

# Public-Private Partnerships in the New EU Member States

## *Managing Fiscal Risks*

*Nina Budina*  
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The report is part of a series of studies on current issues in public finance reform in the Central European and Baltic countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia—the “EU8”) which joined the European Union on May 1, 2004. These studies have been undertaken since 2005 and coordinated and edited by Thomas Laursen, Lead Economist for Central Europe and the Baltic States in the World Bank. Marta Michalska provided excellent administrative and logistical support throughout the process of preparing these studies.





# Executive Summary<sup>1</sup>

Public–private partnerships (PPPs) have a long history around the world, and have become increasingly popular also in the EU8 countries. Poland, Hungary, and the Czech Republic, in particular, have all experimented with such arrangements, not least in the road sectors. Public-private partnerships may enhance efficiency in service delivery and help create fiscal space through real fiscal savings, but managing the associated fiscal risks and achieving these objectives requires a strong institutional framework. There is little doubt that in practice part of the attraction of PPPs is that they allow governments to secure much-needed investment in public services without immediately having to raise taxes or borrow—in the EU8 potentially getting around Maastricht criteria for debts and deficits. This study reviews the experience with the use of PPPs in the EU8, discusses the fiscal risks associated with such arrangements, and proposes institutional improvements to better manage such risks.

PPPs involve fiscal risks. In some PPPs, governments commit to purchase the output of their private partners, whether or not they subsequently want the output. In these PPPs, governments take on debt-like obligations with a value roughly equal to the cost of the investment, even if they need not disclose any new liability. In other PPPs, final users pay, but governments guarantee certain outcomes. Governments might pay nothing now, but face the risk of paying later, perhaps when they can least afford it. The danger of PPPs is that governments’ desire to avoid reporting immediate liabilities may blind them to the future fiscal costs and risks. That not only increases fiscal vulnerability, but may also lead to poorly designed projects with a higher cost than necessary or the use of PPPs when either public finance or purely private finance would be better.

The extent of fiscal risk depends intimately on the fiscal institutions that shape and constrain government decisions toward PPPs—that is, on factors such as fiscal targets (including the Maastricht criteria), budgeting procedures, accounting and auditing standards, and the assignment of responsibilities for fiscal decisions among different parts of government. Such fiscal institutions affect decisionmakers’ incentives. They may, for example, reward policymakers for minimizing short-term cash expenditures, or alternatively for reducing fiscal vulnerability. Institutions may also influence the information available to decisionmakers: they might generate information only on traditional liabilities created by publicly financed investment, for example, or also on liabilities incurred in PPPs. Finally, they affect decisionmakers’ capacity: for example, they may or may not allow governments to analyze the risks in PPP projects and decide which are best borne by the government.

Better fiscal institutions can therefore increase the chance that PPPs will be well designed and appropriately used. First, governments can take steps to improve the awareness of risks among officials and politicians. Second, they can impose upon themselves and lower tiers of government stronger requirements to disclose information

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1. Prepared by Thomas Laursen.

about PPP contracts and the fiscal obligations that they create. Third, governments can continue to improve their fiscal planning, budgeting, and accounting in ways that help them choose their expenditure and investment plans rationally. Fourth, they can improve their ability to manage risks by allocating responsibility for taking on risk, developing quantitative monitoring of exposure, and so forth. Under such circumstances, PPPs may be a valuable tool for promoting sound and fiscally responsible investment in infrastructure.

# Introduction

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There has been a renewed interest in the use of public–private partnerships (PPPs) to improve economic efficiency and to satisfy large investment requirements in the EU’s new member states (NMS) from Central Europe and the Baltic region.<sup>2</sup> This interest has perhaps been stimulated by attempts to address the difficult challenge of reducing the existing disparities between old and new member states in the quality and availability of public services while maintaining fiscal stability or, in some countries, conducting fiscal adjustment. At the start of their transition to market economies, EU8 countries, like other countries from the region, inherited extensive infrastructure networks that were in serious disrepair and ill suited to their transforming economies (EBRD 2004). Since the early 1990s, the European Investment Bank, the World Bank, and the European Bank for Reconstruction and Development have lent some €21 billion for infrastructure in the EU8 countries, plus Romania and Bulgaria. The total investment in infrastructure (public and private) in these countries during the same period has been estimated at €100 billion.<sup>3</sup> The process of modernizing infrastructure was the fastest in telecommunications, where the Czech Republic, Estonia, and Poland have already nearly reached the EU level. By contrast, road infrastructure remains much inferior in the NMS, and efforts to modernize the infrastructure of the new EU members are yet to narrow the

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2. The European Council supports PPPs and, in its European Growth Initiative of 2003, sets as one of its objectives promoting the use of PPPs to develop infrastructure that is judged necessary for reinforcing the potential growth of EU (EIB, 2003). The appetite for PPPs is also increased by the required co-financing for EU structural funds, as government co-financing capacity is limited and the use of private financing to co-finance infrastructure development is permitted (although there are only a few examples of such cofinancing, notably the Irish road program).

3. These calculations were quoted in Deutsche Bank Research, *Current issues* (2004) and the original source is in Christian von Hirschhausen (2002).

gap significantly to the incumbent members. However, narrowing the infrastructure gap is essential for improving economic competitiveness and the living conditions of the population in the NMS.

There is still a large gap between the public infrastructure (be it economic or social) investments needed to improve the quality and availability of public services and the limited public financial resources of the EU8 countries. Public investment in 2003 was close to or above 3 percent of GDP in all EU8 countries, except in Latvia (1.5 percent of GDP). Recognizing increasing investment needs, public investment as a share of GDP is projected to increase to 3.5 percent on average for the EU8 in 2006. While the average public investment level in the EU8 is slightly above the level in the EU-15 (around 2 percent of GDP), investment required to bring the EU8 infrastructure standards to their average for the union entails much larger costs. For example, studies indicate total investment requirements for the EU8 plus Bulgaria and Romania of around €500 billion during the next 15 years (Deutsche Bank 2004). The long-term needs for transport infrastructure alone in these countries are estimated at nearly €100 billion (EC 2001). Furthermore, the environmental investment needs of the EU8 are estimated at €47–69 billion. Poland has the largest environmental investment needs (€22–45 billion or 10–21 percent of 2003 GDP), followed by Hungary (€10 billion or 12 percent of 2003 GDP) and the Czech Republic (€9.4 billion or 10 percent of 2003 GDP) (CASE 2005).

Further increases in public investment may be constrained by fiscal concerns, including the Maastricht fiscal criteria for Euro adoption. In 2003–04, four of the EU8 countries (the Czech Republic, Hungary, Poland, and Slovakia) had budget deficits higher than 3 percent of GDP, and deficits are projected to remain above this level through 2006. Meanwhile, the three Baltic countries have strong fiscal positions reflected by small deficits or overall surpluses. Public debt was lower than 60 percent of GDP in all EU8 countries, with the Visegrad countries around 40 percent of GDP and the Baltic countries in the low double digits. Nevertheless, longterm sustainability may be at risk in all EU8 countries (except perhaps Estonia) because of population ageing and inadequate monitoring and control of contingent liabilities (EC 2005).

Given the vast infrastructure needs in all of the EU8, the issue of how to create “fiscal space” for additional public infrastructure spending has gained prominence, as it has in Latin America. Heller (2005) defines fiscal space as “the availability of budgetary room that allows a government to provide resources for a desired purpose without any prejudice to the sustainability of the government’s financial position.” Creating fiscal space is critical when additional fiscal spending would likely boost medium-term growth and also pay for itself in terms of future fiscal revenue. There are different ways to create fiscal space: through revenue mobilization; optimization of the composition of budgetary expenditure (for example, by cutting low priority public expenditure); measures to limit contingent liabilities and quasi-fiscal operations of other public entities; additional borrowing or money creation; and, finally, structural reforms to promote growth.<sup>4</sup>

It has long been debated whether to increase the flexibility of the Stability and Growth Pact (SGP) by excluding public infrastructure investment from the fiscal deficit, taking into account their asset-creating nature and different structural characteristics of the EU mem-

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4. Monetary financing is not an option in the EMU.

ber states (Blanchard and Giavazzi 2004). While public infrastructure spending will result in higher primary deficit and debt in the short run, it will create productive assets that will generate higher output—and hence taxes—while contributing user charges over the long run.<sup>5</sup> The full impact of public infrastructure spending on long-run solvency can only be assessed by looking at the public sector's net worth and the government's inter-temporal budget constraint. Despite good arguments in favor of such an approach, there are important issues concerning the quality of public investment, possible short-term financing constraints, or conflicts with the need to reign in excess demand. Further, it may also distract attention from difficult fiscal reforms related to reprioritization of expenditure, including cuts in non-priority current expenditure, dealing with fiscal risks and contingent liabilities and eliminating off-budget expenditure, including on infrastructure. Freeing public investment from any fiscal constraint may also invite creative accounting, or classifying current spending as investment, and thereby excluding it from fiscal targets.

Fiscal space can also be created by rebalancing the existing portfolio of public investment projects, ensuring that the state would retain its involvement only in projects where this was productive. The government can stimulate private infrastructure investment, leading to improvements in the quantity and quality of public services, while lowering their cost. For example, increased competition in infrastructure (such as electricity), tariff increases toward cost recovery (such as water and transport), hard budget constraints on public utilities, and so on, can stimulate private investment and generate large fiscal savings.

