Fiscal support for infrastructure: Toward a more effective and transparent approach

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Sudarshan Gooptu, Ellis Juan, Mahesh Kotecha, Anand Rajaram, and Jonathan Walters. The views expressed in the paper are those of the authors.
1 Overview

Governments would like fiscal policy toward infrastructure to achieve three goals:

- Securing big investments in infrastructure
- Keeping tariffs low, especially for certain groups, and
- Reducing cash deficits and debt, without raising taxes.

At least in the short term, however, one of these three goals usually has to go. The government must scale back its investment plans, raise tariffs, or modify its fiscal goals. Often, however, governments have favored forms of fiscal sleight of hand that seem to reconcile the goals without really doing so. Exploiting weaknesses in conventional fiscal measures, government can

- Cut back on investment and maintenance in public infrastructure, reducing the value of public assets and increasing future expenditure, but leaving the current cash deficits unchanged
- Direct state-controlled banks to lend to infrastructure—risking the banks’ balance sheets but not causing any immediate deterioration in reported fiscal performance
- Give private infrastructure investors guarantees that have a fiscal cost but cause no immediate increase in reported budget deficits or public debt
- Enter into long-term purchase contracts that resemble public borrowing, but leave reported public debt unchanged.

The use of these approaches has meant that apparent fiscal adjustment has sometimes been illusory. Less obviously, fiscal support hasn’t always efficiently served the government’s infrastructure goals: interventions chosen for their opacity can’t also be expected to be well targeted and cost-effective. Cross-subsidies, for instance, seldom help a country’s poorest citizens, because such people are rarely served by major utilities. Further, the desire to keep cross-subsidies has prevented governments from getting the full benefits of liberalization in potentially competitive infrastructure sectors, such as electricity and telecommunications. In electricity, the preservation of state-owned single buyers of wholesale power has in turn thwarted governments’ hopes of securing investment without providing guarantees.
Facing squarely the tradeoffs among the three goals is likely to lead to better decisions. In some cases, the appropriate approach may be to pursue genuine fiscal adjustment, scaling back plans to invest in low-return projects or raising tariffs so that private investment in projects with high social returns is privately profitable. When the projects have high returns, but raising tariffs is economically undesirable or politically infeasible, increasing taxes to pay for public investment may be appropriate. In other cases, increasing the cash deficit to finance investment may be appropriate. Though this last approach increases the cash deficit, its effect on the government’s real fiscal position—considering its assets as well as its liabilities—is not necessarily negative; if the projects are well chosen and implemented, it may be positive.

No generalization about which of these approaches is right can hold for all countries in a region as large and diverse as East Asia and the Pacific, or for all sectors in a field as large and diverse as infrastructure. This paper therefore aims to help governments in the region design fiscal policy toward infrastructure by helping them think about:

- The fiscal effects of infrastructure and the link between fiscal policy and policy toward competition and ownership
- The possible objectives and types of fiscal support for infrastructure, along with principles for choosing what fiscal support to provide, if any, to meet the objectives.
- Institutions that encourage better decision-making about fiscal support for infrastructure.

2 Understanding the fiscal effects of infrastructure

Good policy starts with a firm understanding of the fiscal costs, benefits, and risks of infrastructure—and how they relate to policies about competition and ownership. Unfortunately, some of the costs and benefits are difficult to estimate.

2.1 Kinds of fiscal costs

Providing infrastructure can cost the government money in many ways. The costs may be direct or contingent and explicit or implicit. Table 1 illustrates, taking the perspective of the core central government (that is, excluding local governments and state-owned businesses).
Table 1  Kinds of central government fiscal support for infrastructure

<table>
<thead>
<tr>
<th>Direct</th>
<th>Contingent</th>
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<tr>
<td>Obligation in any event</td>
<td>Obligation if a particular event occurs</td>
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Explicit
- Government liability created by a law or contract
  - Sovereign debt contracted for infrastructure investments
  - Central government subsidies and take-or-pay agreements that are legally binding in the long term
  - Tax expenditures, such as exemptions, that reduce future government revenue

Contingent
- State guarantees of long-term purchase contracts of state owned utilities
- State guarantees of debt, revenue, exchange rates, and construction costs in private infrastructure projects
- State guarantees for borrowing of public infrastructure companies
- State guarantees of financial institutions involved in infrastructure financing
- State guarantees for borrowing of local governments related to infrastructure

Implicit
- A “political” obligation of government that reflects public and interest-group pressures
  - The future cost of any noncontractual but politically unavoidable budget subsidies
  - Future recurrent costs of public investment infrastructure projects

Noncontractual claims arising from private investment in infrastructure
- Claims by state owned infrastructure enterprises to help cover their losses, arrears, deferred maintenance, and debt
- Claims by local governments to help cover their nonguaranteed debt, their own guarantees, arrears, and other obligations related to infrastructure
- Claims by failing financial institutions whose portfolios have been weakened by financing infrastructure

Source: Based on Polackova (1998).

Explicit direct. Explicit direct liabilities are those that the government is legally obliged to pay and will arise with near certainty. Some result from year-by-year decisions, which are reported in budget documents. Unless such spending is funded by user fees or earmarked taxes, it is generally scrutinized and weighed against other spending claims on the government budget.

Other explicit direct liabilities arise from ordinary government debt used to finance infrastructure. These too are usually well understood and scrutinized. Some forms of infrastructure financing, however, create a sort of debt that is less well handled by conventional fiscal analysis. Many governments in East Asia have had infrastructure projects financed by means of long-term take-or-pay agreements. If these are signed by the government itself, they create explicit (but often hidden) direct liabilities. If they are signed by a state-owned utility, they create contingent explicit liabilities from the perspective of the core central government (Box 1).
Box 1 The cost of energy purchase obligations in the Philippines

In the late 1980s and 1990s, the state-owned National Power Corporation (Napocor) of the Philippines signed dozens of power-purchase agreements with independent power producers as well as contracts to purchase gas to fire some of the power plants. The projects quickly brought on new capacity that ended costly blackouts and brownouts. But the economic crisis of the late 1990s has meant demand has been lower than forecast while costs, denominated in pesos, have been higher. Because the Electricity Regulatory Commission, which sets retail tariffs, has allowed only part of costs to be passed on to electricity consumers, Napocor has been unable to meet its obligations on its own and the government has had to step in.

