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Financing Transportation Infrastructure—Potential Fiscal Risks of Innovative Financing Mechanisms¹

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I. INTRODUCTION

Over the last decades, countries have significantly broadened their options for financing transportation infrastructure investments. Different institutional mechanisms that have been developed—including revenue earmarking, dedicated road/transportation funds, and public-private partnerships (PPPs)—have pushed back traditional financing from annual budget allocations. In many instances, these mechanisms have been motivated by tight government budgets and a desire to circumvent restrictions and controls that apply to traditional financing.

These new financing mechanisms have given rise to fiscal risks due to several factors. Some of these factors include an increased fragmentation of the budget planning process by creating off-budget or extrabudgetary entities, and/or contingent liabilities for the public sector. Risks from these factors have, in many cases, been compounded by the lack of appropriate institutional arrangements within the public sector to identify, quantify, and manage the complexities involved in new financing mechanisms.

This paper looks at fiscal aspects related to new financing mechanisms, focusing on potential fiscal risks. Specifically, it discusses different fiscal risk aspects arising from two institutional arrangements—Road Funds and PPPs—and options for containing these.

The paper concludes that Road Funds and PPPs may be useful to increase infrastructure investments if structured and managed properly to mitigate fiscal risks:

- **A dedicated Road Fund may be useful when it implies a genuine attempt to pursue a purchasing agency approach.** A dedicated Road Fund is not appropriate when it involves the earmarking of general revenues for one purpose, with the service delivery still pursuing a traditional model. But a Road Fund may be useful when it implies a genuine attempt to pursue a purchasing agency approach, whereby the fund

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acts as a purchaser and not as a provider of services.³ In practice, the desirability depends on the existence of the right conditions. The question is how often the right conditions can be fully met. Therefore, and unless the microeconomic efficiency gains of an agency model are evident, traditional financing mechanisms are preferable to Road Funds when effective medium-term budget frameworks are in place.

- **PPPs are valuable ways to increase infrastructure investment when undertaken to increase efficiency and capitalize on private sector expertise.** Private sector involvement in PPPs adds a new source of financing to infrastructure investment that is absent in other mechanisms. However, to be valuable, PPPs should be undertaken with the goal of increasing efficiency by attracting private capital to infrastructure investment and should not be pursued to move investment spending off budget. Furthermore, governments need to assess carefully risks associated with PPPs, and ensure that these risks are appropriately shared with the private sector, with the risk borne by the government adequately reflected in the fiscal accounts. The lack of an internationally-accepted accounting and reporting standard for PPPs remains a possible obstacle to the development of efficient PPPs. Until such standards are developed, it is essential that PPP operations be fully and transparently disclosed, and incorporated into medium-term policy analysis.

The rest of the paper is organized as follows: Section II discusses the fiscal considerations that need to be taken into account when adopting new financing mechanisms. Section III analyzes fiscal risks that could emerge from financing transportation infrastructure through Road Funds and provides suggestions to contain these risks. In Section IV, the same analysis is done for PPPs. Section V concludes.

II. FISCAL CONSIDERATIONS

Several considerations are important for fiscal policy to play an effective role in ensuring durable macroeconomic stability. These considerations can be summarized as follows: (i) adequate level of public expenditure; (ii) efficient provision of public goods and services; (iii) comprehensive coverage of fiscal data; and (iv) transparent institutional arrangements.

Public expenditure programs need to be integrated into a sound macroeconomic framework. The level of total public expenditure should be determined by the overall budget constraint. Therefore, the need to preserve sustainable expenditure levels and macroeconomic stability limits the government's ability to pursue its objectives via increasing public expenditure. Thus, the appropriateness of expenditure programs should not be assessed individually, as these may raise aggregate spending to an unsustainable level.

³ In other words, Road Funds should have the freedom to focus on service delivery and greater efficiency.

The allocation of resources and provision of public goods and services should be efficient. The efficient provision of public expenditure programs requires achieving objectives at minimum costs, including not only financial and administrative costs, but also any negative effects arising from the financing of public expenditure on private sector production. Productive public investments—in physical and human capital—increase the returns to private investment, thus encouraging private investment and economic growth. If the same objectives can be achieved more efficiently by the private sector, they should be left to the private sector.

Fiscal authorities should monitor all public expenditures and liabilities through the budget and the medium-term budget framework. This will help identify any emerging problems while improving transparency and accountability. Therefore, the budget should avoid off-balance sheet items, extrabudgetary funds, special accounts, suspense accounts, and similar mechanisms that bypass budget procedures or subvert expenditure discipline, as these can undermine expenditure control and distort resource allocation. Sound public financial management systems are essential.⁴ Furthermore, all contingent liabilities should be reported in fiscal statistics and incorporated in medium-term policy analysis. Future government obligations such as government guarantees or guaranteed debt, if not readily captured by standard fiscal statistics and analysis, can undermine debt sustainability. For instance, when market conditions turn out unfavorable, government guarantees have to be assumed by the government. Similarly, when government-guaranteed debt is not repaid, it triggers liabilities for the government.