PPPs operate at the boundary of the public and private sectors, being neither fully public nor fully private. PPPs are defined here as privately financed infrastructure projects in which a private firm either: (i) sells its services to the government; or (ii) sells its services to third parties with significant fiscal support in the form of guarantees. Despite these common elements of PPPs across sectors, there are differences in the type of arrangements that are typical in each sector (Box 1).

In what follows, we focus on whether and when using PPPs can create fiscal space for additional infrastructure investments in the EU8. In doing so, the paper will examine the fiscal risks of PPPs and the role of fiscal institutions in this regard, including how these affect the use and design of PPPs and thus the potential for creating fiscal space while promoting investment in infrastructure. Chapter 2 distinguishes the illusory from the real fiscal effects of PPPs. Chapter 3 relates the extent to which PPPs reduce fiscal costs to the nature of fiscal institutions. Chapter 4 explains how fiscal institutions can be improved to encourage fiscal prudence in the use and design of PPPs. Chapter 5 concludes.

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5. For example, if public infrastructure investment leads to alleviating infrastructure bottlenecks, and it is a complement to private investment, it may well be that creating fiscal space for this investment will have a strong growth effect.

### Box 1. How Does the Use of PPPs Differ by Sector?

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In roads, many types of PPP are observed. On roads with real tolls, the high costs of investment and uncertainty of traffic often lead governments to provide minimum-revenue or other guarantees. On untolled roads, governments sometimes link their payments to the volume of traffic (shadow tolls) and at other times agree to make availability payments conditional only upon the state of the road.

In electricity generation and in wholesale water supply and wastewater treatment, municipal or state-owned utilities often enter into contracts that have some form of availability (or “capacity”) payments. Though not usually described as PPPs, the contracts are structurally similar to PPPs; the main difference is that the purchaser is a government subsidiary, not the government itself. In electricity and water distribution, PPPs, as defined, are less common. Privately financed providers abound, but governments are unlikely to give them guarantees - perhaps because these industries don’t require such large and lumpy investments as do roads and power generation. Governments do sometimes subsidize privately provided water services, for example, by making publicly owned assets available to a private water company at no charge, but though these arrangements are sometimes described as PPPs, they don’t raise the same fiscal issues as contracts with guarantees or long-term commitments to make availability payments.

PPPs are also commonly used to procure “building facilities,” including schools, hospitals and prisons. In such cases, the private party usually finances, builds and maintains the building, but does not provide services, such as education and healthcare, to end users. The government typically makes availability payments to the private party, supplemented sometimes by usage-related fees. The government can usually control the latter (for example, by deciding how many prisoners are sent to the private prison), but not the former, which depend only on the buildings being available for use in proper condition.

# The Fiscal Effects of PPPs

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PPPs are generally used to generate fiscal savings while promoting investment (to create fiscal space). PPPs may generate fiscal savings, but, as we have defined them, they entail fiscal obligations that are often not captured in the fiscal accounts. Thus, their fiscal effects are often obscure. In what follows, we discuss the fiscal obligations created by PPPs and then consider whether, despite these obligations, PPPs might have a positive real effect on a government's underlying fiscal position.

## Fiscal Obligations from PPPs

A government that uses public financial resources to build infrastructure needs to make large upfront payments for construction. Unless the government increases taxes, its reported deficit and debt immediately increase. A government that uses a PPP, on the other hand, usually need not pay anything upfront. Construction bills are paid by the private partner, and the government's reported deficit and debt do not immediately increase. Therefore, PPPs can be attractive to governments under pressure to reduce their deficits and debt.

However, fiscal comparisons between public financing and PPPs can be deceptive. First, the true, long-run fiscal effect of publicly financed public services is not always reflected in measures of a government's fiscal position and performance. As advocates of greater fiscal space for public infrastructure investment have noted, public financing requires large upfront expenditure, but usually generates future revenues (Blanchard and Giavazzi 2004; Easterly and Serven 2003; IMF 2004c, 2005a; Irwin and Serven 2005). If tolls, tariffs, or other user fees cover the full costs of providing the service, a publicly financed investment pays for itself over the long run. Its effect on the government's net worth—the present value of future revenues less expenditures—is neutral. Even when user

fees cover only some of the costs, the net final fiscal effect of publicly financed investment is not as large as the immediate increase in the deficit and debt. The same holds true if the investments raise growth and general government revenues.

Second, the comparison is deceptive because even though PPPs do not immediately increase the government's debt, they do create direct or contingent fiscal obligations.<sup>6</sup> In one type of PPP, popularized in Britain under the name of the 'private finance initiative' and emulated by Australia, South Africa and many European countries, the government commits itself to purchase the output of the private partner. For example, the government may agree to make regular payments to a private provider of road, school, hospital, or prison facilities, conditional only upon the availability of the facilities in satisfactory condition. Such "availability" payments do not depend on the government's subsequent demand for the services: so long as the private partner has properly constructed and maintained the facilities, the government must pay. While the government's obligations to make these payments may not entail an accounting liability, they do entail an economic liability. When the government is the sole purchaser of the output of the private partner, the government usually needs to commit itself to payments that equal, in present values, the cost of the investment. Subject to some qualifications set out in the next chapter, the economic liability may be the same as the debt the government would have incurred had it used public finance. Lower public debt associated with these PPPs is in large part an artifact of governments' standards for financial reporting.

In another type of PPP, final users purchase the services supplied by the private partner, but the government provides financial support in the form of guarantees. PPPs of this type were particularly popular in the nineteenth century, when governments promoted railways by guaranteeing investors' returns (Ville 1990). The guarantees helped get railways built, but their design sometimes encouraged cost overruns. Many railways turned out to be unprofitable in the early years, requiring governments to spend large sums for support. The guarantees often complicated budgeting and sometimes precipitated fiscal crises. Today, toll roads are the type of infrastructure most likely to benefit from guarantees. Chile, Colombia, Korea, and Spain, for example, have given both revenue and exchange-rate guarantees to toll roads. The former compensate investors when toll revenue falls below a certain threshold, the latter when local-currency depreciation increases the cost of servicing foreign-currency debt. These guarantees have helped attract private investment in valuable infrastructure, but have sometimes been expensive. Spanish exchange-rate guarantees, designed to help investors finance projects from foreign rather than domestic sources, ended up costing the Spanish government more than \$342 billion pesetas between 1969 and 1990 (Gomez-Ibanez and Meyer 1993). The guarantee on a single road in Korea, running from Seoul to a new airport at Incheon, may cost the government as much as \$1.5 billion (about one-quarter of a percent of GDP; Irwin 2004).

Even when governments make no explicit financial commitments, they can feel obliged to bail out private infrastructure firms that become financially distressed. The Mexican government, for example, secured around \$10 billion in private investment in toll

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6. Privately financed public services do not necessarily impose such obligations; but PPPs, as defined in this paper, do. A toll road without government guarantees is an example of private financing that is not a PPP as defined here. In sectors such as roads where the service is provided to end users, governments tend to prefer PPPs to purely private financing when fully cost-covering user fees are either economically undesirable or politically infeasible.



roads in the early 1990s, but many of the concessions ran into trouble, in part because the government's policy encouraged short concessions with high tolls, which discouraged traffic, and in part because of the effects of a financial crisis in 1994. To resolve the problems faced by the concessionaires' creditors, the government took on \$7.7 billion (or close to 2 percent of GDP in 1994) of private debt (Ruster 1997; Gomez-Ibanez 1997). More recently, the British government took on several billion pounds of liabilities when Railtrack, the private company that owned the country's rail infrastructure, became financially distressed (Ehrhart and Irwin 2004).

## Box 2. PPPs in the EU8

PPPs are not new to the EU8. Indeed, the very first railway in Europe with a government-guaranteed return ran from Warsaw to Vienna (Westwood 1964). However, as in other countries, PPPs have returned to the limelight in the region in the last few years. As in the rest of the world, some involve the government signing long-term purchase contracts, others guarantees.

Hungary, for example, has entered into long-term purchase contracts to secure a prison and several university buildings, at an estimated total cost in present value terms of €483 million (CASE 2005). It has also signed a long-term purchase contract under which it will make availability payments to the M5 motorway, which runs connects Budapest with Bratislava and Bucharest. The estimated present value of the payments is €914 million. The two amounts add up to about 2 percent of GDP.

Both Poland and Hungary have given guarantees to toll roads. The first privately financed toll road in Poland (at least in the modern era) is a segment of the A2, a motorway under construction running from the German border to Warsaw and beyond. The A2's costs were estimated at around €745 million, of which €235 million came from equity and loans from the shareholders of the concession company and €235 million from senior lenders. The remaining €275 million came from a subordinated zero-coupon bond from the European Investment Bank, with an implied interest rate of just 6.5 percent, on the condition that the government guaranteed full repayment (Esty 2004). Hungary originally provided a guarantee to the M5 motorway (which now benefits instead from availability payments). The government agreed that if toll revenue fell below a specified threshold for any reason, it would extend to the concessionaire a loan that would not have to be repaid before the concessionaire's senior lenders were repaid in full. When the road opened, revenue was below the threshold and the government had to make payments, which it was later able to reduce by discouraging traffic on alternative public roads (EC 2004).