Consider one of them: a 20-year power purchase contract between Napocor and Keilco, an independent power producer majority owned by the Korean electricity company KEPCO. Keilco agreed to build a 1,200 megawatt gas-fired plant on the basis of an agreement by Napocor to pay a monthly fees for “capital recovery,” operations, and maintenance of $8.01 a kilowatt (as well as much smaller amounts in pesos for energy actually produced). From a fiscal point of view, these fixed payments for capital recovery are similar to debt-service. In addition, the government entered into a take-or-pay gas-supply contract with a private company that would supply gas to Keilco, whose role was thus to turn gas into electricity.

In contrast to some utilities, Napocor now treats the power purchase contracts as effective debt and therefore recognizes liabilities and assets associated with power purchase contracts on its balance sheet. Napocor reports a total liability of US$11 billion for “BOT” contracts, along with a similar amount of “leased” assets.

Source: PPI database (http://rru.worldbank.or); KEPCO’s Form 20-F, filed 27 June 2003 (http://www.kepco.co.kr), and Napocor’s annual report for the year ended 31 December 2002 (www.napacor.gov.ph).

*Implicit direct*. Implicit direct liabilities are those that must be paid with near certainty, but result not from a legal obligation but from political or economic necessity. Some infrastructure subsidies may be sufficiently hard to withdraw in the short term as to count as direct implicit liabilities. In addition, the often-underestimated recurrent cost of ongoing capital projects can be considered direct implicit liabilities.

A useful tool to capture such obligations at least in the 3–5 year perspective is the medium-term fiscal framework, pioneered by Australia in the early 1990s, to show (and make policymakers accountable for) future government cash flows. Unlike most of the 5-year plans that are common in East Asia and the Pacific, these fiscal frameworks include rigorous fiscal forecasts and spending plans that promote transparency and accountability.

*Explicit contingent*. Explicit contingent liabilities are those that are legally binding but require expenditure only if a certain event occurs. In infrastructure provision, some arise from state guarantees of the borrowing of other public-sector entities, such as local governments and state-owned or state-controlled corporations. Others arise from guarantees given to facilitate private investment in infrastructure.
In most private infrastructure projects in the region, governments bear risks relating to uncertainty about their own policy. The mechanism is usually a contract that gives the firm certain rights, such as the right to charge prices determined by a formula. If the government stops the firm charging the price determined by the formula, it has to compensate the firm.

Governments bear policy risk as way of protecting a firm from risks to which it is vulnerable and which the government, but not the firm, can control. Exposing the firm to big policy risks greatly increases the risk premium demanded by the firm and has relatively little benefit. Exposing the government to policy risk, however, may encourage the government to maintain good policies and can reduce the total cost of the project.

Yet bearing policy risk has a fiscal cost, because there is always a chance that the government will want to change the policy to which it has committed itself (Box 2). If a government has agreed to a formula that causes prices to rise when the local currency depreciates, for example, the government may accept the results during normal economic times, but baulk if the local currency plunges.

**Box 2  The fiscal cost of bearing policy risks in Singapore and Malaysia**

In April 1993, the Telecommunications Authority of Singapore granted SingTel the exclusive right to provide certain national and international telecommunication services for a period of 15 years. But as a result of international pressure from the World Trade Organization and a realization by the Authority of the economic costs of the monopoly, the Authority decided in 1997 to shorten the period of exclusivity, bringing its end forward to April 2000. To compensate SingTel for its loss of monopoly, the government of Singapore gave it a lump sum of about US$1 billion.

In Malaysia, the 1986 concession for the North South Highway provides for toll increases equal to the greater of 6 percent or the annual increase in the consumer price index. If the government does not permit the increase, it must compensate the concessionaire. Since 1996, the government has not permitted the full increase provided for by the concession. The government budgets for this expense increased significantly between 1996 and 1998.


In other cases, governments agree to bear nonpolicy risks; that is, risks over which they have little or no influence. Examples include risk arising from uncertainty about the costs of construction, future demand for the infrastructure project’s services, the value of a freely floating local currency, and whether the firm will repay its debt.

Protecting the firm from nonpolicy risk reduces the price the firm needs to charge to be willing to undertake the project. But bearing nonpolicy risk has a cost to government. And, in contrast to case of policy risk, the cost of bearing the risk may be as high to the government as it is to the firm.
Guarantees create challenges for fiscal policy. Their costs are usually difficult to analyze and can change quickly. Because they are often issued outside the budget process, they may also escape scrutiny.

*Implicit contingent.* Since the provision of infrastructure services is often a politically sensitive issue, governments face pressure to ensure the delivery of services and hence assume costs or even bail out an infrastructure provider even when not legally obliged to do so. Thus infrastructure provision can also create implicit contingent liabilities.

Local governments—responsible for water services, local roads, and other infrastructure—are one such source of contingent implicit liabilities. State-controlled funds and state-owned or state-controlled corporations are another (Box 3). They often issue bonds with what is perceived as the implicit backing of the state. Pension funds and national providence funds use their own capital to finance infrastructure. And state-controlled financial institutions, and sometimes the central bank itself, occasionally offer exchange-rate guarantees to offset the foreign-exchange exposure of private investors. In case of distress, all these institutions call on the government to bail them out.

### Box 3 Nonguaranteed obligations: The case of the State Railway of Thailand

In 2000, the State Railway of Thailand was considered de facto bankrupt and required over 60 billion baht of public resources just to cover its existing obligations—on top of planned government subsidies to cover the Railway’s operating losses and new investments. The Railway was running continued operating losses, which were only partly covered by government subsidies. Government subsidies were also falling short of covering the Railway’s maintenance and investment needs and even the payroll, during the 1997 crisis. In 1999, the Railway increased its short-term borrowing (mainly overdrafts on bank accounts), accumulated supplier arrears, and deferred maintenance in the total amount of 70 billion baht—on top of operating loss of nearly 7 billion baht. The government’s subsidy to the Railway was about 5 billion baht, similar as in the preceding years.

As the analysis in 2000 showed, future operating losses of the State Railway mainly depended on the third class fare. Thailand Development Research Institute calculated that a gradual 40 percent increase in the third class fare would yield nearly 300 million baht in 2000 and over 500 million baht in 2001. Sixty percent of operations by the State Railway are in passenger transport, the fare of which is regulated by the state. Third class fare, which applies to about 90 percent of passenger transport, had been fixed since 1974. The Railway reports about 20 billion positive net worth mainly thanks to the reported value of its net properties of 43 billion.

Source: Bixi and Schick (2002)

### 2.2 Infrastructure financing, fiscal adjustment, and “fiscal space”

Tradeoffs usually have to be made between securing new infrastructure, keeping tariffs low, and reducing current cash budget deficits. Tariffs are often too low to
make unsubsidized private provision profitable, so governments must either scale back their investment plans, increase tariffs, provide subsidies to private investors, or finance the investment themselves.

