and amortization payments on the lease, would then be recorded in the operating statement. As the lease liability is reduced, the PPP net asset value will build up on the balance sheet (provided that the liability is reduced at a faster rate than that at which the asset is depreciated). When the lease concludes, the asset will be recorded on the government balance sheet at its residual value.<sup>34</sup>
- Transfer of PPP assets to government. If there is provision for a PPP asset to be transferred at zero cost to the government, the asset transfer is recorded in the

<sup>30</sup> Although *ESA 95* is accepted only in the European Union, while the *1993 SNA* is internationally accepted, it is likely that a move in the direction of harmonizing the two standards will see the *1993 SNA* move in the direction of *ESA 95* as far as PPPs are concerned.

<sup>31</sup> For a detailed discussion of *GFSM 2001*, see IMF (2001).

<sup>32</sup> The treatment of concessions has been questioned, however. Since a concession involves the transfer of the government's monopoly power to the private sector, the view has been expressed that concessions should be considered non-financial assets. This treatment can be seen as an attempt to extend the discussion of the treatment of mobile phone licenses to concessions. However, in the case of mobile phone licenses, it was agreed that an underlying asset, the spectrum, existed, whereas in the case of concessions, no such asset exists.

<sup>33</sup> When the government leases an asset from a private owner, lease payments by the government are recorded as an expense; however, as indicated in section 2, this is not usually regarded as a PPP.

<sup>34</sup> As indicated in section 5, PPPs do not typically take the form of financial leases.



operating statement as the acquisition of a non-financial asset at its residual value, balanced by a capital transfer from the private owner. Any purchase price involved would be an expense, and the capital transfer is reduced by the corresponding amount.<sup>35</sup> The asset would also be recorded on the balance sheet at its residual value at the time the transfer takes place, and subsequent depreciation of the asset would be recorded in the operating statement.

The Eurostat treatment of the preceding PPP operations is a straightforward way to record them in the fiscal accounts.

It should be noted that many countries are still working with the cash-based predecessor of GFSM 2001, *A Manual on Government Finance Statistics 1986* (GFSM 1986). Under this framework, which is the basis of traditional fiscal accounts, only cash flows are recorded. However, with the exception of depreciation, other non-cash transactions could be recorded in adjusted cash accounts. Since balance sheets are not part of GFSM 1986, PPP assets are not recorded as such, but the liability under a financial lease is recorded as government debt.

## 6.2 *Accounting for limited risk transfer*

When PPP projects involve limited risk transfer to the private sector, the practice of Eurostat and in a number of countries is to classify PPP assets as government assets. This is done with a view to recognizing that the government plays a role in the economy and conducts fiscal policy through PPPs. For accounting purposes, Eurostat treats PPP investment that exposes the government to significant risk as public investment, while the state of Victoria in Australia and the United Kingdom assume that the government is acquiring the PPP asset through a financial lease.<sup>36</sup> These two approaches are formally the same. It is likely that accounting for limited risk transfer will be paid considerable attention by the accounting profession as it seeks to develop a general accounting and reporting standard for PPPs. In this connection, the focus is likely to be on refining the approach to accounting when assessments of risk transfer suggest that the government bears the balance of risk and, as a consequence, PPP assets are treated as government assets.

It is questionable, however, whether classifying PPP assets as either government or private assets is an appropriate way of reflecting the extent of risk transfer. PPPs involve a range of risks, and government exposure to PPP risk will vary widely across projects. Ideally, an attempt should be made to gauge the risk to which the government is exposed under each PPP contract, and to assess the fiscal consequences of such risk. This, however, is extremely difficult to do, even in the relatively straightforward case of explicit guarantees. But classifying PPP assets as

<sup>35</sup> If the government pays more than residual value for an asset, the asset is still acquired by the government at its true residual value, and there is also a capital transfer from the government to the private operator.

<sup>36</sup> In the case of the United Kingdom, this practice has resulted in 57 per cent of PFI assets being classified as government assets (HM Treasury, 2003).

either government or private assets instead is insensitive to the extent of risk sharing, and could discourage PPPs where the private sector is prepared to bear significant (but not most) risk and cover a sizable share of project costs. This being the case, the accounting profession, rather than refining the current approach to accounting for limited risk transfer, should seek to develop a workable approach to assessing and quantifying PPP risks borne by the government, and to disclosing these risks. Countries will then have to develop their own capacity to assess risk transfer under PPPs.

### 6.3 *Contractual obligations and government guarantees*

With many PPPs, the government has a contractual obligation to purchase services from a private operator. These payments have fiscal implications over the medium to long term which should be disclosed. At a minimum, the stream of future contract payments under agreed PPP contracts should be reported. This is done in the United Kingdom, to indicate the extent to which these payments limit fiscal policy flexibility in the future. However, there is an issue as to whether future contract payments should also be capitalized and counted as a liability. The argument for not doing so is that these payments are contingent on the satisfactory delivery of a service, and can anyway be changed over the life of an operating contract as service needs and demands, supply technology, etc., change. The counterargument is that taking on a contractual obligation does more than limit fiscal policy flexibility in the future. In particular, assessments of debt sustainability are affected in the same way as if the government had incurred debt to finance public investment and provide the service itself, in that larger primary surpluses or smaller primary deficits (exclusive of the PPP payments) have to be generated to ensure a desired debt path. This being the case, the net present value of future contract payments under PPPs less any contractual receipts from the private sector (e.g., concession fees), both discounted using a risk-free interest rate, should be added to government debt when assessing debt sustainability.<sup>37</sup> However, this should be an interim arrangement pending development of an internationally agreed approach to assessing, quantifying, and disclosing PPP risks, and to reflecting them in fiscal analysis (including debt sustainability analysis), as called for above.