In other cases, EU8 governments have sought private investments in infrastructure that have not required guarantees or long-term purchase commitments. At least one such project nonetheless had significant fiscal implications. The first privately financed toll road in Central and Eastern Europe was the M1/M15 motorway in Hungary, which was financed purely on the back of forecast toll revenues. Yet when the motorway was opened, traffic was less than forecast and grew more slowly. The tolls, among the highest in Europe, were unpopular, and a court ruled that they had to be reduced. As a result, the concessionaire could not finance its debt, and eventually the government took over the road and assumed part of the debt (52 billion Hungarian forint, or about a quarter of a percent of GDP).

Lastly, public enterprises in the region have entered into long-term purchase agreements that are like PPPs even if they are not usually described as such. These agreements create contingent obligations for the government. In many countries, governments guarantee that the private partner will receive the payments it is due from the public enterprise. Even when governments do not give formal guarantees, they may feel obliged to honor the commitments of public enterprises or important private enterprises, for example power-purchase agreements signed by a state-owned electricity utility. Long-term power-purchase contracts complicate the creation of competitive power-markets. Hungary, for example, cancelled its power-purchase agreements in 2002. It may be possible to ensure that customers pay for the costs of compensating the investors; if not, governments must pay themselves.

One useful way of thinking about fiscal liabilities associated with PPPs is to put them in the cells of a table that distinguishes between liabilities according to whether they are direct or contingent and whether they are explicit or implicit (Table 1).

	<b>Direct</b>	<b>Contingent</b>
	Obligation in any event	Obligation if a particular event occurs
<b>Explicit</b> Government liability created by a law or contract	Obligations to make availability payments for services <ul style="list-style-type: none"> <li>◆ The Czech Republic (motorway D47, “Internet for schools”)</li> <li>◆ Hungary (prison, educational facilities, sport facilities, and the M6 motorway)</li> <li>◆ Slovakia (planned PPPs for the D1 motorway and for the National Theater in Bratislava)</li> </ul> Tax expenditures, like exemptions <ul style="list-style-type: none"> <li>◆ Poland (tax exemptions for state-owned companies)</li> </ul>	State guarantees of revenues under PPPs <ul style="list-style-type: none"> <li>◆ Poland (A1 motorway)</li> <li>◆ Hungary (M5 motorway)</li> </ul> State guarantees of debt of PPPs <ul style="list-style-type: none"> <li>◆ Poland (A2 motorway, energy project in Krakow, water and sewage treatment in Warsaw and Torun, road and rail infrastructure in Lodz)</li> </ul> Statutory guarantees on liabilities and other obligations of various entities, including financial institutions, possibly involved in PPPs (infrastructure development funds, etc) <ul style="list-style-type: none"> <li>◆ Czech Republic (Railway Transport Infrastructure Administration)</li> <li>◆ Hungary (State Development Bank)</li> <li>◆ Poland (Bank for Environment Protection providing guaranteed credit lines for small and medium enterprises and programs co-financed by EU)</li> <li>◆ Estonia, Latvia, Lithuania, and Slovakia (investor protection guarantees)</li> </ul> State guarantees on service purchase contracts <ul style="list-style-type: none"> <li>◆ Poland and Hungary (possible obligations arising from the past power-purchase agreements)</li> </ul> Litigation <ul style="list-style-type: none"> <li>◆ Slovakia (legal claims by CSOB and the Slovak Gas Company)</li> </ul>

(continued)

**Table 1. Selected Liabilities from PPPs and Other Privately Financed Infrastructure Projects (Continued)**

<p><b>Implicit</b> A “political” obligation of government that reflects public and interest-group pressures</p>	<p>Not typical in PPPs; would arise if governments were politically, but not legally, obliged to continue to provide subsidies to a PPP.</p>	<p>Possible assumption of the obligations of state-owned utilities that have entered into unguaranteed power-purchase agreements with independent power producers</p> <ul style="list-style-type: none"> <li>◆ Hungary (past PPA contracts in the energy sector, PPAs in waste water and solid waste)</li> <li>◆ Poland (PPA contracts in the energy sector)</li> </ul> <p>Possible assumption of the debts of privately financed toll roads, beyond the extent of formal guarantees</p> <ul style="list-style-type: none"> <li>◆ Hungary (M1/M15 motorway construction concessions—partly implemented through the Road Construction Corporation of the State Development Bank)</li> <li>◆ Poland (claims arising from expressway construction concessions)</li> </ul> <p>Possible demands by local governments for assistance in covering their own debt, guarantees, arrears, letters of comfort and other obligations possibly related to PPPs</p> <ul style="list-style-type: none"> <li>◆ Poland (local government debt and guarantees related to regional development)</li> <li>◆ Czech Republic (bail-outs related to hospital arrears)</li> </ul> <p>Claims by financial institutions involved in PPPs</p> <ul style="list-style-type: none"> <li>◆ Slovenia (regional guarantee schemes)</li> </ul>
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*Note:* The table shows the obligation of the general central government (rather than the consolidated public sector). It is by no means comprehensive.

*Source:* The authors, using the framework set out in Polackova (1998).

### Possible Overall Fiscal Savings from PPPs

Despite creating fiscal obligations, a PPP might improve the government’s net worth. In particular, the present value of the obligations might be less than the reduction in government expenditure or increase in revenues associated with the PPP (Table 2)

First, if the government is constrained by fiscal rules such as the Maastricht criteria, a PPP can allow the government to undertake more investment than it otherwise could. More

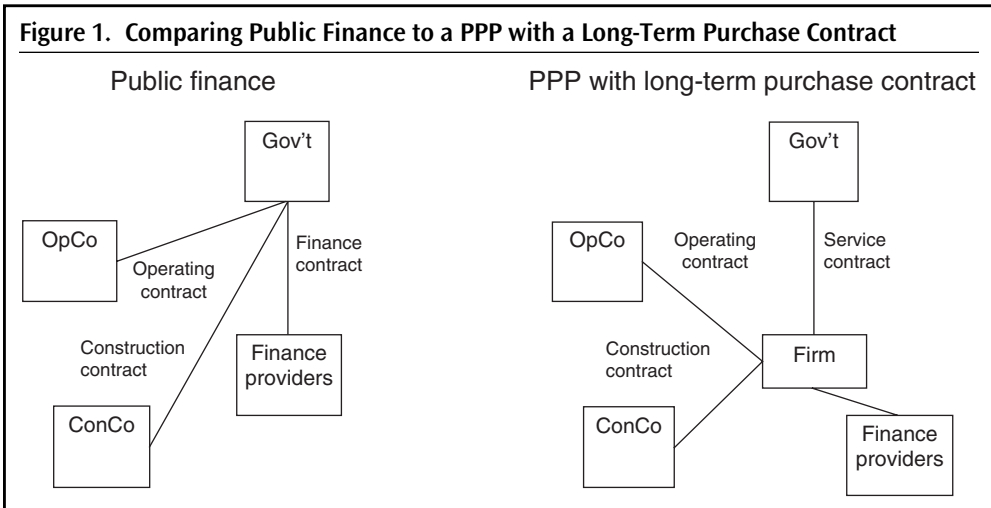
**Table 2. Possible Real Fiscal Effects of PPPs on Net Worth**

Avoiding constraints imposed by fiscal rules with more or less arbitrary accounting conventions	If fiscal rules prevent public investment but allow guarantees and long-term purchase contracts, <i>and</i> PPP investment leads to sufficiently large increases in user fees or tax revenue, PPPs can increase net worth.
Reducing whole-of-life costs	If the private partner is better than the government at coordinating construction, operations and maintenance, PPPs can lower the whole-of-life costs of public services, increasing government net worth.
Facilitating sustainable increases in user fees	If it is easier to achieve or sustain cost-covering user fees when the service is privately financed, PPPs may reduce the need for taxpayer-funded subsidies, thereby increasing government net worth.

or less arbitrary differences in accounting treatments may allow a PPP to proceed when an economically similar publicly financed investment would breach the constraint. In this case, the PPP's true effect on government net worth depends on the circumstances. If the project generates no user fees for the government, it could increase the government's net worth only if it stimulated economic growth so much that the present value of increased tax revenues surpassed the present value of the government's payments. This seems unlikely, but not impossible (Brixi and Irwin 2004). If the government used the asset(s) procured with the PPP (such as a road on which the government made availability payments to the private partner) to generate user fees, the PPP is more likely to have a positive effect on government net worth. Conversely, if the PPP allows the government to undertake investments that do not pay for themselves in future taxes and fees, it reduces government net worth.

Second, PPPs in which the government is the purchaser of the output under a long-term contract can increase the government's net worth, if they reduce the total ("whole-of-life") cost of providing the service. Private companies are usually better than governments at building infrastructure assets on time and on budget and at operating and maintaining them in a cost-effective and efficient manner. That creates an argument for allocating the risks of operations, maintenance and construction to a private firm, as is typically the case in a PPP. When a private firm bears these risks, project costs should be lower, and this should reduce the amount the government has to pay. Yet the advantages of contracting out construction, operations, and maintenance do not immediately create an argument for private financing of a project: governments can also contract out these functions in publicly financed investments (Figure 1). Whether a PPP leads to lower costs generally depends on whether the government or the firm is better at coordinating construction with operations and maintenance. This matters because the quality of construction can affect the costs of operations and maintenance: high-cost construction may allow lower-cost operation and vice versa. Some argue that firms are likely to be better at coordinating the two functions and that delegating coordination to a private firm should therefore lead to cost savings; others are skeptical, arguing that fiscal sleight of hand is the real motivation for private financing in these cases (Quiggen 2004).