For good governance, decisions on budget priorities should be made within transparent and predictable institutional arrangements. Thus arrangements whereby certain sources of revenues are earmarked to certain activities, funds, or agencies can be problematic. Although earmarking may promote effective planning by providing a relatively stable source of funding, by safeguarding resources for one activity at the expense of others and/or circumventing budget processes, such arrangements may distort public expenditure priorities, hamper the government's ability to adapt in a flexible manner to changing circumstances, and reduce transparency.

III. ROAD FUNDS

Road Funds have started out of a frustration with the shortcomings of conventional budgeting.⁵ The argument was essentially that nontransparent, poorly organized, or

⁴ In particular, sound public financial management systems should allow good operational and cash management of public expenditures, be based on adequate banking arrangements for public funds, and follow accounting and budget classification systems in line with international standards.

⁵ A dedicated Road Fund is normally constituted as a separate fund, outside the central government's general budget framework, and charged with responsibility for financing road maintenance services, and in some cases, capital expenditures. In many cases, the road maintenance element is financed, wholly or in part, from user charges rather than general revenues.

politically-dominated budgeting procedures did not deliver an adequate service. Road maintenance was a frequent casualty in budget-cutting exercises, given its low profile and few observable benefits. A dedicated Road Fund, instead, was seen to provide more consistent resources for expenditures that yield high benefits, and help increase efficiency of certain tasks (e.g., road maintenance). Earmarking was considered a successful means of securing more resources for road maintenance.

Road Funds have been employed by governments around the world for over 40 years.

- **The first generation Road Funds were popularized in the 1960s and 1970s in Africa, Asia, and Latin America, and in the early 1990s in Eastern Europe.** These were designed to address asset deterioration and were usually characterized by earmarked taxation, which provided their main source of revenue. However, first generation funds have failed to deliver a secure and stable flow of funds for roads. These funds either diverted resources away from other sectors and undermined strict budget discipline; or were poorly managed and revenues were often not spent on roads. In addition, under these first generation Road Funds, there was no attempt to reform the delivery of road maintenance, or to make an explicit connection between the rates of taxation and the levels of road maintenance provision. Reviews have highlighted five main weaknesses of these funds: lack of effective oversight; lack of revenues for all sectors due to earmarking; unsatisfactory day-to-day management; weak or ambiguous legislation; and lack of rigorous technical and financial audits.⁶
- **The 1990s saw a new generation of Road Funds emerge following the World Bank's road management initiative,** driven by a desire to overcome the various problems associated with the first generation model. These were characterized by both their source of funding and the way in which they were administered. Typically, revenues were in the form of user charges that were identified separately from general taxation. These were deposited into a Fund managed by a board that was responsible for determining the level of charges and the allocation of expenditures. To ensure that community interests were protected, board members included representatives from the road user and business community. These second generation Road Funds have gained increasing support, as they compensated for short-term political responsiveness by ensuring that resources were directed to low-profile projects with particularly high rates of return, and expanded through Africa, Central America, and Asia. Kumar (2000) suggests that in five African countries, second generation Road Funds have brought about a major improvement in road conditions and efficiency gains in its provision. However, funding has remained below needed levels, and problems of corruption have moderated but not disappeared. The progress observed with second generation Road Funds in Central Europe and the former Soviet Union was not quite fast enough. In fact, these Road Funds were in

⁶ For details, see de Richecour and Heggie (1995).

nature more like first generation funds to escape general fiscal budget discipline, and some of them (e.g., in Russia, Lithuania, and Georgia) were closed as part of wider budget reforms.⁷

A. Road Funds and Fiscal Risks

Critics have often opposed the creation of Road Funds and the experience has shown that Road Funds often entail fiscal risks. The opposition to Road Funds has been rooted in the fact that Road Funds have in practice breached the fiscal considerations stated above.⁸

Risks are particularly associated with two characteristics of Road Funds:

- **The extrabudgetary nature of these funds.** Setting up an off-budget entity may: (i) result in a loss of aggregate expenditure control; (ii) distort resource allocation by circumventing the budget process and the review of spending priorities; (iii) reduce transparency that may lead to inefficiency and/or misuse of funds; (iv) facilitate rent-seeking and abuse of monopoly power, particularly when the government can make wider use of the Road Fund deposits; (v) prevent taking timely decisions when the fiscal position is under stress; and (vi) frequently be incompatible with the requirements of efficient cash and financial management, particularly when the government cannot have access to them on an overnight basis to minimize its day-to-day borrowing needs.
- **The earmarking feature in first generation Road Funds.** Although the earmarking of taxation promotes effective planning by providing a relatively stable source of funding, safeguarding resources for one activity may: (i) distort the allocation of resources and divert spending from priority sectors; (ii) reduce expenditure flexibility, which restricts the government's ability to manage resources in light of changing priorities; and (iii) give rise to rent-seeking behavior, as it provides incentives for interest groups to lobby not for a larger share of a fixed total budget but rather for an increase in the earmarked tax.

Furthermore, in some cases, Road Funds raise additional issues. For instance, conventional public sector accounting is likely to be less appropriate for commercial activities, particularly when there is a user charge, while the full requirements of commercial accrual-based accounting may be beyond the capacity of existing civil servants. Also, if there is some dedicated revenue source, such as a user charge, there are also financial management issues about revenue collection, which may not be wholly independent from the

⁷ See Potter (2005).

⁸ In Colombia, for example, although the earmarked funds for the National Road Fund grew at the same rate as GDP between 1979 and 1987, total funding for roads grew more slowly than GDP and the road network continued to deteriorate. (Dick, 1989).

government's capacity to raise other revenues. Separate revenue collection may be inefficient as it raises administrative costs.

B. Conditions to Establish Fiscally Sound Road Funds

Evaluating the appropriateness of a Road Fund requires careful consideration of the likely micro and macro effects, which must be viewed in the context of the longer-term objectives for fiscal prudence and efficient asset management. Hence, the decision to introduce a Road Fund must be based on a practical and systematic assessment that, among other things, takes into account the context and ability to minimize inherent distortions in the allocation of resources.

An independent Road Fund administration could be based on sound fiscal principles when part of a wider strategy to commercialize road management. A Road Fund is not appropriate where it represents the earmarking of general revenues for one purpose, with the service delivery still pursuing a traditional model. Commercialization calls for bringing roads into the marketplace, putting them on a fee-for-service basis, and managing them like a business. Where there is a genuine attempt to pursue a purchasing agency model as discussed below, then in principle, a Road Fund may be desirable.

The appropriateness of a Road Fund in practice depends, in addition, on certain institutional and financial conditions:

- **The Road Fund should be an agency that acts as a purchaser and not as a provider of services.** It should be fully dedicated to the task in question and not used simply as a way to avoid budget discipline, whether for roads or other public expenditures. It should be part of a longer-term strategy to commercialize the road sector. It should have a mission statement, objectives, physical output indicators, total input cost envelopes, and so forth. Ideally, service provision should come from the private sector.
- **A broad-based, stakeholder driven, Board of Directors should supervise the Road Fund.** At least half of the board members should be free from a producer (supplier or trade union) interest, for instance by coming from outside the government (road users and the business community) and being nominated by the organizations they represent. Furthermore, the chairperson should be independent. This structure creates a form of surrogate market discipline. Board members represent the people who are paying for the roads and thus have a strong vested interest in seeing that they are not overcharged and that the money is well spent.
- **The Road Fund should have a commercially-based financial management system.** In other words, the financial management system of the Road Fund should have the ability to handle complex tasks involved in managing total cost envelopes and associated accounting, control, and reporting requirements. Published legal regulations should govern the way the Road Fund is managed, and independent

external auditors (preferably private) must carry out independent technical and financial auditing. The government should, however, have access to the cash balances for cash management reasons and in order to minimize its day-to-day borrowing needs.⁹ In this respect, The IMF's *Guidelines for Public Expenditure Management* provides guidance on key issues concerning the structure, financing, and management of such funds.¹⁰

- **From the government's point of view, Road Funds should be treated as budget spending.** Data on Road Funds should be consolidated with the legislative budget, and transactions of Road Funds should be subject of the same degree of scrutiny as budget spending. The *Code of Good Practices on Fiscal Transparency* addresses the issue of extrabudgetary funds (including Road Funds), by recommending that budget documents, fiscal accounts, and other fiscal reports cover all extrabudgetary activities of the central government, and the consolidated fiscal position of the central government be published.
- **Road Fund revenues should come mainly from road-user changes.** Road users should pay for usage of roads through an explicit road tariff that must be clearly separated from the government's general taxes. It could take the form of a two- or three-part tariff: (i) an annual vehicle license fee that charges for access to the road network (sometimes supplemented by a heavy-vehicle license fee); (ii) a road maintenance levy added to the price of fuel that charges for the use of the road network; and, (iii) where feasible, a congestion charge to manage traffic volume. Such road tariff must not abstract revenues from the consolidated budget. Income from budget sources should continue to be subject to normal budget discipline and the fund should not receive any guaranteed share of total tax revenues. Only existing allocations for road maintenance could be converted into an equivalent fuel levy. Any additional revenues must come from extra payments by road users. That is part of the objective—road users pay for using the road network, they know that they are paying, and they are thus encouraged to demand adequate and cost-effective services.