Yet this doesn’t imply a tradeoff between true fiscal adjustment and all infrastructure investment. Taking account of future costs and revenues, infrastructure investments may or may not harm the government’s “net worth”—that is, the difference in present values between its future revenues and expenditures. It depends on whether the investment generates sufficient profits from user fees or leads to enough extra tax revenue from higher economic output. In other words, it depends on the direct and indirect returns to the investment.

Many studies reveal rates of return on infrastructure projects in developing countries that are high enough to suggest that investment will help rather than hurt the fiscal position. For example, many studies find rates of return of 20 percent a year or more. Estimated rates of return to investments in new roads and, especially, the maintenance and rehabilitation of existing roads are sometimes found to be much higher.¹

Conversely, cutting expenditure on infrastructure projects with high returns may have adverse effects, not only on economic growth but on the government’s fiscal position. Indeed, a major study of infrastructure and fiscal adjustment in Latin America found that reductions in public investment in infrastructure had significantly reduced economic output in Latin America and impeded some countries’ attempts at fiscal adjustment.²

Whether a particular investment will create sufficient direct or indirect benefits depends on the circumstances and requires case-by-case analysis. Evidence that infrastructure projects often have high returns is not by itself strong evidence that a particular infrastructure project will have high returns. Early investments may, for example, have high returns and later investments low returns: one recent study found that the investment in interstate highways in the United States after World War 2 had high returns, but recent investment in roads have not.³ Corruption, lobbying, or poor analysis and planning can also cause

¹ For reviews and discussion of some of the evidence, see Easterly and Servén (2003), Estache (2004), IMF (2004), and World Bank (1994 and 2003).
² Easterly and Servén (2003). Though this study is about Latin America, its analysis is relevant to other regions.
³ Fernald (1999)
governments to choose low-return projects even when high-return projects are available.\textsuperscript{4}

Good decisions are not helped by the nature of most governments’ accounts, which muddy the distinction between current and capital expenditure, ignore public assets, and conceal the loss of value that results from inadequate maintenance. Good decisions appear particularly difficult during fiscal adjustment. When a government is under pressure to reduce the cash deficit, it often responds by accumulating fewer assets and increasing hidden liabilities. Since government net worth may remain unchanged, apparent fiscal adjustment may eventually prove an illusion.

This sort of fiscal subterfuge may disproportionately affect infrastructure. Capital expenditures seem to bear much of the burden of fiscal adjustment, both in the core central government and the public sector at large, and infrastructure investment is a large part of most government’s capital expenditure.\textsuperscript{5} Cuts in the recurrent budget can also have a particularly adverse effect on infrastructure, since cutting expenditure on infrastructure maintenance usually generates less political resistance than other options, such as cutting social-security benefits and wages for civil servants.

The pressures of fiscal adjustment also affect the choice of form of infrastructure financing. When a government seeks to cut the cash deficit, it often encourages others to invest in infrastructure. Thus private participation in infrastructure, for example, may result not from an effort to enhance efficiency but a desire to hide costs. If the projects are chosen and designed with a view to keeping costs off the government’s books—rather than maximizing economic returns—they can worsen instead of easing fiscal problems, perhaps necessitating another round of fiscal adjustment.

In the end, sharp apparent fiscal adjustment may be less successful than fiscal adjustment that is apparently slower but more genuine.

\subsection*{2.3 Fiscal costs, competition, and ownership}

The pressures on governments to incur fiscal obligations in infrastructure industries are affected by government policy toward competition and ownership. As a result, progress on competition and ownership can facilitate progress on the fiscal side and, at the same time, changes in fiscal policy toward infrastructure can facilitate progress on competition and privatization.

\begin{footnotesize}
\begin{enumerate}
\item See, for example, Tanzi and Davoodi (1997)
\item Easterly (1998) and Easterly and Servén (2003)
\end{enumerate}
\end{footnotesize}
**Competition, cross-subsidies, and direct subsidies.** When a government gives an infrastructure firm a monopoly, it can use the firm to implement a sort of off-budget fiscal policy. Protected from competition, the firm can charge some users more than they would pay in a competitive market and can use the extra revenue to subsidize other customers. Electricity and telecommunications monopolies may, for example, charge higher prices to businesses than to households or more to foreign customers than locals. Alternatively, the firm can charge the same price to different customers even though the costs of serving the customers differ widely. Electricity and telecommunications monopolies can charge rural and urban customers equally even when rural customers are more expensive. In either case, the effect of the practice is the same as if the government had levied a new tax on some customers and paid a new subsidy to others—except that the taxes or subsidies don’t go through the government’s budget. These cross-subsidies have become common under monopoly provision.

Unless explicit subsidies are provided, ending a monopoly undermines the cross-subsidies, probably causing prices for some customers to rise even if average prices fall. Political concern about the effects of competition on some customers is one reason why most countries in the region still restrict competition in telecommunications (Figure 1) and electricity.

**Figure 1** Full competition in telecommunications remains rare in East Asia

![Map showing full competition in telecommunications](image)

*Source: International Telecommunication Union and World Bank staff*

**Competition, privatization, and fiscal support.** The preservation of state-owned monopolies in infrastructure also makes it hard, or impossible, for governments to avoid fiscal support. Although the problems occur in other industries as well, they are starkest in electricity.
Under pure public ownership of an industry, it is obvious that the government must incur costs and risks in providing services. It is sometimes thought that the government can shed some of the risks by allowing private financing of such services as electricity generation and water supply. While private financing of these wholesale services can conceal the government’s obligations and risks, it cannot significantly reduce them as long as the government remains the utility’s owner and all sales must go through the utility.

The private investments are usually irreversible, so when the utility is the only potential buyer, the investors cannot prudently invest without first getting a commitment from the utility to pay enough to cover the costs of the project. The utility must therefore bear much of the risk of the project. And, even when the government does not guarantee the utility’s obligations, it necessarily bears the ultimate risks as the utility’s owner.

Given the single-buyer policy, however, guarantees are often necessary. The state-owned utility is seldom creditworthy, mainly because its financial position depends on tariffs, which are controlled by the government or a regulatory agency. Even when utilities are private, governments and regulatory agencies often succumb to political pressure from customers to keep prices below costs. But when the utilities are state owned the countervailing pressure from the utility is weaker, so the likelihood of prices being below costs is higher still. Thus, privately financed generators reasonably seek guarantees from the government to pay if the utility fails to. In the context—a state-owned single buyer and a desire for privately financed generation—the guarantees are hard to avoid.