Third, PPPs may increase the government's net worth if they make it easier for the government to introduce or raise user fees. User fees usually do not cover the full cost of water, power and transport infrastructure and, while governments often plan to raise the fees, they find it hard to carry out the plans in the face of political pressure (World Bank



2004). Raising user fees is still difficult when the service is provided under a PPP, but when the private partner gets its revenue from the user fees, the private investors act as a counterweight to the political pressure for lower user fees. In particular, they will not invest unless the government can credibly commit itself to cost-covering tariffs or a combination of cost-covering tariffs and subsidies. Although governments can commit to cost-covering subsidies, not tariffs, they often choose cost-covering tariffs. Over time, the commitment may lead to higher user fees, lower subsidies and hence, higher government net worth.

PPPs are sometimes thought to have a higher cost of capital than publicly financed projects, which—with all other things being equal—would make them more expensive. The public party can usually borrow at a lower rate than the private partner, and it is sometimes thought that these extra interest payments should be weighed against any possible fiscal benefits. Borrowing costs do not give a complete picture of the cost of capital, however. The cost of capital invested in a project, whether the capital is public or private, is best thought of as its opportunity cost—the returns that could be earned by investing the capital in the best alternative project. Because projects differ in their risks, sophisticated assessments of the cost of capital adjust for differences in risk (using theories such as the capital-asset pricing model). The implicit approach taken here is to assume that the opportunity costs are the same for the public and private sectors, and that the risk-adjusted cost of capital is unaffected by the choice between a PPP and publicly financed investment (Brealey, Cooper, and Habib 1997; Klein 1997).

Net worth, the key measure of government solvency, is probably the most fundamental fiscal consideration. Indebtedness increases a government's financial vulnerability, heightening the risk of adverse changes in net worth, and matters especially to governments that are already highly indebted. Even when PPPs do not increase a government's net worth, they may reduce its indebtedness (counting the PPP obligations as debt). Consider a case in which the private partner sells its services to final users, and suppose that costs and tariffs are the same under public and private financing, so that the government's net worth is unaffected by whether the project is undertaken publicly or privately. Even if the

government gives some guarantees, its total liabilities, along with its assets, will be lower under a PPP than under public financing. This will not matter much to governments with low debt, but could be important to others.

## How to Assess the Overall Fiscal Impact of a PPP Project?

An adequate assessment of whether a particular PPP project would lead to fiscal savings, compared to pure public financing, requires an adequate basis for comparison. First, it is necessary to estimate the true fiscal consequence of the publicly financed investment project, taking into account future revenues, as well as required future recurrent costs, besides the value of the initial investment.

Second, such an assessment would require an estimation of the cost in present value terms of the government's (or public sector's) commitment in the PPP contract. This is relatively straightforward for longterm purchase contracts in which the government's payments are fixed in advance. The simplest option is to assume that the private partner will achieve the performance targets it is set. All that needs to be done, then, is to determine the payments required by the contract and calculate their present value at the risk-free interest rate appropriate to the term and currency of the obligation. For example, if the contract requires availability payments of €10 million at the end of each of 20 years and the risk-free interest rate is 5 percent, the fiscal cost is approximately €125 million. If it were reasonable to suppose that the private partner would not fully meet the performance requirements, the government could estimate the expected penalties that could be deducted from the availability payments.

Estimating the cost in present value terms of guarantees and other forms of contingent support is more difficult, but often possible.<sup>7</sup> Option-pricing formulas can be used to estimate the cost of simple guarantees.<sup>8</sup> Monte Carlo simulation and other numerical techniques can be used to accommodate the features of more complex guarantees. Countries with extensive experience in the valuation of government guarantees include Canada, Colombia, Chile, the Netherlands, Sweden, Turkey, and the United States.<sup>9</sup>

7. See IMF (2005a) for a technical summary of the available methods for valuation of guarantees.

8. It is possible to illustrate how a relatively simple guarantee can be valued. Take a loan guarantee similar to that given to the A2 motorway in Poland. Assume that the project's initial cost and value is €100 million, of which €30 million comes from equity and €70 million from a zero-coupon bond maturing in 20 years. The zero-coupon bond's repayment has been guaranteed by the government, and therefore attracts an interest rate equal to the government's borrowing rate of 5 percent (continuously compounded). At that interest rate, the required repayment is €190 million. Now suppose that without the guarantee the bond would carry an interest rate of 10 percent. The value of the guarantee is the difference between the present values of the promised future repayment of €190 million at the two interest rates: 70 million – €26 million = €44 million. Given the assumptions, most of the value of the debt financing comes from the government, even though it offers no cash. The guarantee can also be valued without making any assumptions about the interest rate that would apply in the absence of the guarantee by using the Black–Scholes formula (Black and Scholes 1973; Hull 2003). In this case, however, it is necessary to estimate—or make an assumption about—the volatility of the value of the asset financed by the guaranteed bond (where volatility is the annualized standard deviation of the return to the asset). The two measures are equal in this example at a volatility rate of 45 percent.

9. For Colombia, see Lewis and Mody (1997) and Echeverry and others (2002).

# How Fiscal Institutions Affect the Fiscal Cost of PPPs

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**F**iscal institutions affect the use, design, and, ultimately, fiscal cost of PPPs. Fiscal institutions are conventionally defined as institutional arrangements and management practices that relate to public resource allocation, resource use and financial management. The nature of these arrangements and practices directly affects government incentives, information and capacity. Among fiscal institutions, attention tends to focus on arrangements and practices of budget management, and more recently, government management of financial assets and liabilities. With respect to infrastructure, fiscal institutions affect the extent and type of fiscal support. They affect the extent to which governments use PPPs as opposed to traditional public financing, and accept risk exposures as opposed to providing cash subsidies under PPPs.

## Incentives

As EU8 countries seek to generate fiscal savings while promoting investment, their fiscal institutions affect their incentives toward the use and design of PPPs. Conventional fiscal institutions tend to promote incentives to:

- Favor PPPs even when public investment would deliver equal results at a lower cost in the long term;
- Accept risks (for example, offer explicit and implicit guarantees), rather than providing cash subsidies under PPPs;<sup>10</sup> and
- In the design of PPPs, let the public sector accept risks that the private sector is more suited to bear.

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10. As the previous Chapter illustrated, private investors often ask governments to provide financial incentives in the form of cash

This is largely because conventional fiscal institutions devote weaker scrutiny to non-cash fiscal support and long-term obligations, compared to cash-based support and immediate outlays. The difference mainly relates to the rules for fiscal reporting, accounting, and budgeting, for measurement of fiscal savings, and for government accountability with respect to fiscal performance. Measuring fiscal savings (and fiscal adjustment) in terms of the immediate impact on the deficit and debt that are not adjusted for government risk exposures has been known to encourage governments to provide contingent forms of fiscal support and assume risk and long-term obligations in exchange for short-term reductions of cash spending (Irwin and others 1997; Brixi and Schick 2002).

Hence, with respect to infrastructure, measuring fiscal savings in terms of conventional government deficit and debt (that is, without considering the future fiscal cost of contingent liabilities, such as guarantees, and long-term obligations, such as take-or-pay contracts) creates an illusion of fiscal savings when investment and services are delivered without immediately raising the budget deficit and government debt. This illusion makes government risk exposure and long-term obligations under PPPs look “cheap” compared to public financing and cash subsidies. Since the fiscal cost of PPPs typically surfaces in the long term, the illusion holds even when countries develop a medium-term fiscal framework.

Although not explicitly captured by ESA95, some guarantees in EU8 countries are included in the fiscal accounts under the Maastricht criteria as countries have expanded their definition of general government.<sup>11</sup> Specifically, these countries have brought the cost of quasi-fiscal operations implemented through extrabudgetary funds and off-budget agencies into their general government deficit and debt figures under the Maastricht fiscal framework. The commitment to bring extra-budgetary funds and off-budget agencies of a fiscal nature within the scope of general government has been, however, uneven across the EU8 countries. The Czech Republic and Slovakia may be considered the leaders in this regard.

Commendably, the Czech Republic since 1997, after publicly disclosing its large contingent liabilities arising from the so-called transformation institutions,<sup>12</sup> off-budget funds and credit guarantees, has brought these into the Maastricht fiscal framework. Transformation institutions and off-budget funds have been either dismantled or scheduled for dismantling. Those that have remained in operation are now accounted for as part of general government, and the cost of their activities thus directly affects the deficit and debt figures.

The Czech Republic and Slovakia have also started to impute the future fiscal cost of government credit guarantees into their deficit and debt figures. These two countries have assessed most of their outstanding government guarantees as risky and started to reflect the maximum amount the government could be required to spend as part of their reported government deficit and debt. In 2003, the year in which the accounting policy changed, the increase in reported debt also showed up as an increase in the reported deficit. In the fol-

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11. ESA95 and SNA record contingent liabilities when these liabilities are tradable and have market value. State guarantees are very rarely tradable (EC 2004).

