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A Framework for Managing Government Guarantees

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Abstract

Managing government debt guarantees is difficult because the potential costs of guarantees are hard to estimate and typically do not show up in the reported budget deficit. A good framework for managing guarantees can, however, help governments overcome the difficulty and enhance the transparency of guarantees. This paper sets out a checklist of issues for a government to consider when designing or revisiting its framework for managing guarantees. The checklist comprises (1) steps to establish macroeconomic control over guarantees by setting limits on their use and restricting the authorization to grant them; (2) steps to improve decisions to grant individual guarantees by means of guidelines, restrictions, conditions, cost estimation, guarantees fees, and a structured process for making the decisions; and (3) steps to ensure careful management after the granting of guarantees, including the recording and reporting of guarantees, arrangements to pay when necessary, and learning from past experience.

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A Framework for Managing Government Guarantees

Lilia Razlog, Tim Irwin, Chris Marrison

Introduction

This paper provides a checklist of issues for governments to consider when designing or revisiting a framework for managing debt guarantees. It focuses on guarantees of conventional debt issued by state-owned enterprises, subnational governments, and large private companies—and not, for example, on guarantees given in public-private partnerships or programs of guarantees for small businesses¹. Parts of the paper may nonetheless be relevant for such guarantees, and much of it is relevant to government on-lending, since a government that borrows and then lends to another entity assumes the same credit risks as one that guarantees the entity's borrowing.² The paper's intended audience is officials in ministries of finance, including those involved in monitoring fiscal risks and managing public debt.

Granting a guarantee of another party's borrowing can be an attractive option for a government because the guarantee can allow the government to achieve its goals without requiring it immediately to increase its spending or borrowing. But making good decisions about such guarantees is difficult. The ultimate fiscal cost of the guarantees is typically very uncertain, making it more difficult than usual to weigh the costs and benefits of the decision. Intuitive judgements about uncertain costs are unreliable, and the mathematical techniques that have been developed for improving on intuition can be difficult to use or require information that is hard to get. Moreover, because governments can grant guarantees without initially spending any money or increasing their borrowing, guarantees often bypass the government's main mechanisms for controlling costs and risks: the setting of limits in the annual budget and the monitoring of public debt. Nevertheless, guarantees can create large fiscal costs if they are called.³

The problems of managing guarantees have been known for some time, and many governments have taken steps to tackle the problems. Some have developed new procedures for approving and monitoring guarantees. Some have developed ways of estimating the costs of guarantees, in a few cases even including the cost in the estimated budget deficit. Many have improved transparency by publishing information on guarantees, and some monitor and control a measure of public indebtedness that includes guaranteed as well as direct debt. Investors, credit-ratings agencies, and other organizations have also paid greater attention to the risks created by guarantees, which has further encouraged governments to manage them carefully.

Nevertheless, many problems remain. The World Bank's Debt Management Performance Assessments (DeMPAs) of the past decade have concluded that the management of government guarantees is weak in many countries. DeMPAs concentrate on the management of direct government debt, but they also look at

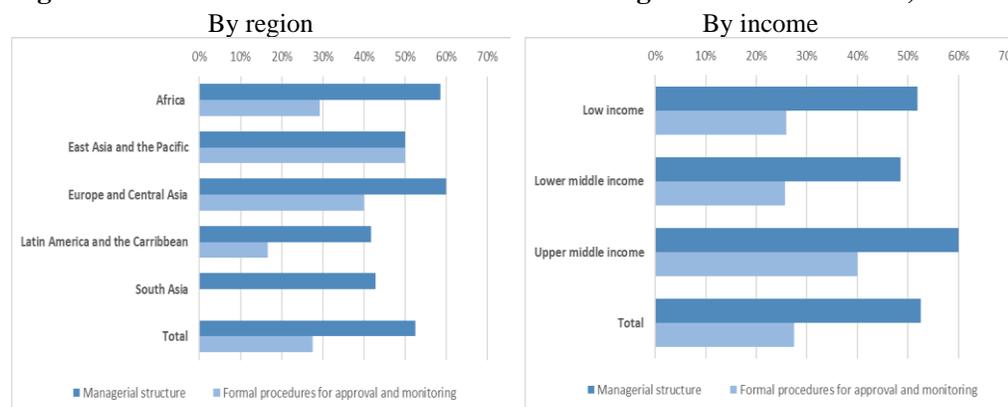
¹ The paper was peer reviewed by Philip Anderson, Asli Senkal and Mike Williams. Comments on earlier drafts of this paper were received from experts of the World Bank's MTI Global Macroeconomic and Debt Practice.