⁹ In this respect, the basic principles are that: (i) government money belongs to the government; (ii) money in different accounts is fungible and should be consolidated; and (iii) the government has a right and a duty to make effective use of its own fund.

¹⁰ Potter and Diamond—*Guidelines for PEM*, Box 4, page 27.

Having these conditions in mind, Road Funds could be pursued only:

- **In countries where there are adequate budget procedures to capture the agency benefits.** Such countries will usually be seeking to capture the microeconomic efficiency gains from the agency model, since the necessary macroeconomic, budgetary, and financial management requirements are likely to be already in place. This may be done, independently of any user charge approach.
- **In countries where despite inadequate budget procedures, the right expertise, and political and financial circumstances are available.** For countries where existing budgetary arrangements are inadequate, there is a choice to make between (i) changing the budgetary arrangements (which may offer a quicker and more effective solution); and (ii) putting a Road Fund in place, if the minimum organizational and financing requirements mentioned above exist. But for many countries, this may be a difficult test to pass. Therefore, in many situations it may be better to concentrate efforts on improving budget procedures.

Nevertheless, where effective medium-term budget frameworks are in place, the need for Road Funds can be redundant. Indeed, such frameworks provide the prerequisites for effective planning and execution of investment programs, and ensure accountability. Thus, in these situations, and except in cases where the government is unable to secure the microeconomic efficiency gains of an agency models, traditional financing mechanisms are preferable to Road Funds. In this regard, Gwilliam and Shalizi (1999) argue that Road Funds should be viewed as an interim step towards either fully commercialized road maintenance or good governance in the allocation of public revenue.

IV. PUBLIC-PRIVATE PARTNERSHIPS

Since the 1990s, the role of the public sector in financing infrastructure projects has changed radically, both in developed and in emerging economies. While the infusion of private capital and management was seen as a new way to ease rising fiscal constraints for infrastructure investment, the idea that private management of public projects generates efficiency gains has become increasingly popular. As a consequence, the role of the public sector has started to shift from financier/owner/manager of projects to regulator and guarantor, and its involvement in the productive economy has shrank. Simultaneously, private sector initiative has started to invade areas that were previously considered in the exclusive domain of the public sector.

Such a situation has required a new dimension for public-private arrangements to allocate responsibilities, risks, and profits. The generalized response to this environment has taken the form of arrangements in which private initiative is empowered to supply infrastructure assets and services that have traditionally been provided by the government. The modalities of these arrangements vary depending on the functions given to the private sector, such as designing, constructing, operating, managing, financing, and maintaining the ownership of the asset.

PPPs can potentially be more efficient than traditional public procurement of assets and services. For the government, PPPs can support increases in infrastructure investment without immediately adding to government borrowing. At the same time, better management in the private sector and its capacity to innovate can lead to increased efficiency, better quality, and lower cost services. For the private sector, PPPs offer new business opportunities in areas where the public sector was, in many cases, the only supplier. However, PPPs can also be used mainly to bypass spending controls, and to move public investment off budget and debt off the government balance sheet, while the government still bears most of the risk involved and faces potentially large fiscal costs.

In practice, however, some countries have faced significant problems. In developed economies, these problems consisted of a generous hand of the public sector behind the projects, with a variety of subsidies, guarantees, barriers to competition, and contract renegotiation due to substantial errors in demand prediction.¹¹ In developing economies, further problems were encountered. To attract the private sector to projects located in more uncertain environments, there was a need for support from multilateral agencies and the introduction of risk sharing agreements between the public sector and private concessionaires. However, despite the formal transfer of specific risks to the private sector, governments at times needed to assume the liabilities of private sector operators. The Mexican government, for example, took on about 2 percent of GDP of private debt in 1994 to resolve problems faced by the concessionaires' creditors.¹²

In order to reach financial closure, governments have often accepted commercial risks that should have been assigned to the private sector. This has included not only the foreign exchange risk but also demand/traffic risk. Because governments have had limited contract-related knowledge or experience, the private parties have been frequently able to convince them to assume some of the commercial risks. Also, given that governments have often not been able to engage suitable legal, technical and financial experts to assist during negotiations, they have been at a disadvantage in arguing with foreign proponents concerning international practices such as take-or-pay contracts, or with international lenders concerning guarantees to protect their loans. Bureaucrats who have gone through a long, often contentious bidding process, have been willing to accept some commercial risks during negotiations to avoid rebidding. At the same time, private parties frustrated with drawn-out negotiations and the continuing renegotiating of clauses have accepted risks that should have been borne by the government.¹³

¹¹ Renegotiations of contracts and government takeovers of bankrupt franchises have taken place in many countries, including France, Spain, and several Eastern European countries. For further details, see Engel, Fisher and Galetovic (1996).