12. Transformation institutions had been created as off-budget agencies to borrow, issue guarantees and finance government support programs for banks, enterprises, and other entities. Some of the transformation agencies were covered by an explicit government guarantee, others were considered backed by the government implicitly.



lowing years, any future increase in guaranteed debt will show up in the deficit in the year in which the guarantees are issued. Although this decision has negatively affected the countries' reported deficit in the short term, it will technically prevent most past guarantees from raising future deficit figures and thus complicating future fiscal adjustment. This comes in contrast to the situation in other new EU member countries, notably Cyprus, Malta, and Poland, who have a large portfolio of outstanding government guarantees that have not been reflected in government debt and deficit figures.<sup>13</sup>

Recent improvements in the coverage of general government deficit and debt reported by EU8 countries, however, fall short of fully capturing the future fiscal costs related to government risk-taking under PPPs. Within the EU and beyond, the EU8 countries are not unique in facing the problem of internalizing the fiscal cost of government long-term obligations and risk exposures. Specifically, take-or-pay contracts (including those signed by public utilities) and various types of guarantees, provided by the local as well as central levels of government under PPPs, are not easily captured by ESA95, nor other accounting standards. According to a 2004 ruling by Eurostat, for example, a PPP remains off a government's balance sheet if the private partner bears construction and availability risks (that is, risks related to construction costs and delays and whether the private partner has constructed, operated, and maintained the asset to ensure that it can provide the required service) (Eurostat 2004). However, in a PPP that meets the two criteria from the above referenced Eurostat ruling, but where the government is the sole purchaser of the output, the governments would accumulate debt-like liabilities without affecting its fiscal deficit and debt figures (at best, mentioning the liabilities only in a note to financial statements).

Similarly, accountability structures in EU8 countries as well as in a number of other EU countries, although improving, fall short of ensuring fiscal prudence in the use and design of PPPs. EU8 countries have been improving the accountability of policymakers with respect to medium-term fiscal performance as they have been establishing medium-term fiscal frameworks and compliance with EU fiscal surveillance. EU8 countries have also been strengthening their audit mechanisms (namely internal audit by the ministry of finance and external audit by the supreme audit institution), so as to promote accountability of policymakers for fiscal performance. Hungary's National Audit Office, for instance, has taken initiatives to implement performance audits (rather than pure financial audits) and assess the government's handling of fiscal risk. The existing accountability frameworks in EU8 countries (as well as most other EU countries) are, however, still incomplete with respect to government risk taking and risk management.

With respect to PPPs, policymakers do not seem accountable for the long-term fiscal risk arising from take-or-pay contracts and various types of guarantees offered by local and central governments. Similarly, there is no clear accountability for the adequacy of risk analysis that supports government decisions about fiscal support to infrastructure. Governments' accountability for managing government risk exposures under PPPs is also limited.

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13. In Poland, although a state guarantee regulation introduced in 1997 requires decent disclosure and prudential provisions, the regulation tends to be implemented in a less comprehensive and less binding manner. Hence, current government debt figures only partly reflect the future fiscal cost of outstanding guarantees. This is particularly so for guarantees issued by local governments, extra-budgetary funds, and off-budget agencies.

## Information

Good information on and understanding of the long-term fiscal cost of PPPs is important for promoting risk awareness (that is, an open discussion and acknowledgement of risks and government risk exposures). EU8 countries, however, have only limited information on the risks involved in PPPs and limited understanding of the long-term fiscal cost of PPPs. Moreover, these countries make very little of such information publicly available. PPP contracts and their content are considered confidential. This makes it difficult for policy analysts to assess the long-term fiscal cost of PPPs—and for the public to exercise appropriate pressure on policymakers for fiscal prudence. Many countries, such as Australia, Argentina, Brazil, Britain, and Peru now publish at least some contracts or licenses issued to private firms for the supply of public services.<sup>14</sup> Others such as Chile publish summaries of the contracts, including descriptions of the government's fiscal obligations in their official gazettes. But around the world much more could be done.

Without good information and understanding, the risks and long-term fiscal cost of PPPs tend to be underestimated. This further contributes to making PPPs and government risk-taking under PPPs an attractive choice of fiscal support to infrastructure.

## Capacity

Building government capacity to evaluate and manage risks and long-term obligations that arise from PPPs takes time and effort. Yet building the capacity to mitigate risk at source, create risk-sharing arrangements, and manage any residual risk is essential for PPPs and will be discussed in the next Chapter. Weaknesses in government capacity to evaluate and manage risk may surface in the form of inefficient risk allocation and excessive government risk exposure under PPPs. Promoting PPPs without having such capacity has proven costly in a number of countries, including Indonesia and Turkey.

EU8 countries have been building their fiscal risk management capacity. Most have centralized the authority for issuing government guarantees and for managing fiscal risk in their ministries of finance, have developed a central database of government guarantees and local government borrowing, and have built capacity to gather and analyze information on fiscal risk. For instance in the Czech Republic, the capacity to analyze fiscal risk (as well as disclosure) has been evolving (Bezdek, Dybczak, and Krejdl 2003). The capacity to manage government debt and its risks has also improved and, for instance in Hungary, is comparable to international good practice in terms of fine-tuning the instruments for the issuing of public debt, and the systematic use of benchmarking in order to minimize risk and costs (Currie, Dethier, and Togo 2003). The capacity to actively manage government risk exposures arising from contingent liabilities and control long-term obligations has been more limited.

Experience shows, however, that useful capacity can be built relatively quickly once the ministry of finance is committed to do so. Turkey (Box 3) and Chile, for instance, have recently been able to employ relatively sophisticated risk valuation models to regularly

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14. Some contracts and licenses are available on the internet at <<http://ppi.worldbank.org/icl/>>.

assess government risk exposures under PPPs. Sweden has been notable for managing government contingent liability risk exposures as part of comprehensive government asset-liability portfolio management at the Swedish National Debt Management Office. In fact, based on its risk assessment, the Swedish National Debt Management Office is providing a menu of possible contract designs, risk exposure, and cost to the government.

### Box 3. Building Risk Management Capacity in Turkey.

During the 1980s-90s, the Turkish Treasury provided many credit guarantees to SOEs and municipalities, revenue guarantees in the electricity sector, debt guarantees in the water sector and guarantees on take-or pay contracts signed by the state-owned gas importer. Many of these guarantees were called during the economically difficult years of 1998–2002. In that period, the cost to the Treasury was about US\$1 billion (0.3–0.8 percent of GDP) per year.

As part of its 2001 reform program, the Turkish Government undertook policy and institutional reform in public liability management. While these reforms are yet to be completed, a number of good measures have been introduced:

- ◆ A stronger legal framework: The new laws on Public Finance and Debt Management (2002) and Public Finance Management and Control (2004) established a risk management framework for the entire portfolio of government (contingent as well as direct) obligations, and strengthened the role of the Treasury.
- ◆ Stricter guarantee issuance procedures: The Treasury established a guarantee ceiling and a Risk Fund (a cumulative contingent liability fund). Guarantee issuance is no longer automatic and involves the assessment of government risk exposure and risk-sharing possibilities.
- ◆ A credible collection policy: To reduce moral hazard under guarantees, the Treasury has tightened the use of write-offs and offsets on the amounts due from the delinquent, applied short maturities and interest on restructured amounts and seized revenues from delinquent debtors.
- ◆ Improved oversight and disclosure: Quarterly Debt Reports provide detailed information on government contingent liabilities and on the Turkish liability management system.
- ◆ An effort to build risk management capacity: Within the Treasury, a high-level Debt Management Committee and Deputy General Directorate for Risk Management have been established to implement an integrated public liability management framework.

The effort to build risk management capacity includes utilization of innovative risk valuation tools. With the support of a foreign private firm, the Treasury has employed a stochastic simulation model for its US\$6-billion portfolio of contingent liabilities. The model simulates both macroeconomic risk and sector- and contract-specific risk. Monte Carlo simulation generates the loss distribution. The model helps identify the optimal portfolio composition that would minimize losses in most scenarios. Furthermore, the model helps to determine the guarantee fee to be paid by the beneficiary (according to government risk exposure), future guarantee ceilings and annual budgetary transfers to the Risk Fund. The Treasury has been constantly updating the model and using it to decide on new guarantee issuance as input to budget formulation and to promote public understanding of fiscal risk. One of the outcomes has been a drastic reduction in guarantee issuance during 2003–04, and further tightening of risk-sharing and collection rules.