² On-lending tends to be more transparent than granting a guarantee since the government's borrowing should show up in reported public debt and its loan to the ultimate borrower should show up in the government's cash outflows. Creditors may also prefer to lend directly to the government, in which case the interest rate on the debt should be slightly lower. On the other hand, guarantees more easily allow for risk-sharing with the lender, for example when the government guarantees only part of the debt.

³ On the problems of making decisions about guarantees, see, for example, Baldwin, Lessard, and Mason (1983); Brixi and Schick (2002); Irwin (2007, ch. 2); and Phaup (1985).

how well debt guarantees are managed, considering the assessment of risks, the charging of guarantee fees, the monitoring of outstanding guarantees, coordination of government borrowing with borrowing by guaranteed entities, and the recording and reporting of guarantees (World Bank 2015, pp. 13–17, 44–48). The DeMPAs done in 2008–19 found that roughly half the low-income and lower-middle-income countries did not have sound practices in managing guaranteed debt, and only a quarter of all countries had adequate formal procedures for approving, issuing, and monitoring guarantees. In general, the DeMPAs found that guarantees were managed less rigorously than direct debt.

Figure 1. Countries Assessed in DeMPAs as Having Sound Performance, 2008–2019, percent



Source: World Bank DeMPA database, assessments for DPI-2(2)- “Managerial structure” and DPI-10(1)- “Formal procedures for approval and monitoring of guarantees”

There is also continuing evidence of the costs of guarantees and the reputational risks they can create. Mozambique’s fiscal crisis of 2015–16, for example, followed the disclosure of large, previously secret guarantees to government-controlled companies (Mozambique Government 2019). Recent systematic evidence of the costs of guarantees comes from Bova and others (2016), who reviewed the realization of many kinds of contingent liabilities and found that realizations related to state-owned enterprises (often the main beneficiary of the kind of government guarantees on which this paper focuses) had an average cost of 3 percent of GDP, and a maximum cost of 15 percent.

Drawing on the existing literature,⁴ and a wide range of country practices, the paper offers governments a checklist of ideas for improving the management of government guarantees. The checklist is divided into 12 items under three subheadings:

Macroeconomic control of guarantees

- Limits on the issuance of guarantees
- Authorization to grant guarantees

Decisions whether to grant guarantees

- Guidelines on when guarantees should be used
- Restrictions on the use of guarantees

⁴ Contributions not mentioned elsewhere in this introduction include Brixi (1998); Budina and Petrie (2013); Cebotari and others (2009); IMF (2017); Lewis and Mody (1997); Merton and Bodie (1992); Mody and Patro (1996); OECD (2005); Towe (1991); and World Bank (1998, 2009).

- Conditions attached to guarantees
- Quantification of the costs of guarantees
- Fees for guarantees
- Processes for making decisions about guarantees

Post-decision follow-up

- Monitoring outstanding guarantees
- Paying when guarantees are called
- Recording and reporting guarantees
- Learning from experience.