When at least some customers can choose their supplier, the pressure for guarantees diminishes. Private generators will most likely prefer to enter into long-term contracts with one or more large purchasers for a significant portion of their output, but they are no longer at the mercy of a single buyer. They may also be prepared to sell some of their output on shorter contracts or in a spot market. In any case, the government now has a much better chance of securing private generation without the utility’s making a purchase commitment or its guaranteeing the utility’s purchase obligations.

The problem is that competition would allow big business customers to desert the state-owned utility, which had been overcharging them, and buy direct from the private generators. The state-owned utility would be left mainly with the customers it previously was undercharging, further undermining its profitability. Thus monopoly begets cross subsidies, which reinforce monopoly. And monopoly plus a desire to disguise costs and borrowing begets guarantees for private generation, which may in turn contribute to fiscal problems and further desire for fiscal disguise.
Escaping this trap may require the government to provide transitional cash subsidies to ease the introduction of competition and the concomitant elimination of cross-subsidies.

3 Choosing better forms of fiscal support

Making better decisions about fiscal policy toward infrastructure requires a clear understanding of the objective of support, the options for support, and some principles for choosing among them.

3.1 Possible objectives of fiscal support

There are several reasons governments might provide fiscal support to infrastructure projects.

Avoiding the transaction costs of user charges. One reason for a government to pay for infrastructure services, such as rural roads and city streets, is the administrative costs of imposing user charges.

Mitigating policy risk. Government may also wish to provide fiscal support to mitigate policy risk—the risk, described in section 2.1, that projects will be unprofitable because of adverse changes in laws, regulations, or other aspects of government policy.

Spreading nonpolicy risk. Fiscal support can also be used to spread nonpolicy risks or compensate for the inability of private markets to spread them effectively. Some nonpolicy risks can usually be insured and thus spread among many people. But others may be uninsurable—seemingly at any price. Investors’ inability to fully insure nonpolicy risks may cause them to invest less in infrastructure than would be optimal.

Overcoming market failures in finance. Fiscal support might be used to compensate for market failures in finance, including the unavailability of loans with long maturities at any price. Although these problems are not specific to infrastructure in developing countries, they are especially important because infrastructure investments are large and long lasting and developing countries’ capital markets tend to be shallow.

Internalizing external benefits. Fiscal support of infrastructure services may create positive externalities: that is, benefits received by people not party to the transaction in which the service is provided. For example, fiscal support for sanitation services may improve public health.
Redistributing resources. In addition to having an efficiency objective, a
government may want to redistribute resources to improve the living standards
of the poor. Fiscal support for infrastructure is not the only way to transfer
resources to the poor, nor necessarily the most cost-effective, but infrastructure
subsidies are often advocated because they help the poor. Governments may also
want to redistribute resources to other, politically influential groups, just to
maintain support for a policy. For example, transitional price subsidies to
middle-class customers may allow a project to go ahead, and the outcome, while
imperfect, may be better than no project.

Carrying out responsibilities inherent in public provision. A government may also
provide fiscal support as part of providing an infrastructure service. When the
government relies on private provision, it has a choice about whether to provide
fiscal support. But when it owns the infrastructure and provides the service itself,
its responsibilities entail fiscal consequences. It will have to provide capital as
debt or equity and it will bear risk. In this case, fiscal support is an inevitable by-
product of a decision to provide the service publicly, rather than a response to a
narrowly defined policy problem.

3.2 Principles for choosing among options

Making choices about fiscal support requires the government to account for the
details of particular cases, including its objectives and constraints. The best
decisions are likely to be based on analysis that quantifies the costs and the
benefits of different forms of fiscal support, including the option of no support. If
the benefits cannot be expressed in dollars, good decisions are still likely to
require quantitative estimates of costs and careful thought about the benefits.

Though principles cannot substitute for such analysis, they can help guide the
choice of options and complement quantitative analysis. In addition to having a
clear and specific objective for any fiscal support, the following five principles
may be useful.

Think creatively about the options. Before choosing a form of fiscal support, or
deciding not to provide any, governments should think creatively about the
possible forms of support, including the provision of, capital, risk bearing, and
cash subsidies. Moreover, within a category such as cash subsidies there are
many specific options: governments can provide upfront grants, for instance, or
they can provide “output-based” subsidies, in which payments are made only
after performance is demonstrated (see Brook and Smith 2001 and
www.gpoba.org). Changes in regulatory policies also may achieve the objective
at no fiscal cost.
Be accurate. Good fiscal support is accurate in the sense of targeting the problem with few unintended side effects. Subsidies meant to deliver benefits to the poor, for example, should deliver most of the benefits to the poor and few to the rich. Fiscal support meant to circumvent political constraints should be just enough and last just long enough to solve the political problem. Subsidies designed to capture positive externalities should encourage only the service that creates the externality. Support designed to mitigate policy risks should target only those risks.

Be realistic. Good fiscal support is realistic and works in practice as well as on paper. Subsidies that may seem accurately targeted when considered in the abstract may actually be diverted to others—because of high administrative costs, corruption among the civil servants administering the subsidy, or lobbying by influential groups to change the scheme’s eligibility criteria. Implementation problems usually reduce the accuracy of fiscal support and can tip the cost–benefit balance against it, but shouldn’t always lead to its rejection. On the one hand, imperfect subsidies may be better than none. On the other, the politics of the situation may mean some form of subsidy is inevitable, given the influence of various political groups. The relevant alternative to the best imperfect support may be a poorer policy.

Prefer transparency. Fiscal support is transparent when it is easy to determine what is subsidized, who benefits, who pays, and how big the transfers are. The transparency of a form of fiscal support depends, however, on fiscal and institutions. If cash subsidies don’t go through the budget, for example, they may be opaque. And, if the cost of guarantees shows up in budgets and financial reports, guarantees may be relatively transparent.

Transparency has many potential benefits. First, it allows more accurate targeting: if the government knows who benefits from the subsidy, how much the subsidy costs, and who pays, it can more easily design a subsidy to meet its goals. Second, it can change the balance of political pressures in favor of more accurate targeting. Third, transparency about costs reduces the likelihood of unpleasant fiscal surprises: it can bring forward the time at which fiscal problems become apparent, possibly averting a crisis.

### 3.3 Assessing capital, cash subsidies, and risk bearing

Three options for fiscal support that governments may consider are cash subsidies, providing capital, and bearing risk.