¹² See Ehrhart and Irwin, 2004.

¹³ Guasch (2004) found that 55 percent of transport concession contracts in the Latin American and Caribbean Region between 1985 and 2000 have been renegotiated, after an average of 3 years. Renegotiations tended to favor the private sector operators, who secured increases in tariffs (62 of all renegotiations), delays and

(continued)

A. PPPs and Fiscal Risks

Fiscal risks related to PPPs are generally due to weaknesses in the legal and institutional frameworks, as well as inadequate policy formulation. Fiscal risks appear due to one or a combination of the following factors: the legal framework does not clearly specify the roles and responsibilities of parties involved; the government does not have a proper institutional setup to handle and oversee PPPs, including through an appropriate accounting and reporting framework; and the government lacks ability to prioritize and select investment projects within a comprehensive investment planning program.

Fiscal risks emerge also when the main motivation behind the government's decision to undertake a PPP is not primarily related to achieving value-for-money (VfM). Thus, when PPPs are used to bypass normal expenditure controls and to move public liabilities and debt off budget and off the balance sheet of the government, they typically entail hidden and often higher costs in achieving the public policy purpose and limit the fiscal policy flexibility of the government in the future.

Achieving VfM requires appropriate risk sharing between public and private partners in PPPs. The main risks confronting road PPP projects are (i) the uncertainty of traffic; (ii) financial risk including exchange rate risk; (iii) political risk; (iv) risks from natural disasters beyond human controls; and (v) tort liability risk.

- **Traffic and revenue risks are the greatest risks faced by road projects.** These are defined as risks associated with insufficient traffic levels, and on roads with tolls, when toll rates are too low to generate expected revenues. The treatment of traffic and revenue risk ranges from full private sector assumption of the risk to government-provided minimum traffic and revenue guarantees.
- **Financial risk is defined as the risk that project cash flows may fall short of the level needed to repay the loans and capital invested in the project.** The private sector is generally responsible for financial risk, although in some cases governments may provide debt guarantees, equity guarantees, and other types of financial guarantees. Governments may also provide cash grants, equity, or subordinated loans, which improve the expected rate of return on private capital invested.
- **Exchange rate risk is a major issue for toll roads financed on international capital markets,** since exchange rates largely determine whether domestic income suffices to repay loans denominated in foreign currency. Projects can avoid this risk by tapping local capital markets for funding. For projects involving foreign capital, the private sector generally assumes the exchange rate and inconvertibility risk,

decreases in investment obligations (69 percent), increases in cost components with an automatic pass-through of tariffs (59 percent), and decreases in annual concession fees paid to the government (31 percent).

although in some cases, political risk insurance may be available to cover inconvertibility. The exchange rate risk is often mitigated by indexing the toll rates to local inflation or the exchange rate of the foreign currency-denominated capital.

- **Political risk concerns government actions that could impair the ability to generate earnings.** Examples include cancelling the concession unilaterally; imposing new taxes or regulations that seriously reduce the value of the project from the viewpoint of investors; refusing to accept the tolls agreed in the concession contract; prohibiting investors from taking revenue out of the country; and not allowing a fair solution to contract disputes by a neutral judicial organization. Governments generally bear the responsibility of such risk when fair and timely procedures are in place to compensate the concessionaire against breach of contract by the government (e.g., termination of the concession and violations of the concession agreement, including agreed toll rates). Private concessionaires generally assume the risk associated with dispute resolution and the ability to obtain compensation in the event of a government violation of the contract.
- **Force majeure risks are defined as risks beyond the control of a project's public and private partners.** These would include for instance floods or earthquakes, which are assigned primarily to the private sector and usually covered through insurance. The public sector assumes often political *force majeure* (e.g., riots or war) risks.
- **Tort liability relates to the risk of having to pay substantial legal awards as a result of accidents on the tollway.** It is generally covered by private insurance.