Guarantees create similar problems wherever they are used, but policies and practices that solve the problems in one country may not work in another (see Andrews 2013). The right approach may vary according to the guarantees, the country’s legal system, and the government’s culture, objectives, and capability. Most countries should have rules about the use of guarantees, for example, but the rules that are warranted when guarantees are heavily used may be unnecessary when they are rare. How many of the rules belong in legislation may vary according to whether the country has a civil-law system (like France and Spain), in which laws are generally codified, or a common-law system (like the United Kingdom), in which more law depends on precedents set by judges. A method of estimating the cost of guarantees that works in a large, advanced economy may not work in a small low-income country with fewer highly trained officials and little money to spend on experts. A careful process for analyzing the costs and benefits of guarantees may be useful when politicians want officials to give them “free and frank advice” (Kibblewhite 2016) but not when they want them only to implement their decisions.

Macroeconomic Control of Guarantees

The first two items on the checklist aim to ensure macroeconomic control of guarantees by setting limits on their use and restricting the authority to grant them.

Limits on Guarantees

Some governments rarely issue guarantees. Georgia, for example, issued no guarantees from 1998 to 2013 (World Bank 2013b, p. 28), while Moldova went 18 years without issuing guarantees, except for one to the central bank to resolve a banking crisis (World Bank 2018, pp. 8, 33). For many other governments, a useful first step in introducing budget-like discipline and transparency for guarantees is to establish limits on their use. The limits contain the government’s exposure and, when they are binding, encourage prioritization. Like budget limits, guarantee limits tend to be somewhat arbitrary, and they sometimes need to be revised in response to unexpected circumstances, but as with budgets even a somewhat arbitrary, revisable limit may be better than nothing.

The limits on guarantees can be short term (e.g., a year) or they can be designed to remain in force indefinitely, like the fiscal rules that governments use to control their deficits and debts. They can govern either the stock of outstanding guarantees or the flow of new guarantees.

Long-term limits can be set in the legislation in different ways:

- The stock of guarantees can be controlled simply and effectively by including guaranteed debt in a measure of public indebtedness that is subject to a fiscal rule, as in Kosovo, Russia, and Serbia (Kikoni

and others 2019; IMF 2014b, §3.2.5). Within the total limit, there can be indicative limits for direct debt and for guarantees.

- The stock of guarantees can be limited by a rule that is specific to guarantees. In Brazil, the fiscal framework limits the federal government's outstanding guarantees to 60 percent of its net current revenues; guarantees above this level are null and void (Brazilian Senate 2007, §9; Brazilian Presidency 2000, §40). Many countries in Eastern Europe and Central Asia have rules limiting outstanding guarantees, often as a share of GDP. Examples include Armenia, Bosnia and Herzegovina, and Montenegro (World Bank 2013a, p. 25; Kikoni and others 2019).
- The annual issuance of guarantees can be permanently limited. India's Fiscal Responsibility and Budget Management Rules, for example, limit the annual issuance of new guarantees to 0.5 percent of GDP (Indian Ministry of Finance 2010, pp. 2, 8).

Short-term limits can have an annual or a medium-term horizon. In many countries, the budget limits the annual issuance of guarantees. Georgia is an example (World Bank 2013b, p. 10). Limits for the next three or so years can be set out in a medium-term fiscal plan, as in Romania (IMF 2015, §3.2.4) or in a guarantee law, as in Austria (IMF 2018, §3.2.3).

Authorization to Grant Guarantees

Another step to establish macroeconomic control over guarantees is to centralize the authority to grant them. This helps ensure that limits are respected and that tradeoffs are considered.

For guarantees as for budgets, ultimate authority often belongs to the legislature. In approving an annual budget, the legislature may, as noted, set a limit on the issuance of guarantees. In Iceland, the legislature considers each guarantee individually, upon a proposal of the minister of finance incorporating an opinion of the debt-management office in the central bank (Ülgentürk 2017, Table 4).

In many countries, the legislature delegates the power to approve guarantees. In Turkey, the treasury minister approves debt guarantees subject to an annual limit set by the legislature (Ülgentürk 2017, Table 4). In Côte d'Ivoire and Senegal, the organic budget law gives the authority to approve guarantees to the council of ministers, also subject to an annual limit (Côte d'Ivoire 2014, §42; Senegal 2011, §42). Problems can arise if more than one official can give guarantees, as Petrie (2002, box 2.2) mentions with respect to Kazakhstan in the 1990s. Thus, the legislature may specify that *only* the minister of finance may issue guarantees, as for example in Austria, Madagascar, and Russia (IMF 2014b ¶80; World Bank 2017; IMF 2018, ¶102).