Offering explicit cash subsidies. Cash subsidies are sufficiently flexible to be molded to achieve most of the possible objectives; they can be made accurate. Output-based subsidies are accurate, for example, if the subsidized outputs foster the
outcomes the government wants to achieve. Cash subsidies of any sort are typically transparent. They have the potential to work best when the problem to be tackled is that prices are wrong—because of external benefits or concerns about the distribution of resources. It is less clear how cost effective they are when the problem is the absence of a market at any price—as possibly in the case of long-term loans and insurance for unusual risks.

Providing capital. Governments can also contribute capital to an infrastructure firm in the form of equity or debt. When governments do not distinguish clearly between current and capital expenditure, they may struggle to distinguish capital injections from cash subsidies—because both mean the disbursement of cash. But capital contributions can be thought of as injections of cash that are expected to result in future cash flows to the government. As defined, capital contributions may still contain an element of subsidy if the government contributes capital without reasonably expecting to receive a return commensurate with the contribution and the risks.

Providing capital is a potentially well targeted response to market failures in financial markets. Governments need, however, to consider carefully whether there is a significant market failure that their provision of capital remedies without causing greater problems than the market failure. In ordinary forms—injecting cash as debt or equity—the existence of the support is transparent, but whether the contribution contains a subsidy is often less clear. It is easy for the proponents of the capital injections to argue that there is no net fiscal cost, given future debt repayments or dividends; whether they are right is harder to tell.

Bearing risk. Governments can also agree to bear policy and nonpolicy risks related to infrastructure projects. At least for important policy risks specific to the project, such as regulated-price risk, the government’s bearing the risk is likely to be the most effective way of mitigating the risk. Other forms of fiscal support, including cash subsidies, might compensate investors for policy risk, but they do not mitigate the risk. The government’s bearing the risk, on the other hand, not only protects the investor from the risk, but also encourages the government to maintain good policies. It does, however, create fiscal costs and risks that are usually opaque. One step to improve its transparency is to publish the contracts in which the government commits itself to a policy.

The government’s bearing nonpolicy risks is a potentially well targeted approach to spreading nonpolicy risks facing investors. As with the provision of capital, however, the government needs to consider whether the risk bearing really addresses a significant market failure without creating a bigger problem than it solves. The problems are more severe, however, because the costs are usually opaque, raising the question: is support being given because it is an accurate response to a market failure or because of its very opacity? This creates a
presumption against them, unless budgeting and financial reporting reveal their costs.

When the government provides infrastructure itself, it must contribute capital and bear risks, yet it can still choose between opaque and transparent fiscal support. In many countries in East Asia, governments have essentially retained responsibility for providing water and electricity, even if some services are privately financed. Under fiscal pressure not to provide cash subsidies or borrow in ordinary ways to provide capital, they have often chosen not to end fiscal support but to use less transparent, probably less accurate forms of it: namely long-term purchase contracts signed by the utility and sometimes guaranteed by the state. Given their policy choices about competition and privatization at the retail level and a desire to avoid ordinary fiscal support, they had little choice but to do so if they wanted to increase supply. They might have done better, however, to allow competition in electricity and introduce private participation in retail sales there and in water. But if they were unwilling to change these fundamental policies, ordinary, transparent public borrowing to finance expansion would probably have been preferable to disguised borrowing from private power generators and wholesale water companies.

Under both public and private provision, approaching decisions about fiscal support with some skepticism is generally warranted. Market failures are easy to identify; showing that fiscal support will improve things is harder. And project proponents and sector specialists cannot usually be expected to provide unbiased estimates of the net benefits of fiscal support: agreeing to every proposal with a net benefit estimated as positive by project proponents would quickly make any government insolvent. Yet the right approach is not to reject all such proposals, but to subject them to comparative scrutiny governed by fiscal institutions that facilitate good choices.

Table 2 summarizes.
Table 2 Objectives and options—possible matches

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<th>Offering explicit cash subsidies</th>
<th>Providing capital</th>
<th>Bearing risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoiding the transaction costs of user charges</td>
<td>Accurate. Transparent.</td>
<td>Bearing policy risk targets the problem. Not always transparent.</td>
<td></td>
</tr>
<tr>
<td>Mitigating policy risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying out responsibilities inherent in public provision</td>
<td>Usually necessary.</td>
<td>Usually necessary.</td>
<td></td>
</tr>
</tbody>
</table>

4 Designing better fiscal institutions

Fiscal institutions—the rules, practices, and organization that govern fiscal policy and fiscal management—are a major determinant of the quality of decisions about fiscal support. Six aspects of fiscal institutions are considered below:

- Rules governing the disclosure of information about fiscal risks
- Accounting and budgeting practices
- The government’s overall fiscal risk-management strategy
- The government’s approach to fiscal risk-management in infrastructure
- The framework for fiscal decisionmaking, including relationships between central and local governments
- Fiscal targets—including the choice between the overall cash balance and the current balance.

4.1 Disclosure rules

Rules governing the disclosure of information are useful and among the simplest to implement. When the rules have broad coverage, they enable the central government to improve its monitoring of local governments and state-controlled enterprises and expand the share of government activities that is open to public
scrutiny. With scrutiny comes pressure for greater discipline—applied both by and on the central government.

Disclosure can be improved by adopting better financial reporting standards. Modern financial reporting standards require the disclosure of commitments, contingent liabilities, and certain other sources of financial risk. So adopting such a standard automatically creates a requirement to disclose information about some hidden borrowing and subsidies. And it automatically creates a mechanism for enforcing disclosure, since the government’s auditor must express an opinion on the adequacy of the disclosures.

But improvements in disclosure need not be held hostage to improvements in financial-reporting standards. Statements of fiscal risk, for instance, can complement any financial statement or report. At the government level, Australia, Canada, the Czech Republic, Netherlands, New Zealand, and the United States offer good practices to consider. In these countries, the government publishes a list of the various sources of its risk exposures and discusses the nature, sensitivities, and possible implications of the risks. The statement provides estimates of the possible fiscal costs associated with the items on the list. Such information may come in a separate statement of contingent liabilities, a statement of commitments, or an analytical report on fiscal risk disseminated as one of the budgetary documents.

In addition to disclosing its own risk exposure, the central government can promote disclosure in the public sector and the economy at large. Promoting disclosure by local governments, extrabudgetary funds, state-controlled enterprises, and other public sector entities is valuable. Although an enormous task, promoting disclosure in the financial sector is also valuable. Understanding and monitoring of fiscal policy toward infrastructure is promoted by requiring state controlled companies to disclose their contractual and noncontractual obligations; financial institutions to report their risk exposures and financing of government related projects; and subnational governments to report their guarantees and activities of their own financial and nonfinancial enterprises.