In practice, the fiscal consequences of these risks are either direct or contingent, or explicit or implicit liabilities, and can take several forms.¹⁴ These consequences can take one of the following forms: future commitments from the budget to honor minimum income guarantees; contingent liabilities in the form of guarantees to secure private financing; commitment to purchase the output of the private partner by making regular payments to the private road provider; bailing out of the private partner when the latter becomes financially distressed; and renegotiations with the franchise holder to increase investment expenditure on infrastructure assets in the short run in exchange for additional future cash flows for the private partner, which results in foregone future revenues for the government.

B. Conditions for Successful PPPs

The shift to a new model for infrastructure development implies major challenges for governments. The new best practice model does not mean a total retreat by governments; on the contrary, moving to best or better practice involves a shift to good governance, and is

¹⁴ Direct liabilities occur when the government has a fiscal obligation in any event, while contingent liabilities are linked to particular events. Explicit liabilities are those created by a law or contract, while implicit ones reflect public and interest-group pressures.

underpinned by several requirements that aim at ensuring that PPPs mobilize additional resources for and increase the efficiency of public investment. Without greatly improved governance, the shift to increased private sector partnership could just mean monopoly powers being shifted to the well connected in the private sector. Moreover, without improved governance, private sector partnership would eventually flounder and the demands for infrastructure will not be met, as risks would become unacceptable.

Conditions for successful PPPs can be summarized as follows:

- **PPP projects should be integrated with the government investment strategy, medium-term fiscal framework, and the budget cycle.** PPP projects should be part of the government investment strategy and be pursued only when they offer VfM compared to standard public procurement. This would allow optimizing project impacts while raising profitability for a given level of investment. To ensure that the fiscal implications of PPPs are fully taken into consideration in the government's medium-term fiscal framework and the budget, PPP projects should not be allowed to move forward outside the regular cycle of other investment projects. This, in turn, should be supported by the legal and institutional setup to handle PPPs.
- **The quality of services contracted under PPPs should be contractible.** If the government can specify the quality of services it wants the private sector to supply, and can translate these into measurable output indicators, then it can enter into a contract with the private sector which links service payments to service delivery. The less clearly specified are the contract conditions, the greater the risk of costly renegotiation of the contract during its implementation. Even if the quality of service is contractible, ensuring build quality may be more problematic. Shortcuts in construction can be hidden for many years, creating future liabilities for the government and possibly leading to costly renegotiation. Noncontractible build quality provides compelling justification for combining asset creation and operation, which is the defining feature of a typical PPP.
- **Adequate risk sharing is a key requirement if PPPs are to deliver high-quality and cost-effective services.** Successful PPPs require that the different types of risks be borne by the party that can manage it best. Assignment of various risks to the adequate party should be clearly defined in the contract. Assessing risk transfer from the government to the private sector is difficult given the multitude of risks and the complexity of PPP contracts. However, understanding can be improved by isolating individual risks and identifying which parties have any control over them. Another option would be to assess the extent of risk transfer based on the overall risk characteristics of a PPP.¹⁵ Construction and operating risk should be typically borne

¹⁵ This is done in the United Kingdom, where the specific aim for both separable (with clear ownership and service elements) and nonseparable private finance initiative contracts, is to determine whether the government or the private operator has an asset in a private finance initiative property.

by the private sector, where political, regulatory, exchange rate, and residual value risks should be borne by the public sector.

- **A strong institutional set-up is essential for successful PPPs.** A strong institutional setup requires clear allocation and implementation of responsibilities within the government to deal with PPPs. The overall institutional set up is an important factor that can help the government to build a reputation as a good partner and help lower political and regulatory risks for the private sector, thereby ultimately increasing the VfM the government can obtain. The institutional setups to handle PPPs vary by country, but experience suggests that a central PPP unit, preferably at the ministry of finance and responsible for the entire program, can serve as useful vehicle to facilitate PPPs. PPP units should act as the central partner for handling common PPP processes and contractual issues, liaising with other ministries and the private sector as necessary. In this sense, the unit serves as a one-stop shop for different parties interested in PPP projects. PPP units typically have two main responsibilities: (i) a policy side, aiming to address obstacles to implementing PPP projects; and (ii) a project side, where it uses expert advice (e.g., from bankers, consultants, project managers, etc.), to develop and manage PPP projects.¹⁶
- **PPP require the development of specific technical expertise in the government.** In particular, the government has to be able to conduct thorough project appraisal and prioritization, manage projects, and ensure that PPPs are consistent with broader fiscal and economic policy objectives. This will help prevent against most types of cost overruns, which are encountered in transportation infrastructure projects.¹⁷ To this end, however, many countries will need to develop expertise to properly assess and price risks involved in PPP projects, and to negotiate and deal with the private sector in an effective manner.
- **The legal framework should cover all major aspects of the PPP process and be conducive to private participation.** A strong and reasonably detailed legal framework can set the parameters for handling PPPs and also provide reassurance to the private sector that contracts will be honored. In particular, PPP legislation should be consistent with other public finance legislation, to ensure that PPPs are integrated with the government's fiscal and macroeconomic objectives, and also delineate roles

¹⁶ One of the major recent institutional changes in Portugal consisted of setting up a PPP unit at *Parública*, which is responsible for surveying public-private relationships, collecting, analyzing, and disseminating information on PPPs, and advising sectoral ministries. Another example of PPP Unit is that of the National Treasury of South Africa, which also provides detailed guidance and technical assistance to agencies related to the feasibility and management of PPPs. See Fourie and Burger (2000, 2001) for further discussion.