Decisions Whether to Grant Guarantees

Next on the checklist are steps designed to improve decisions about granting a guarantee.

Guidelines

A government may find it useful to develop guidelines for deciding when guarantees are most likely to be appropriate. This requires the government to have a view of the purpose of the guarantees. At the highest level, the guiding criterion should be that the net benefits of giving the guarantee are greater than the net benefits of other options, such as doing nothing or supporting the borrower or project without using a guarantee. The net benefits of giving the guarantee are the social and economic benefits of the guarantee, including the benefits of the investment it allows, less the costs of giving the guarantee.

In the best case, a proposal to grant a guarantee would undergo a rigorous social cost-benefit analysis of the kind discussed in Belli and others (1998). Doing a rigorous social cost-benefit analysis is difficult, however. Less ambitious guidelines can thus be considered. Reasonable guidelines might say that guarantees should be used only in one or more of the following circumstances:

- *Project is part of the government's public investment plan and has passed a cost-benefit test.* Guarantees might be favored when they are for a project that has passed a rigorous cost-benefit analysis and is included in the government's public investment plan.
- *Market failure is greater than government failure.* Guarantees might be favored when a market failure has been identified, such as the need to provide a public good or overcome a problem in the functioning of capital markets. Market failure by itself does not justify a guarantee: it is also necessary to consider whether a guarantee is a better instrument for overcoming the market failure than other options such as a subsidy (see, e.g., Irwin 2003) and whether the outcome with the guarantee can be expected, after taking account of the drawbacks as well as the benefits of guarantees, to be better than the outcome without the guarantee.
- *Government's future actions are crucial.* Guarantees might be favored when the borrower's creditworthiness is closely linked to expectations of what the government will do. This might occur, for example, because the government regulates the price of the borrower's services and creditors fear that regulation will push the price below costs (Smith 1997).
- *Explicit guarantee replaces implicit guarantee.* Guarantees might be favored when the borrower benefits from a vague implicit guarantee. Making the guarantee explicit improves transparency and might reduce the government's actual liability by specifying the guarantee's limits (Lindwall 2013). By reducing uncertainty associated with a vague implicit guarantee, an explicit guarantee might also lower the total costs of borrowing. The total costs of borrowing include both the costs incurred by the borrower and the costs incurred by the government as guarantor. A guarantee will almost certainly reduce the cost of borrowing to borrower, but by itself this is not a justification of the guarantee (e.g., Klein 1997).

Restrictions

Governments can also impose restrictions on the nature of the guarantees that may be issued. The restrictions could be legally binding, but reserving flexibility to deal with emergencies is valuable. Possible restrictions include the following:

Only for concessional loans. Guarantees might be restricted to creditors offering concessional finance on the grounds that the net benefits of giving guarantees are more likely to be positive if the guarantees secure cheap finance (e.g., Indian Ministry of Finance 2010, p. 15).

Only certain kinds of borrowers. Guarantees might be restricted to government-owned borrowers or to borrowers in the public sector, for example because of the presence of implicit guarantees. In Colombia, guarantees cannot be granted to individuals or public entities that have defaulted, among other restrictions (Colombian Presidency 1993, §23). In New Zealand, a now-ended guarantee scheme required the people controlling the borrowers to be of "good character" (New Zealand Treasury 2009, p. 1).

Only minimally creditworthy borrowers. Some governments require that borrowers be at least minimally creditworthy, since, if a borrower is likely to default, a grant or a capital injection may be a better solution to its problems than a guarantee is. It is also tempting to exclude borrowers that have *good* credit on the grounds that they can borrow without a guarantee but excluding both borrowers with poor credit and borrowers with bad credit may mean that no borrowers are eligible. And a government might want to offer guarantees to bodies it owns even if they are creditworthy, for the reasons discussed above under the heading of replacing implicit guarantees with explicit guarantees.