Several governments, including those of China, Indonesia, the Philippines, and Thailand, have been trying to collect and analyze information about their risk exposures. Building a database of government contingent liabilities and long-term purchase commitments is an important step in promoting informed decisionmaking. Eventually, the government should agree on a format in which to make such information public, thus contributing to its fiscal transparency and associated market confidence. In the endeavor to collect information on risk exposures, however, China (among other countries) has learned that disclosure rules, even if they involve purely confidential reporting from the local to the central government, need an adequate enforcement mechanism to be effective.
To enforce reporting to the central government, political as well as legal issues need to be resolved. As for public reporting, watchdog agencies, investors, and public pressure may be effective in monitoring compliance as well as actual performance.

4.2 Accounting and budgeting

Accounting and budgeting rules influence the allocation of resources and the timing of recognition of transactions. Cashflow budgeting, for instance, makes guarantees look more attractive than cash subsidies and traditional public finance. It treats subsidies and public financing as outlays but does not recognize contingent liabilities until default occurs. To make matters worse, in cashflow accounting and budgeting, any cash income earned from guarantees fees is booked as revenue, making it appear that the government is profiting by taking these risks irrespective of the cost.

An accrual accounting and budgeting system requires many noncash costs to be included in budgets and thus made visible from the moment government decides to incur them. How well the accrual budgets and financial reports reflect costs depends on the particular standards that are applied and how well they are enforced. They will reveal noncash costs such as the depreciation of assets, for example, but how closely budgeted and reported depreciation reflects the actual change in value of assets depends on the rules for calculating depreciation or “impairments” in asset value. (Do those rules pick up a loss value from insufficient maintenance, for example?)

Accrual budgeting and accounting can foster better decisions about public investment because they reveal assets as well as costs. Specifically, they rely on balance sheets as well as cashflow and operating statements and therefore generate estimates of the value of infrastructure assets created by public investment, which may reduce the bias in favor of current consumption over investment and help governments make better investment decisions.

Accrual budgeting and financial reporting can also help to reveal and confront policymakers with the liabilities associated with guarantees and long-term purchase contracts. As discussed under disclosure, the accrual standard can require the disclosure of information about contingent liabilities created by guarantees and commitments created by long term purchase contracts.

Although accrual standards are helpful, they are neither sufficient nor necessary for solving the problems. Accrual accounting standards do not reveal all costs and liabilities: they do not necessarily require the costs of guarantees to be included in calculations of budget deficits; nor do they necessarily require the liabilities created by long-term purchase agreements to be recognized alongside
ordinary debts on the balance sheet. The leading international standards appear to be improving and converging toward more accurate accounting for such instruments: according to these standards, many guarantees would be recognized at their fair value, while the value of most others would at least be disclosed. It will likely be some time, however, before the standards require a fully satisfactory approach. In even the best standards cannot substitute for good fiscal analysis. Estimates of the indirect costs and benefits of infrastructure investment cannot, for example, be expected from ordinary financial reporting.

Moreover, while adopting accrual standards can generate useful information, problems can also be addressed without adopting such standards.

Under any accounting standard, for example, governments can ensure that their budgeting rules ensure that:

- The budget reflects the fiscal cost of guarantees immediately when a guarantee is approved—estimating the cost the present value of the expected future fiscal payments.

- A joint ceiling is applied to the cost of ordinary expenditure and the cost of guarantees and that guarantees (and other nontraditional subsidies) are subject to the same scrutiny and limits as traditional spending programs.

Another, possibly complementary, option is to create a contingent liability fund used to meet 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.

Such “budgeting for risk” budgeting for risk can help make policymakers cash neutral—that is, neutral among alternative forms of fiscal support from the viewpoint of deficit measurement, budget ceilings, or the medium-term fiscal outlook. Most important, budgeting for risk promotes risk awareness among policymakers. The experience of Canada, the Netherlands, and the United States, among others, has indicated that the discussion of risks in the budgetary process (as much as the quantitative estimation of the government risk exposure in itself) is effective in promoting risk awareness among policymakers—and that risk awareness, in turn, enhances the quality of fiscal policy.

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6 Brix i and Schick (2002)
4.3 Overall risk-management strategy

To manage risks well, the government needs to define its risk-management strategy. Ideally, the strategy should specify how much risk the government is prepared to take on from guarantees, long-term purchase commitments, and similar obligations. The answer will depend on the government’s existing liabilities; on the extent to which it can rely on ad hoc borrowing and tax increases in the future; and its ability to monitor and manage risks.

To implement its strategy, the government may need to issue guidelines to local governments, state-owned enterprises, and other public-sector entities. Public utilities, for instance, need to have clear guidelines to follow for providing guarantees and purchase agreements and for taking on risk in general. Similarly, local governments may need guidelines to regulate their issuance of guarantees and other risk taking.

In addition, the government should centralize authority for major risk taking, possibly in the ministry of finance. Sector ministries, for instance, should not have the authority to take on risk above a specified limit (in either their own or the government’s name) or to authorize any entity to take on risk above a specified limit without prior approval by the agency responsible for monitoring risk in the public sector. That agency should also regularly review the implications for government risk exposure that emerge from the policies outlined and implemented by sector ministries.

Lastly, risk monitoring should be separated from risk taking. If the budget office of the ministry of finance is responsible for major decisions on risk taking, for instance, the debt management office and the supreme audit institution could be responsible, respectively, for internal and external monitoring of risk. Policymakers and civil servants need to be accountable for the adequacy of their risk analysis, for assumptions underlying decisions that involve fiscal risks, and for managing the overall government risk exposure. Therefore, the role of the supreme audit institution, as in the case of the U.S. General Accounting Office, would be to audit all aspects of government risk analysis and risk management. Finally, the division of responsibilities and functions in risk management, and the underlying reporting arrangements, need to be very clear to create such accountability.

Among government agencies and departments, the debt management office is often most able to analyze and manage government risk exposures. Specifically, it is often best equipped to gather and analyze information about government risk exposure, reflect the analysis of that risk exposure in debt management strategy, and advise the government on the fiscal cost of newly proposed programs and on how to limit government risk exposure. Debt management
agencies are likely also to be in a good position to understand off balance sheet debt in the form of long-term purchase agreements. The Swedish National Debt Office, to take one example, plays a key role with respect to contingent liabilities: first, it consolidates and analyzes information about government contingent liabilities; second, it issues such guarantees as the government has decided on; and third, it helps to ensure that the guarantee activities of other government authorities are conducted efficiently.