Government guarantees provided in connection with PPPs are a major source of fiscal risk. The risks incurred by the private sector in connection with PPPs can be reduced or eliminated through explicit government guarantees. Most commonly in connection with PPPs, financing risk is reduced through loan guarantees, demand risk is reduced through guaranteed minimum payments for services sold to the

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<sup>37</sup> It should be noted that there is no basis to record the present value of future contract payments as a liability under *GFSM 2001* given that a commitment to pay for a service cannot be accrued until the service is delivered. Rather, an *ad hoc* adjustment has to be made to the nominal debt measure reported as a memorandum item to the balance sheet.

public, and residual value risk is reduced by the government guaranteeing the price at which it will purchase an asset when the operating contract ends.<sup>38 39</sup>

The disclosure of government guarantees is widely called for. Thus the Fund's Code of Good Practices on Fiscal Transparency and the related Manual on Fiscal Transparency require statements as part of the budget documentation that describe the nature and significance of all contingent liabilities.<sup>40</sup> However, compiling the information required to comply with this practice presents a considerable challenge for most countries that currently lack a framework for managing guarantees. Good disclosure practice is to publish detailed information on guarantees. This should cover the public policy purpose of each guarantee or guarantee program, the total amount of the guarantee classified by sector and duration, the intended beneficiaries, and the likelihood that the guarantee will be called. Information should also be provided on past calls of guarantees. Best practice is to publish quantitative estimates of the potential fiscal impact of guarantees that, based on past experience, are likely to be called (*i.e.*, the expected value of guarantee payments). For example, the United States requires systematic estimates of the potential costs of loan and pension guarantees, deposit and other forms of insurance, and most other contingent liabilities.

Where the cost of calls on guarantees is potentially of fiscal policy significance, allowance should be made in the budget to meet the expected cost. In other cases, this can be handled through the general contingency appropriation. The expected value of guarantee payments should also be reflected in any discussion of the medium-term fiscal outlook, and taken into account when assessing debt sustainability. However, reflecting the difficulties involved in measuring the expected value of guarantee payments, this should not be treated as an expected liability which is added to the debt. Rather, the larger the expected liability associated with guarantees, the less favorably a particular debt path will be viewed. The formal incorporation of this liability into debt sustainability analysis should await development of an approach to assessing, quantifying, and disclosing PPP risks and to reflecting them in fiscal analysis. To reduce the fiscal risks associated with guarantees, in addition to full disclosure, countries should take steps to control these risks (*e.g.*, through careful screening of requests for guarantees, limits on individual and overall exposure, and charging risk-related fees).

The accounting treatment of those guarantees that are called is straightforward. There are two possibilities: either the government assumes the liabilities concerned and there is no financial claim on the original borrower, or the government lends to the borrower on the assumption that the borrower will repay at

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<sup>38</sup> The transfer of a PPP asset to the government at less than its residual value, which is discussed earlier, is akin to a guarantee even if it is not described as such.

<sup>39</sup> For a fuller discussion of guarantees and other contingent liabilities, see Brixi and Schick (2002).

<sup>40</sup> Disclosure is also required by the OECD Best Practices for Budget Transparency and IPSAS 19, Provisions, Contingent Liabilities and Contingent Assets, issued by IFAC, while contingent liabilities are reported as a memorandum item to the balance sheet in GFSM 2001.

a later stage. In the first case, the government records the full cost of called guarantees as an expense, and the assumption of a loan as a liability. In the second case, the government has a claim on the borrower, which is recorded as the acquisition of a financial asset. When the loan is repaid, interest is recorded as revenue, and amortization as a financial transaction.

#### 6.4 *Summary of disclosure requirements for PPPs*

Considerable emphasis has been placed on disclosure as a means of making the fiscal consequences of PPPs fully transparent. In summary, the disclosure requirements for PPPs called for in this paper are the following.

- PPP contracts should be disclosed, and simplification and standardization should be sought.
- Operating contracts, concessions and operating leases, financial leases, and the transfer of PPP assets to the government should be recorded in the fiscal accounts according to the treatment used by Eurostat.
- The stream of future contract payments under existing PPP contracts should be reported.
- Government guarantees should be disclosed as called for by the Fund's Code of Good Practices on Fiscal Transparency.

Where a PPP program is of fiscal significance, a report on PPPs – covering all of the preceding disclosure requirements – should be included as part of the budget documentation.

### 7. **Concluding remarks**

This paper overviews some of the issues related to PPPs and their implications for public finances. After providing a brief survey of country experiences, the paper identifies some of the necessary conditions for PPP to be successful, stressing in particular the need for a sound institutional framework. Because of the intrinsic risks associated with PPPs, developing the capacity to analyze and assess these risks along with appropriate fiscal accounting practices and reporting standards remains a challenge. While such practices and standards continue to evolve, the paper emphasizes the need for strengthening disclosure requirements for all PPPs, in particular their underlying risks and contingent liabilities, in line with best fiscal transparency practices.

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