Only certain debt contracts. In Côte d'Ivoire, there is a presumption against guaranteeing debt with provisions more onerous than those in the government's own debt contracts (Côte d'Ivoire 2014, §42). In Denmark, guarantees are restricted to "customary loan types" (Ülgentürk 2017, p. 20), a restriction that reduces the risks created by unfamiliar contracts whose implications may be difficult to understand. Guarantees for borrowing in a foreign currency might also be restricted unless the borrower generates revenue in that currency.

Only certain debt payments. Guarantees might apply only to the payment of normal interest and the repayment of principal, not to penal interest (e.g., Indian Ministry of Finance 2010, p. 3).

Only part of the credit risk. Guarantees might cover only a certain percentage of the debt payments or cover payments for only the first few years of the term of the debt. The European Commission's rules on loan guarantees and state aid, for example, say that, except in certain specified cases, governments should not guarantee more than 80 percent of the amount of the loan (European Commission 1999). Such a restriction reduces the government's exposure and gives lenders an incentive to assess the borrower's credit and to monitor its behavior.

Only certain sources of credit risk. Guarantees might cover only defaults caused by the government's own acts or omissions (Smith 2007; World Bank 2016 on partial risk guarantees).

Conditions

The government can impose conditions on the borrowers that benefit from guarantees in order to reduce the risks of default. It must, in this case, ensure that the debt contract is consistent with the conditions. Conditions might include:

- The posting of collateral, as sometimes in Sweden and Turkey (Bachmair 2016) or the giving of a counter-guarantee (Colombian Presidency 1993, §23). If collateral is posted, the choice and valuation of the collateral needs to be considered. Ideally, the collateral should be relatively stable in value and easy to sell, such as bonds. Good collateral can greatly reduce the government's overall risk, but some of the borrowers that benefit from government guarantees may have little in the way of low-risk liquid financial assets.
- Restrictions on the use of the funds borrowed with the aid of the guarantee.
- Restrictions on further borrowing by the borrower or on its leverage.
- Restrictions on operational risk taking by the borrower, such as restrictions on the kinds of business it can undertake.

- Restrictions on the validity of the guarantee if the borrower's ownership changes.
- Requirements that the borrower send regular financial reports, audit reports, and updated risk assessments to the line ministry and ministry of finance and provide further information in response *ad hoc* requests.

Estimating Costs and Risks

Central to any decision to commit public resources is having a good idea of the fiscal cost of the decision, and, if the costs are uncertain, the extent of the uncertainty. In the case of guarantees, it is usually unrealistic to expect precise estimates, but rough estimates are often better than no estimates, and the process of making the estimates may help the government understand the issues that the guarantee raises.

Ideally the government would know the following:

- Its maximum loss, that is, the total amount of the guaranteed payments.
- Its expected loss, in the statistical sense of a probability-weighted average loss.
- Its loss in a bad scenario, such as its loss at the 95th percentile of the estimated distribution of losses (see Marrison 2002 and the discussion of Colombia in IMF 2017, box 4, as well as Colombian Ministry of Finance and Public Credit 2015).
- The market value of the guarantee, taking account of the cost of bearing risk. This is often greater than the expected cost of the guarantee, since many guarantees are more likely to be called in bad times than in good times (Irwin 2007, ch 7; Lucas 2010; Lucas and Phaup 2008).