4.4 Strategy for infrastructure risk management

Experience has indicated that an open discussion of risks as part of government decisionmaking is perhaps the most important aspect of fiscal risk analysis. In the Czech Republic, for instance, the government has achieved momentous improvements in its handling of fiscal risk thanks to opening an internal and then public discussion of its risk exposures. Such discussion has since become a part of the budgetary process; it has built on the expertise of sector ministries and outside experts and on the gradually advancing expertise in finance and risk assessment of the ministry of finance. Similarly, in many countries of East Asia and the Pacific it may appear that introducing sophisticated approaches to risk analysis is beyond their immediate capacity. Introducing an open discussion and acknowledgement of risks, their sources and types, and possible fiscal implications, however, may deliver significant benefits to the soundness of their fiscal policy toward infrastructure as well as their overall fiscal performance.

There has also been a growing experience of governments actively managing their risk exposures, including those arising from private infrastructure. Three complementary tasks are involved: keeping risk in the private sector and facilitating its ability to manage the risk, hedging risks already assumed by the government, and managing the residual risk.

Involving the private sector mainly implies mitigating the risk at source and developing the financial markets. Risk mitigation with private-sector involvement is often the most desirable strategy since it not only reduces the government’s exposure to fiscal risks but also reduces vulnerability of the economy to shocks. Instead of assuming risk, governments would enable markets to deal with it. For example, a power sector that is organized to permit competition in generation and supply will foster efficient use of resources while at the same time lowering the fiscal risks arising from excessive installation of capacity. Similarly, by supporting the development of financial markets, the government can avoid pressure to deal with many risks. For instance, by allowing for the development of the market for asset-backed securities, the government could allow infrastructure investors to better manage their own risk exposure (see background paper on private financing in infrastructure).
In this regard, policymakers need to ask what policy measures would reduce the dependence of private infrastructure investors on government guarantees. Legal, regulatory, and administrative changes and proper debt-management strategy can facilitate the establishment of an efficient domestic bond market, which in turn will facilitate private investment in infrastructure and improve the government’s capacity to absorb risk. Private investors are also more willing to forego government guarantees of nonpolicy risks when the investment climate in the country improves. Regulatory changes can encourage large international insurers to enter the local market and pool risks, such as weather risk, uninsurable in a small economy. New financial instruments, such as catastrophe bonds, may help domestic financial institutions to better manage risk, thus reducing their demand for government guarantees.

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 sometime use currency swaps and commodity futures to hedge their foreign exchange and commodity price risks. They have also purchased reinsurance for disaster and weather risks from large international reinsurers. Increasing integration and liberalization in the market for insurance has made it easier to pool risk across countries and to insure risks 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 the catastrophic risk, governments might also be able to issue catastrophe bonds, which offer lower yields when a catastrophe occurs.

If the government can neither avoid bearing a risk nor hedge the risk, it has no choice but to absorb it. It must therefore have sufficient cash on hand to enable it to make payments when they fall due. It can aim to do this in three ways:

- Put cash in a contingent liability fund (as discussed in section 4.2 above) and hope the funds are sufficient to meet future payments;
- Use the cash to reduce debt and hope it can use tax revenue or additional borrowing if and when it needs to make payments; or
- 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 also has a cost, because the cash could otherwise be used to repay debt or invest in public services. Using the cash to repay debt may be cheaper, but it 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 have to, use more than one option. The contingent liability fund will be large enough to meet the worst possible losses only if the contributions are set according to the face value of the guarantees and not according to their expected costs. If contributions are smaller, the fund has to be combined with possible reliance on taxing and borrowing or on a standby credit agreement.

The choice of any option entails further choices. In the case of the fund, for example, should it be limited to infrastructure liabilities, or should it cover all guarantees? In certain cases, the infrastructure-only fund might improve incentives for management; but a governmentwide fund makes taking advantage of the government’s diversification easier. The existence of cash in a fund may also tempt the government to use the money for other purposes. One option around this 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 prior public disclosure.

4.5 The framework for fiscal decisionmaking

Broadening the scope of the annual budget process to involve any major questions related to government risk exposure would provide an effective platform for an open discussion of choices between public and private provision of infrastructure. Such a comprehensive budget process would serve to reduce the bias in government decisionmaking, particularly when accountability for controlling government risk exposure is centrally assigned to a single agency, which would then promote risk awareness across the government and rest of the public sector. Specifically, a comprehensive budget process would serve to disentangle and consider more carefully the questions of operational efficiency, allocative efficiency, and the true fiscal cost of different infrastructure policies.

To improve fiscal policy toward infrastructure at the subnational level, where the primary responsibility for it lies in several countries of the region, additional conditions apply. First, the spending responsibilities of subnational governments need to be matched by their resources to reduce their tendency to opt for offbudget financing and guarantee schemes. As Box 4 illustrates, this issue is a major problem in China; to correct it may require reforming the whole intergovernmental finance system in country. Second, subnational governments need to be exposed to some fiscal risk monitoring and made accountable for risk exposures to become more conscious of risk. The problem of moral hazard at the
subnational level of government is significant. Subnational governments, perhaps even more than state-owned enterprises, expect the central government to protect them from failure. It remains a challenge for the central government to change incentives to break this expectation. The most effective tool is to allow local governments to go bankrupt.

<table>
<thead>
<tr>
<th>Box 4 Weak intergovernmental fiscal framework motivates concealing of infrastructure finance in China</th>
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| In China, infrastructure is principally the responsibility of local governments. The local governments, however, often lack the resources needed to meet their responsibilities, and central government transfers fall short of covering the gaps. Moreover, while responsible for financing infrastructure, local governments are legally forbidden to borrow. To make matters worse, local governments often compete among themselves on the basis of infrastructure facilities in their localities.

To overcome their financing constraints, local governments have found innovative ways to raise funds through municipal enterprises without violating the prohibition on borrowing—including local infrastructure investment funds run by local government sponsored agencies and similar entities that are backed as well as controlled by the local government. Given their local government backing, these entities often have easy access to cheap credit in the form of bonds and bank loans. Other specially created entities, such as those issuing guarantees, also facilitate both public and private infrastructure financing.

As a result, local governments have been accumulating various, often implicit and contingent, obligations—creating fiscal risks that may ultimately affect fiscal performance of the whole country. Local governments themselves sometimes admit to not knowing all their financial obligations. While the central government is taking steps to monitor and limit the local governments’ accumulation of fiscal risk, deeper policy problems, particularly the weak intergovernmental fiscal system, continue to generate the wrong incentives in the behavior of local governments.