## Directions for Further Reform

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Fiscal institutions need to set the basis for transparency, accountability and other measures to support fiscal prudence in the use and design of PPPs. It will mainly be a task for the domestic fiscal institutions to promote fiscal prudence in the use and design of PPPs. While separate PPP legislation may not be required, public finance laws, regulations and practices need to be comprehensive in order to address all possible forms of government fiscal support, including government commitments under PPP contracts. International mechanisms, however, may help if they better address government contingent liabilities and long-term obligations. In EU8 countries, EU fiscal surveillance in particular could become more effective in promoting fiscal prudence beyond the budget.<sup>15</sup>

### Promote Awareness of Risk and Long-term Fiscal Cost

When government fiscal support is warranted, the decision on whether to undertake a PPP and on how to design government support in the context of this tends to be influenced by the extent of government risk awareness. In this regard, an open discussion of government long-term obligations and risk exposures enhances policy choices about fiscal support in infrastructure and improves government dealing with risk under PPPs. Similarly, at the level of local governments, introducing an open discussion and acknowledgement of risks, their sources, types, and possible long-term fiscal cost may deliver significant benefits in the soundness of local government involvement in PPPs. Most EU8 countries have been trying to collect, analyze, and discuss information about government risk exposures emerging

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15. This section draws on Brixi and Irwin (2004) and Brixi (2005).

from state credit guarantees. The Czech Republic, Estonia, and Latvia have been expanding the discussion to the whole portfolio of main government contingent liabilities and fiscal risk. This helps to build awareness about the risks and obligations under PPPs.

Credible valuation of risks and assessment of long-term obligations contribute to risk awareness. Scenario analysis, for instance, can be useful to make policymakers aware of the potential fiscal impact of the worst possible outcomes under PPPs. Given the tendency of the proponents of PPPs to underestimate their long-term fiscal cost, impartial valuation based on credible assumptions and methodologies, conducted possibly by the ministry of finance, provides a useful basis for acknowledging risks and future possible fiscal costs. In addition to risk valuation methodologies, there are practical analytical frameworks that promote risk awareness. The fiscal risk matrix presented in Table 1, for instance, has been used by a number of countries, including China, the Czech Republic, India, South Africa, and the United States (Government Accountability Office) to promote government risk awareness.

Open discussion and acknowledgement of risks by policymakers is the key to promoting effective risk awareness and can be achieved even without relying on sophisticated risk valuation methodologies. In the Czech Republic, Hungary, Thailand, and South Africa, among others, ministries of finance have successfully promoted risk awareness by reaching out to the central bank, sector ministries, government and nongovernment agencies, academic institutions, and private sector agents to gather relevant information.

## Impose Disclosure

Disclosure raises scrutiny, fiscal prudence, and the contestability of resources. Information that is disclosed invites scrutiny by people outside the government and by the government itself. When disclosure rules have broad coverage they enable the government to better monitor lower-level governments and public sector units and expand the share of government activities that is open to public scrutiny. Scrutiny is likely to generate pressure for greater fiscal prudence applied by governments at both the central and local levels.

Good-practice financial reporting standards require the disclosure of commitments, contingent liabilities, and some other sources of fiscal risk. Adopting such standards automatically creates a requirement to disclose information about most government risk exposures under PPPs. Also, since the government auditor must express an opinion on the accuracy of the disclosures, it automatically creates an enforcement mechanism.

However, promoting disclosure should not be held hostage to the improvement of these standards. Statements of government risk exposures, for instance, can complement any government financial statement or report. At the level of central government, Australia, Canada, the Czech Republic, the Netherlands, New Zealand, the United Kingdom, and the United States offer some good practices to consider. In these countries, the government publishes a list of its risk exposures, and discusses their sources, nature, sensitivities, and possible financial and allocative implications.

Statements of government risk exposures and obligations can be self-standing documents or part of regular budgetary documents. Government statements of risk exposures and obligations (including long-term purchase and subsidy contracts) can provide an estimate of the associated future fiscal cost. Chile, for example, discloses information about its guarantees beyond what is required by the financial reporting standards it follows (Government

of Chile 2003). The government intends to report according to modern accrual accounting standards in the future, but at present uses cash accounting. Nonetheless, in a report on public finances accompanying the budget, it discloses information on the costs of the revenue and exchange rate guarantees it has granted to toll roads. First, it presents estimates of the total cash flows it expects to pay or receive over the next twenty years as a result of the revenue and exchange rate guarantees (lumping together all the different concessions). Second, it provides estimates of the value of each of the revenue and exchange rate guarantees by concession.

With respect to PPPs, governments can disclose their fiscal risks before as well as after deals are completed. By disclosing draft PPP contracts, the government would allow for a wider discussion of the fiscal risks involved and for a possible adjustment in the contract before it is signed. Disclosure of the signed PPP contracts would promote public understanding of government fiscal risk exposures, which in turn would promote government accountability. In addition, governments could be required to disclose a description and analysis of their risk exposures under PPPs. Finally, to promote transparency and accountability, the fiscal cost of past PPPs should be disclosed in a timely manner, possibly as part of a broader discussion on realized fiscal risk in annual budgetary documents.

There are several prerequisites for both risk awareness and disclosure. These include having a database of government direct and contingent obligations to form a basis for analysis; adequate institutional capacity, including the capacity to gather and analyze relevant information, evaluate risk exposures, and conduct revenue and expenditure projections under PPPs (as well as for the government as a whole); and an adequate enforcement mechanism, including a supportive political and legal environment (for instance, with respect to the reporting by local governments, public sector units, and public utilities to ensure compliance).

Given the long-term nature of the fiscal costs of PPPs, it is appropriate to disclose long-term fiscal scenarios that would capture the possible fiscal effect of PPPs (along with other long-term obligations, such as those related to retirement and healthcare in ageing societies). Australia, New Zealand, the United Kingdom and the United States are countries that publish long-term fiscal projections covering periods of up to 75 years, and offer good practice to consider. Long-term fiscal forecasts could also include “fiscal” balance sheets, showing the present value of cash flows in various categories, including assets and liabilities not recognized according to prevailing accounting standards.

Long-term projections and fiscal balance sheets can assume current policies as the base case and assess whether those policies are sustainable. Projected cash flows from long-term purchase contracts in PPPs could easily be included in the projections. If the expected expenditures created by guarantees had been calculated, these amounts could also be included. Clearly, there’s room for reasonable disagreement about the assumptions underlying long-term fiscal models, so governments may want to present good and bad scenarios as well as a base case and to make the model available for public scrutiny.

## **Enhance Fiscal Planning, Accounting and Budgeting**

For countries with large portfolios of contingent liabilities and long-term obligations, fiscal planning, to be meaningful, needs to reflect the possible long-term fiscal implications of these obligations. Long-term fiscal projections discussed above would support government

fiscal planning. Specifically, they would allow governments to reflect possible future spending pressures in its fiscal targets and, if needed, to adjust fiscal targets to maintain fiscal stability vis-a-vis long-term obligations and risks. Fiscal targets may be complemented by ceilings on government risk exposures, possibly in the simple form of ceilings on the face value of guarantees outstanding and of new guarantees issued in the coming budget year. Such simple ceilings have been introduced, for instance, in Hungary, Latvia, and Poland. In these countries, the ceilings are approved by Parliament as part of the annual Budget Law. In Latvia, the annual Budget Law also provides ceilings for local government guarantees and borrowing. Furthermore, it specifies an allocation to cover the cost of past contingent liabilities that are considered likely to be realized in the given fiscal year. The ceilings, however, may not always be considered binding beyond a given year. In Poland, for instance, the guarantee ceilings fluctuated between 1.0 and 3.7 percent of GDP during 1999–03. More developed approaches to support fiscal planning by addressing government risk exposures and long-term obligations include budgeting for risk and comprehensive asset and liability management frameworks (both discussed below).

Accounting reforms can address some but not all of the problems described here, in part because they can create requirements for routine, audited disclosure of some of the information described in the previous Chapter. Accounting standards have the potential of enhancing the management of entities (government and public-sector entities as well as private-sector entities) and supporting the government's aggregate fiscal discipline (which is our focus here). First, the adoption of "accrual" accounting, according to any reasonable standards, requires governments to report the assets they own and a measure of the fiscal deficit that reveals approximate changes in the government's net worth, thus addressing the first reason why comparisons of PPPs and publicly financed investments are deceptive (see above). The New Zealand government, for example, produces a balance sheet showing assets as well as liabilities, of which state highways and state-owned power generation and transmission companies recently made up about 18 percent. It also reports an accrual measure of the budget deficit, which counts depreciation on existing infrastructure assets, but excludes cash spent on publicly financed investments.<sup>16</sup> In terms of accounting and statistics, Slovakia belongs to the most advanced among EU 8 countries, as it now reports accrual-based government finance statistics to the IMF (IMF 2004b).

Second, the adoption of some accrual accounting standards requires governments to report as liabilities some of the obligations created by PPPs. In the United Kingdom, accounting standards setters published guidance designed to help reporting entities see beyond the "legal form" of PPPs and to capture their "economic substance."<sup>17</sup> As a result, the government reports assets and liabilities associated with some, though not all, of its PPPs containing long-term purchase contracts. Accounting standards can also require reporting entities to recognize the cost of guarantees in the year in which they are issued. The United States government, for example, has designed an accrual accounting standard that ensures that the net long-term present value of certain loan guarantees is captured in its accounts in the year in which the guarantees are issued.

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16. For more information on the fiscal accounts for New Zealand see the Treasury web page: <http://www.treasury.govt.nz/budget2005/fiscalstrategy/annex1.asp>

17. See "Private Finance Initiative and similar contracts," a note appended to the UK Accounting Standards Board's Financial Reporting Standard 5, "Reporting the substance of transactions."