¹⁷ In this respect, Partnerships UK, a specialized agency in the United Kingdom, promotes PPP projects within the government by providing financial, legal, and technical advice and assistance to support contract negotiations and procurement. The "*Unita Tecnica para la Finanza di Progetto*" in Italy also provides advice within the government in addition to its project financing role.

and responsibilities, granting the ministry of finance appropriate veto power if fiscal risks are assessed to be substantial. The legal framework should also be conducive to private participation.¹⁸

- **PPP contracts should be based on competition or, if impossible, incentive-based regulation.** Open bidding for contracts provides the principal opportunity for fostering competition in a PPP setting. Where a private sector monopolist is free to sell services to the public (e.g., where it charges road tolls), regulation is also necessary to contain monopoly profits and otherwise protect consumer interests.
- **The fiscal implications of PPPs should be properly accounted for and reported.** While PPPs can help ease fiscal constraints, they also offer opportunities to bypass expenditure controls and to move public investment and debt off the government balance sheet. However, the government may still bear considerable risk and face potentially large fiscal costs, especially over the medium to long term. In the absence of international standards for PPP accounting, best practices require, at least, that actual and potential costs for the government involved in a PPP contract be taken into account when assessing debt sustainability. In particular, explicit guarantees included in PPP contracts should be fully disclosed and incorporated into medium-term policy analysis (Box 1).

¹⁸ The success of Chile's concessions program can be largely attributed to the comprehensive concessions law. Brazil has also recently adopted a law that governs all aspects of PPPs.

Box 1. PPP Accounting, Reporting, and Debt Sustainability Analysis

There are currently no internationally accepted comprehensive accounting and reporting standards for PPPs. Existing standards are applicable only to a set of PPP projects (i.e., operating contracts, concessions and operating leases, financial leases, and transfer of PPP project assets to the government).

Eurostat has recently issued a decision classifying the assets of PPP projects as public or private based on risk transfer, with implications for the accounting treatment. According to Eurostat, PPP projects should be classified as nongovernment assets and recorded off balance sheet for the government under two conditions: (i) the private partner bears the construction risk; (ii) the private partner bears either availability or demand risk. When PPP projects involve limited risk transfer to the private sector, the project's assets would be classified as government assets.

However, classifying the assets of a PPP project as either public or private does not allow capturing the actual extent of risk transfer and risk sharing. PPP projects are essentially risk sharing arrangements that require each of the partners to assume and manage specific risks in the provision of infrastructure services. Hence, even when a PPP project is recorded as a private investment, it may have fiscal implications. For instance, when the government makes a long-term payment commitment under a PPP contract, the flexibility of future fiscal policy becomes constrained. Therefore, given the risk sharing nature of PPP projects, it would be more appropriate to develop an approach that assesses and quantifies the risks borne by the government and to disclose these risks in the budget and end-year financial reports.

In addition to disclosure requirements, risks associated with PPPs should also be reflected in debt sustainability analysis (DSA) and medium-term budgets. It is essential that current and future payments obligations and guarantees agreed under PPP project contracts be transparently and fully disclosed. Appendix I presents disclosure requirements. In addition, the issue to whether future contract payments should also be capitalized and counted as a liability remains. 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. The counterargument is that the 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 light of these considerations, the IMF recommends the following treatment of government obligations (contingent or certain) that arise in PPP project contracts (see IMF 2004):

- For projects that are accounted for as private investments, future payments by the government (contingent or certain) should be counted towards primary spending, i.e., they reduce the primary balance.
- For projects that are accounted for as public investment, the service component of future payments by the government should be recorded as primary spending, while the debt service component should be separated out and included in the overall projected interest and amortization payments. All debt is recorded as a liability of the public sector and added to the government's debt stock.

This will require governments to strengthen their ability to assess risks from contingent obligations. For contingent obligations (e.g., minimum revenue guarantees provided by the public sector), it will be important to assess the expected value of the obligations and then count it as primary spending. When contingent liabilities associated with PPP projects cannot be reliably quantified, the emphasis should be on scenario analysis corresponding to alternative degrees of risk exposure of the government.