4.6 Fiscal targets

Improved fiscal policy partly requires good identification, control, and management of the risks caused by off-budget expenditure and off-balance-sheet borrowing, but it also requires good rules—good fiscal targets—about on-budget expenditure and ordinary debt.

Fiscal targets can have at least three objectives:

- Maintaining long-term solvency—that is, ensuring that the government’s assets are greater than its liabilities

- Maintaining short term liquidity—ensuring that the government has sufficient cash on hand to meet liabilities as they fall due (something made more likely, but not ensured, by long-term solvency in the sense just defined)
Avoiding excessive macroeconomic stimulus or contraction.

Further, fiscal targets can be set in at least two different ways:

- Achieving a certain overall cash balance (roughly, the sum of cash flows from operating activities and cash flows from investing activities); or
- Achieving a certain current balance (roughly, a certain level of net income in an operating statement).

Each approach can vary in its details, according to what precisely is counted. Are state owned enterprises’ profits and losses consolidated in the government’s accounts? How is the depreciation of assets calculated in the current balance? How are pension obligations calculated?

The effect of each approach also depends on the chosen level of target. The target cash balance or current balance could be a large deficit or surplus: either type of target can be made easy or hard.

In general, current balance targets create “fiscal space” for infrastructure investment, because investment expenditure is excluded from the target. Yet they also require the depreciation of infrastructure assets to be counted, so they don’t in general make fiscal targets easier. More investment now generally creates more depreciation later and thus generally requires higher taxes or lower expenditure elsewhere to meet the target.

Choosing the appropriate level of the target depends on a country’s circumstances (including the existing level of debt and the urgency of its need for infrastructure investment). But a general comment can be made on the type of target. Cash balance targets are appropriate when considering the second and third of the possible goals—maintaining liquidity and appropriate macroeconomic stimulus. But they are ill suited to achieving long term solvency, which depends on whether cash is disbursed to current consumption or productive investment in infrastructure and other assets.

Improvements in fiscal policy toward infrastructure are likely therefore to be facilitated by the use of current-balance targets (possibly in addition to cash-balance targets). This doesn’t mean that cash balance targets should be abandoned, however, since current balance targets don’t address the short-term liquidity and macroeconomic goals.

5 Concluding remarks

Optimizing fiscal policy toward infrastructure has three prerequisites:
• Understanding of the fiscal effects of infrastructure provision under public and private provision and its relationship to competition policy

• Understanding of the suitability of the different forms of fiscal support

• Rules that encourage policymakers to reveal and confront the fiscal costs, benefits, and risks of different forms of support and select the most suitable form of support.

To note that public and private infrastructure projects sometimes entail hidden subsidies and borrowing—and to recommend that fiscal rules and institutions be changed to reveal this—is not to argue that governments shouldn’t provide fiscal support to infrastructure. True, the demands for government support in infrastructure and other sectors will always exceed government’s ability to provide support. And project proponents are likely to be optimistic and sometimes opportunistic in their estimates of the costs and benefits of fiscal support for their own projects. A blanket rejection of fiscal support is unlikely to be good policy, however.

Yet getting the type of fiscal support is crucial. Full disclosure of the possible fiscal costs and risks of different types of fiscal support would likely imply more output-based cash subsidies, fewer government guarantees of nonpolicy risks, and fewer long-term purchase agreements by state-owned utilities.
Annex 1  Public spending on infrastructure: Questionnaire

This questionnaire is meant to help policy analysts collect information on public spending on infrastructure.

A) BUDGETARY SUPPORT

1. What is the budgetary spending on infrastructure by central and local governments? Indicate recurrent and capital spending by year and by sector. Complete separate tables for the central and local government if possible.

B) EXPLICIT CENTRAL-GOVERNMENT SUPPORT

1. What are the central government’s explicit obligations related to infrastructure? For each major obligation, provide a brief summary description, total (face) value covered, year of expiry, current amount outstanding, and a brief discussion of the government risk exposure, by year of issuance and by sector.

   - Purchase contracts made by the central government
   - Tax exemptions and other tax incentives offered by the central government
   - State guarantees for borrowing and other obligations of local governments
   - State guarantees for borrowing of state-owned and state-controlled nonfinancial enterprises
   - State guarantees for private participation in infrastructure
   - Other state guarantees related to infrastructure.

2. What are the main nonsovereign public-sector infrastructure obligations? For each major obligation, provide a brief summary description, total (face) value covered, year of expiry, current amount outstanding and a brief discussion of the government risk exposure, by year of issuance and by sector.

   - Purchase contracts, guarantees, letters of comfort and other obligations made by local governments
   - Purchase contracts, guarantees, letters of comfort and other obligations made by state-owned enterprises and other state-controlled nonfinancial entities
   - Tax exemptions and other tax incentives offered by local governments
   - Others

C) IMPLICIT CENTRAL-GOVERNMENT SUPPORT

1. To what extent have state-owned and other state-controlled nonfinancial state-owned enterprises financed infrastructure? Indicate recurrent and capital spending on infrastructure by year and sector. If possible, for each major enterprise provide information on its borrowing (by year and the current amount outstanding). Indicate
which amounts have been guaranteed by the central government or other public-sector entity (and hence reflected in B above).

2. To what extent has the state-controlled financial system financed infrastructure? Indicate new financing of infrastructure by year and the current amount outstanding. Distinguish between loans, bonds, and equity. Indicate if any of the financing has been guaranteed by central government or nonsovereign public-sector entities (and hence reflected in B above).

   Credit extended to local governments
   Credit to state-owned and state-controlled nonfinancial entities
   Investment of state-controlled funds, such as pension funds, national providence funds, and infrastructure development funds
   Infrastructure-related credit to nonstate firms
   Other credits and investments

3) What has been the amount of nonperforming loans in the financial sector that relate to infrastructure? Estimate the amount outstanding of nonperforming loans and, of this, how much relates to infrastructure.

   Nonperforming loans in state-owned banks
   Nonperforming loans in other state-controlled financial institutions
   Nonperforming loans in non-state banks and financial institutions
   Others

4. What is the extent of arrears and deferred maintenance in infrastructure?
   Summarize the available information about arrears and deferred maintenance.

5. To what extent are various bailouts necessitated by infrastructure financing?
   Summarize the available information about recent bailouts linked to infrastructure financed from government budget or through the central bank. Based on available information, are further bailouts likely in the near future.

   Local governments
   Banks and other financial institutions
   State-owned enterprises and other state-controlled nonfinancial entities
   Others
References


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