However, even the best existing accrual accounting standards are not sufficient for solving all the problems. Accrual-based accounting standards do not force all costs and liabilities out in the open. They do not necessarily require the costs of guarantees to be included in calculations of budget deficits, and they do not necessarily require the liabilities created by long-term purchase agreements to be recognized alongside ordinary debts on the balance sheet. Fortunately, the leading international standards appear to be improving—International Financial Reporting Standards, International Public Sector Accounting Standards (which modify the International Financial Reporting Standards for use by governments), and Generally Accepted Accounting Principles in the United States, for example, all appear to be converging toward more accurate accounting for such instruments. According to each of these three sets of standards, many guarantees would be recognized at the present value of their future fiscal cost, while the value of most other guarantees would at least be disclosed. It will likely be some time, however, before the standards become fully satisfactory (Irwin 2003).<sup>18</sup> Moreover, although adopting accrual standards can help address the problems, the problems can also be addressed without adopting such standards.

In government budgeting, the objective is to expose any proposed PPP and its related fiscal obligations and risks to the same extent of scrutiny as cash spending. In this respect, contemporary approaches reflect two important principles for budgeting for fiscal risk (Schick 2002):

- Apply a joint ceiling to the cost of budget and off-budget support for each sector in a fiscal year. Offbudget support is considered a form of subsidy and thus subject to the same scrutiny and limits as any spending program. The size of the hidden subsidy is calculated as the present value of the future expected fiscal cost;
- Have the budget immediately reflect the full likely fiscal cost of contingent support when such a scheme is approved. In countries subject to fiscal ceilings, such as the EU countries, this principle could imply that the net present value of the future fiscal cost associated with government guarantees issued in a given year would need to fit within the deficit ceiling, and the net present value of the future fiscal cost associated with government guarantees outstanding would count against the debt ceiling.<sup>19</sup>

Another, possibly complementary, option is to create a contingent-liability fund. Some governments have created a special fund (to accumulate financial assets from budgetary transfers and/or fees collected from guarantee beneficiaries) that is used to meet future calls on guarantees and other liabilities. When guarantees are issued, the sector ministry can be required to transfer to the fund an amount equal to the estimated value of the guarantee.

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18. In addition, some international statistics rules can be helpful with regard to government risk exposure. For instance, according to the IMF (2004a), non-financial public enterprises that are not commercially run should be included in fiscal statistics.

19. Alternatively, using conventional accounting approaches, one could think in terms of reducing the deficit ceiling by an amount equal to the net present value of the future fiscal cost associated with government guarantees issued in a given fiscal year. This principle would also imply that the debt ceiling would be reduced by the amount of the net present value of the future fiscal cost associated with government contingent liabilities outstanding. This would hold not only for guarantees but also for other forms of contingent fiscal support.

In Canada and the Netherlands, which follow the two principles above and also have a special fund, the finance ministry computes the expected annual payout on contingent liabilities undertaken on behalf of the programs of each line ministry. The finance ministry then deducts these expected payouts from the annual budgetary allocation for the ministry concerned. Similar arrangements, including mechanisms to provide reimbursement to the line ministry for such provisions if a payout on the contingent liability does not occur *ex post*, have also been tried in Colombia. In Sweden, based on its assessment of government risk exposure, the Swedish Debt Office requires the payment of a guarantee fee based on the guarantee's likely future fiscal cost as a condition for the issuance of any guarantee. In case the guarantee beneficiary is not willing or able to pay the guarantee fee in full, the sector ministry is required to use its budget to cover the difference between the full guarantee fee and the amount paid by the beneficiary. This way, the likely future fiscal cost of a guarantee that is not covered upfront by the beneficiary is brought under the budgetary ceiling of the given sector.

These principles have several important implications for government fiscal performance. Budgeting for risk may or may not affect cash-based estimates of the government's fiscal deficit. It depends on whether the effect on the deficit is recorded when money is transferred from the budget to a contingency fund (then no effect is recorded when a guarantee is called and paid for from the contingency fund) or only when actual cash payments are disbursed from the program account. However, budgeting for risk makes policymakers more cash neutral—that is, neutral between alternative forms of providing government support in terms of deficit measurement, budget ceilings, or medium-term fiscal outlook. Perhaps most importantly, budgeting for risk promotes risk awareness among policymakers.

In any case, improvements in the analysis, disclosure and management of the fiscal costs and risks of PPPs need not wait upon the adoption of better accounting and budgeting standards. Experience suggests that the benefits of greater scrutiny, cash neutrality, and risk awareness can be achieved gradually with or without a comprehensive transition of the accounting and budgeting systems to accrual basis. Countries that have successfully combined reporting of contingent liabilities (and wider disclosure of risk) with cash accounting include the Czech Republic and South Africa, and those budgeting for risk within a cash-based budgeting system include Canada, Colombia, the Netherlands, and the United States. Similarly, fiscal risk can be brought into the government's medium-term fiscal framework. Setting the government budget and risk exposures in the context of a publicly announced medium-term budgetary framework makes any subsequent departures from the original risk analysis apparent. This has already strengthened the accountability of policymakers and the quality of fiscal policy in countries such as Australia (including New South Wales at the local level), Canada (including British Columbia and Ontario at the local level), Hungary, and South Africa.

## **Advance Fiscal Risk Management to Reduce Government Risk Exposure**

The experience of governments trying to actively manage their risk exposures shows that fiscal risk management is very demanding. Governments find that to manage their risk exposures they need the capacity to gather relevant information, a comprehensive database

of all major risk exposures, the opportunity for open discussion; the ability to understand fiscal risk (which may be assisted by useful analytical frameworks), and incentives to act correctly—incentives that are supported by adequate disclosure, accounting and budgeting rules, as discussed above.

Proper incentives in dealing with local government risk are supported by appropriate accountability structures. Policymakers need to be accountable for the adequacy of their risk analysis, assumptions, and decisions that involve fiscal risks and for managing the overall risk exposure of the government. Therefore, the role of supreme audit institutions (and the local audit bureaus) is to audit all aspects of government risk analysis and risk management. The General Accounting Office in the United States sets an excellent example, and its published reports provide for some very instructive reading.

Practice has shown the importance of three additional features of risk management: a clear risk management strategy (to specify to what extent the government is prepared to take on fiscal risk), centralized risk-taking authority (possibly in the budget office of the ministry of finance), and risk analysis and monitoring that are separate from risk taking (authorizing a separate entity as being responsible for analyzing and monitoring risk).<sup>20</sup> The division of responsibilities and functions in risk management and the underlying reporting arrangements need to be very clear to provide a basis for adequate accountability structures.

In a decentralized environment, it is appropriate to control the risk-taking by local governments. Just as local government<sup>21</sup> borrowing is overseen by the central government, the involvement of local governments in PPPs should also be subject to central government control. Moreover, given the technical demands related to PPP contracts, it may be appropriate to have the central government (for instance, a central PPP unit if established) involved in the design and implementation of PPP-related activities of the local governments.

For fiscal risk analysis and monitoring to be effective it needs to be comprehensive. Specifically, it needs to cover the whole range of channels through which governments at the central as well as local level generate fiscal risks, including letters of comfort, credit and guarantee funds, development corporations, local government-controlled enterprises, and so on.

Among government agencies and departments, the debt management office is often most able to analyze, monitor, and manage government risk exposures. Specifically, the debt management office is often best equipped to gather and analyze information about government contingent liabilities, evaluate government risk exposure and future possible implications of contingent liabilities on government debt, reflect on the analysis of contingent liabilities in the borrowing and debt management strategy, and advise the government on the future possible fiscal cost of newly proposed programs and on how to structure these programs to reduce government risk exposure. Debt management agencies are likely also to be in a good position to understand off-balance-sheet debt in

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20. This role of independent risk analysis and risk monitoring can be undertaken by the debt management office (e.g. Sweden) or by the supreme audit institution (e.g. US Government Accountability Office).

21. See *Intergovernmental Fiscal Relations: Consolidating Reforms* study for a discussion of debt controls on local governments.

the form of long-term purchase agreements. Entrusting the debt management offices with the analysis and monitoring of risk would be beneficial also, as it would separate these functions from risk taking, which is important in order to reduce moral hazard in risk analysis.

Debt management offices have been placed in charge of risk analysis and management, often in the context of the entire government balance sheet, in several countries, most notably in Sweden, Ireland, and Belgium. Among EU8 countries, Hungary's debt management office has developed good risk management capacity that could be extended to the management of government long-term obligations and risk exposures.

Depending on the specific institutional arrangements and capacity in a given country, another dedicated office within the ministry of finance or separate agency may be entrusted the responsibility for analyzing, monitoring, and managing government long-term obligations and risk exposures under PPPs. For instance, where appropriate, these functions may be conducted by a dedicated PPP office. Some oversight by the debt management office, however, would be beneficial for better and more comprehensive management of government assets and liabilities.

Ideally, for risk management purposes, government balance sheets would be extended to include future revenues, contingent liabilities and long-term obligations, as well as assets and liabilities. Such an extended assets and liabilities management framework (for further details see Brixi and Mody 2002) would provide a useful context for the government's debt strategy (for instance, the selection of debt instruments and debt portfolio decisions to offset government risk exposures arising from contingent liabilities) as well as fiscal planning (discussed above).