V. CONCLUSIONS

This paper discussed potential fiscal risks arising from new options for financing transportation infrastructure investments, including Road Funds and PPPs. Over the last decades, different institutional mechanisms—including revenue earmarking, dedicated road/transportation funds, and PPPs—have pushed back traditional financing from annual budget allocations. These mechanisms have often been motivated by tight government budgets and a desire to circumvent budget controls that apply to traditional financing. In many instances, these new financing instruments have led to an increased fragmentation of the budget planning process. Furthermore, inappropriate institutional arrangements within the public sector to identify, quantify, and manage the complexities involved in new financing mechanisms have amplified these problems.

Road Funds and PPPs may be useful to increase infrastructure investments, but they need to be structured and managed properly to mitigate fiscal risks:

- A dedicated Road Fund may be useful when it implies a genuine attempt to pursue a purchasing agency approach. In practice, the desirability of a Road Fund depends on the existence of the right conditions, which are rather difficult to achieve. Against this finding, and where medium-term budget frameworks are effective, traditional financing mechanisms are preferable to Road Funds.
- PPPs provide new ways to increase infrastructure investment through private sector partnership. To be efficient, however, they need to be structured appropriately and supported by a well-developed institutional framework. The goal should be to increase efficiency by attracting private capital to infrastructure investment and not to move investment spending off budget. Governments need to assess carefully the risk associated with PPPs, and ensure the adequate sharing of this risk with the private sector, while the risk borne by the government should be appropriately reflected in the fiscal accounts. The lack of an internationally accepted accounting and reporting standard for PPPs remains a possible obstacle to the guarantee the efficiency of PPPs. Until such standards are developed, it is essential that PPP operations be fully and transparently disclosed, and incorporated into medium-term policy analysis.

Appendix I—Disclosure Standards for PPP Operations and Guarantees

Disclosure Requirements for PPPs

Budget documents and end-year financial statements should include an outline of the objectives of a current or planned PPP program, and a summary description of projects that have been contracted or are at an advanced stage in the contracting process (their nature, the private partner or partners, and capital value). In addition, the following more detailed information should be provided for each PPP project or group of similar projects:

- Future service payments and receipts (such as concession and operating lease fees) by government specified in PPP contracts over for the following 20–30 years.
- Details of contract provisions that give rise to contingent payments or receipts (e.g., guarantees, shadow tolls, profit-sharing arrangements, events triggering contract renegotiation), with the latter valued to the extent feasible.
- Amount and terms of financing and other support for PPPs provided through government on-lending or via public financial institutions and other entities (such as special purpose vehicles) owned or controlled by the government.
- How the project affects the reported fiscal balance and public debt, and whether PPP assets are recognized as assets on the government balance sheet. It should also be noted whether PPP assets are recognized as assets either on the balance sheet of any special purpose vehicle or the private sector partner.

In countries with significant PPP programs, disclosure could be in the form of a *Statement on PPPs* which is part of the budget documentation and accompanies financial statements. Within-year fiscal reports should indicate any new contracts that have a significant short-term fiscal impact. PPP contracts, or summaries of their key features (preferably in standardized format), should also be made publicly available.

Disclosure Requirements for Guarantees

Irrespective of the basis of accounting, information on guarantees should be disclosed in budget documents, within-year fiscal reports, and end-year financial statements. Guarantees should ideally be reported in a fuller *Statement of Contingent Liabilities* which is part of the budget documentation and accompanies financial statements, with updates provided in fiscal reports.

A common core of information to be disclosed annually for each guarantee or guarantee program is as follows:

- A brief description of its nature, intended purpose, beneficiaries, and expected duration.
- The government's gross financial exposure and where feasible, an estimate of the likely fiscal cost of called guarantees.
- Payments made, reimbursements, recoveries, financial claims established against beneficiaries, and any waivers of such claims.
- Guarantee fees or other revenue received.

In addition, budget documents should provide:

- An indication of the allowance made in the budget for expected calls on guarantees, and its form (e.g., an appropriation, a contingency).
- A forecast and explanation of new guarantees to be issued in the budget year.

During the year, details of new guarantees issued should be published (e.g., in the Government Gazette) as they are issued. Within-year fiscal reports should indicate new guarantees issued during the period, payments made on called guarantees, and the status of claims on beneficiaries, and update the forecast of new guarantees to be issued in the budget year and the estimate of the likely fiscal cost of called guarantees.

Finally, a reconciliation of the change in the stock of public debt between the start and end of the year should be provided, showing separately that part of the change attributable to the assumption of debt arising from called guarantees.

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