Related to the use and design of PPPs, reducing government risk exposure entails three complementary tasks: involving the private sector, transferring the risk to parties better able to bear the risk in the design of PPPs, and managing any residual risk that cannot be mitigated or transferred. Involving the private sector mainly implies mitigating the risk at the source and developing the financial markets. Ultimately, risk mitigation with private sector involvement is the most desirable long-run strategy. It not only reduces the government's exposure to fiscal risks but also reduces the vulnerability of the economy to shocks.

In infrastructure, policymakers may need to ask how to reduce the dependence of private providers and investors on government guarantees and other kinds of support. Countrywide legal, regulatory, and administrative changes and proper debt management strategies can facilitate the establishment of an efficient domestic bond market, which in turn will smooth the progress of private infrastructure, as well as improve the government's capacity to absorb risk. Private investors and providers in infrastructure may also be more willing to forego government guarantees when the investment climate in the country improves. Regulatory changes can encourage large international insurers to access the local market and pool risks, such as weather risk, that are uninsurable in a small economy. New financial instruments, such as asset-backed securities or catastrophe bonds, may help domestic financial institutions manage risk better, thus reducing their demand for government guarantees. Strategies to promote risk mitigation and financial market development, however, often hinge on fundamental sector reforms, such as reforms in energy pricing, production, and distribution systems.

Risk transfer mainly implies creating risk-sharing arrangements in PPP contracts. Creating a good risksharing mechanism in the PPP design requires clear policy objectives and understanding of all the underlying risks in a project. For both central and local governments, so far, the primary method of transferring risk has been through risk-sharing provisions in guarantee and insurance contracts. In private infrastructure, recent practice has suggested that carving out commercial risk from the coverage of government guarantees reduces moral hazard under the project, and limits government risk exposure.

Residual risk can sometimes be hedged. The private sector and, for some risks, international financial institutions offer useful risk mitigation tools. Governments and public sector entities, for instance, sometimes use currency swaps and commodity futures to hedge their foreign exchange and commodity price risks. They have also purchased reinsurance for disaster risk and weather risk from large international re-insurers. Increasing integration and liberalization in the market for insurance has made it easier to pool risk across countries and, increasingly, to insure risks that were until recently considered uninsurable. Governments might use some of these tools to hedge their exposure to risks in infrastructure projects. For the largest projects exposed to catastrophic risk, governments might also be able to issue catastrophe bonds, which offer lower yields when a catastrophe occurs. Given the still nascent stages of the international catastrophe bond market and weaknesses in the derivatives market, however, it is likely that governments will be able to reduce their risk exposure more effectively by first focusing on policies to mitigate the risk at source and develop the domestic financial markets. Similarly, a government's own limitations in risk management capacity make hedging approaches less plausible.

Risks that cannot be avoided or hedged must be absorbed, requiring the government to manage its financial assets so that it has cash when it needs it. If the government cannot avoid bearing a risk and cannot hedge this, it has no choice but to absorb the risk: that is, to bear any losses. It must therefore have sufficient cash on hand to enable it to make payments when they fall due. There are three basic ways of doing this:

- Put cash in a contingent liability fund (as discussed above) and hope the funds are sufficient to meet future payments;
- Use the cash to reduce debt and hope it can use tax revenues or additional borrowing if and when it needs to make payments; and
- Enter into a standby credit agreement with a bank that will allow it to borrow if it needs to make payments.

Each option has advantages and disadvantages. Having cash in a fund may give the government stronger assurance that cash will be available when needed, but it may also have a cost, because the cash could otherwise be used to repay higher yielding debt or invest in public services. The existence of cash in a fund may also tempt the government to use the money for other purposes. One option is to contract out management to a reputable foreign entity. The contract could specify permissible reasons for withdrawing cash from the fund without penalty and make other claims subject to a penalty and to prior public disclosure.

Using the cash to repay debt may be cheaper, but leaves open the question of whether the government will be able to borrow or raise taxes when liabilities fall due—possibly at

a time of crisis. A standby credit agreement, if available, solves the last problem, but at a cost that may be high.

The options are not mutually exclusive. A government can, and may indeed have to, use more than one option. The contingent liability fund, for example, cannot cover all contingencies. Even if the fund has the limited purpose of meeting calls on guarantees, it will be large enough to meet the worst possible losses only if the contributions are set according to the face value of the guarantees, rather than their expected costs. If contributions are smaller, the fund may need to be combined with reliance on taxing/borrowing or on a standby credit agreement.

### **International Mechanisms to Promote Fiscal Prudence vis-à-vis PPPs**

While countries' own efforts to promote fiscal prudence in the use and design of PPPs is fundamental, international institutions could potentially play a larger role than currently is the case. Ideally, general EU and other multilateral fiscal surveillance would continue to broaden its coverage of fiscal risks in member countries, including those related to PPPs at both the central and local government levels.

More could also be done to reward countries for disclosure in international fiscal transparency assessments (that is, "upgrade" for transparency rather than "downgrade" for risks revealed). Experience suggests that countries may be punished, rather than rewarded, when they reveal contingent liabilities. For instance, in 1997, when the Minister of Finance of the Czech Republic volunteered detailed information about then-unknown contingent liabilities and launched an effort to bring contingent liabilities under control, international institutions and sovereign credit rating agencies reacted negatively. Rather than commending the formidable steps toward fiscal transparency and discipline, analysts rang warning bells. Being unusual in voluntarily revealing government contingent liabilities, it was portrayed as if it was unusual in having contingent liabilities. This implies that transparency may appear costly in the short term.

International organizations can also continue to enhance international standards for disclosure, accounting and budgeting. In the European Union, Eurostat could continue improving the guidelines on how to account for PPPs. It could require government explicit contingent liabilities, such as guarantees, to be disclosed and accounted for based on their net present value. The European Commission could require countries to prepare and disclose long-term fiscal projections reflecting the costs of guarantees and longterm purchase obligations.

Further enhancing auditing standards and capacity of supreme audit institutions with respect to PPPs would also help. In this regard, INTOSAI, benefiting from the experience of the US General Accounting Office, has been successful in advancing auditing for government risk exposures and risk management.

Finally, advances in international mechanisms could be complemented by continued efforts to build government capacity to design PPPs and deal with the related fiscal risks. Some of the support for capacity building could come from international institutions, such as the European Commission or the World Bank; some of it could be purchased from the private sector.

<b>Goal</b>	<b>Options</b>	<b>Time horizon</b>
Risk awareness	Collect and centralize information on PPP contracts	S
	Discuss risks and long-term fiscal cost of PPPs as part of government decision-making	S
	Promote measurement of fiscal risks and the valuation of fiscal obligations	M
Disclosure	Disclose past fiscal costs of PPPs	S
	Disclose outstanding PPP contracts	S
	Disclose government analysis of risks and long-term obligations under PPP contracts	S-M
	Disclose draft PPP contracts and government analysis of related risks and obligations	S-M
	Disclose long-term fiscal scenarios reflecting the future possible fiscal effect of PPPs	M
	Enhance the whole system of financial reporting standards to require disclosure of commitments, contingent liabilities and other sources of fiscal risk in the public sector	M
Accounting, budgeting, and fiscal planning	Reflect the future possible fiscal effect of PPPs in fiscal planning	S
	Set overall limits on government risk exposure—either as simple ceilings on the face value of government guarantees, or as part of joint ceilings on cash outlays and the discounted cost of guarantees	S
	Reflect the net present value of expected fiscal cost of PPPs in the measurement of government debt when the government obligation originates (and changes in the net present value in the measure of the government deficit)	S-M
	Consider charging guarantee fees in the amount of the net present value of expected fiscal cost of PPPs	S-M
	Consider reducing deficit/debt ceilings by risk-adjusted values of contingent liabilities issued/outstanding and/or establishing a contingent liability fund	S-M
	Enhance the whole system of accounting and budgeting standards to address government commitments, contingent liabilities, and other sources of fiscal risk on a systematic basis	M
	Risk management	Monitor government risk exposures and obligations
Centralize government risk-taking authority (except where the accountability of decentralized organizations is strong enough)		S
Audit government risk analysis and risk management		S
Build capacity to evaluate and manage risk		S-M
Develop extended assets and liabilities management framework		M

Note: S = short term, M = medium term.





## Conclusions

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**I**t is important for EU8 countries to raise the likelihood that PPPs will be used and designed well, and will deliver fiscal savings as well as promote investment in infrastructure. In this respect, strengthening of fiscal institutions to enhance transparency and accountability in the use and design of PPPs is paramount. Specifically, countries in the region would benefit from promoting awareness of risks and long-term fiscal costs, imposing disclosure, enhancing fiscal planning, accounting and budgeting, and advancing fiscal risk management to reduce government risk exposure.

Institution building takes time, but international experience suggests that major advances in dealing with government risks and obligations of PPPs can be achieved when the government is committed to fiscal prudence. Such commitment, in turn, grows with better fiscal institutions.

International institutions could also do more to stimulate the commitment to change and support efforts to enhance fiscal institutions in the EU8 countries. In particular, EU fiscal surveillance could be expanded to cover contingent liabilities, bring government contingent liabilities within the criteria by which a country's fiscal performance is assessed and develop mechanisms to reward transparency and punish opacity and excessive risk taking.



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