The maximum loss can be determined in simple cases just by looking at the debt contract. Estimates of other measures can be obtained using various methods:

- One is to extrapolate the record of past payments into the future. This is especially useful when there have been very many guarantees, as, for example, in a longstanding program of guarantees for student loans. When there are fewer guarantees, there may not be enough historical data to draw conclusions about the future.
- Sometimes it is possible simultaneously to observe yields on guaranteed bonds and similar unguaranteed bonds and thus to observe the market value of the guarantee or, more precisely, the difference between the market value of the explicit guarantee and the market value of a possible implicit guarantee. Banks can also be asked to quote a price on providing a loan with and without a guarantee, as has been done in Denmark. The banks may need to be paid in order to provide serious quotes, and there may be doubts about whether quotes for hypothetical loans are reliable.
- Stochastic financial modeling can be used to derive estimates of expected losses, as well as losses at a defined level of confidence, such as the 95th percentile. Such modeling recognizes that the variables that determine guarantee calls fluctuate randomly, and it usually employs Monte Carlo simulation. It can be difficult to do, however, and even rough information on the nature of the randomness can be hard to get.
- Option pricing (contingent-claims analysis) is a kind of stochastic modeling that takes account of the market price of risk, and sometimes allows estimates of the cost of guarantees to be derived from an

equation, without need of Monte Carlo simulation. Merton (1977) explains that guarantees are like put options and that the option-pricing theory developed by Black and Scholes (1973) and Merton (1973) can therefore be applied to the valuation of debt guarantees. Option-pricing techniques have been used to value revenue and exchange-rate guarantees in concessions in Chile and Peru (Chilean Budget Department 2007, Annex; Peruvian Ministry of Finance 2007), but the techniques are difficult to apply and not commonly used by governments for debt guarantees (see, e.g., Swedish National Debt Office 2018).

- Borrowers' stand-alone credit ratings can be used, in conjunction with other information, to estimate the costs of guarantees. (A stand-alone credit rating excludes the effect of the implicit or explicit government support that may be part of the overall credit rating.) If ratings by established rating agencies are not available, a ministry of finance can develop its own ratings, as in Ghana, South Africa, and Thailand (Bachmair, Aslan, and Maseko 2019; World Bank 2019, box 13 and figure 18). When reliable credit ratings are available, they offer a relatively simple method of estimating guarantee costs (see New South Wales Treasury 2014; Bachmair 2016). But getting a reliable credit rating is sometimes difficult.
- As shown in the accompanying paper "Scenario Analysis Tool for Assessment and Monitoring of Government Guarantees" conventional scenario analysis can be extended to estimate expected losses as well as losses in customized shock scenarios. The approach is to generate a small number of scenarios and assign probabilities to them and to calculate the estimated loss as the probability-weighted average of the losses in the scenarios.

Which method is appropriate depends on the circumstances. If a guarantee's cost is especially sensitive to one or two variables and the government has good modeling capacity, stochastic modeling is attractive. If the government's main concern is to estimate the expected cost of the guarantees and the borrower has a credit rating from a reputable agency, the credit-rating method is relatively simple and effective. If such ratings are not available, consideration can be given to requiring guarantee beneficiaries to pay for ratings or to estimating the ratings in-house. If no credit ratings are available, or the guarantee is for a new project, an attractive option is scenario analysis of the kind explained in "Scenario Analysis Tool for Assessment and Monitoring of Government Guarantees."

For large and important guarantees, the ministry of finance may want to use more than one method, since each method can serve as a check on the others, and the process of reconciling the results of different models will improve understanding of the methods and the risks created by the guarantee.

Guarantee Fees

Charging fees for guarantees can be helpful for several reasons. Fees can provide funds to pay guarantee calls. They can discourage borrowers from seeking a guarantee when a cash subsidy or a capital contribution would be better. If the demand for guarantees exceeds the government's willingness to grant them, fees can ration demand to borrowers that value the guarantees most. And fees can preserve competitive neutrality, or a level playing field among guaranteed and unguaranteed firms (Lindwall 2013).

Two caveats about guarantee fees should be noted. When the borrower that is charged the fee is owned by the government, the fee does not directly change the government's net financial position. Like the guarantee itself, the transaction is internal to consolidated government entity. The fee increases the government's cash but reduces the value of its investment in the state-owned entity. Guarantee fees may still serve a purpose, however, such as preserving competitive neutrality, changing the borrower's incentives, or highlighting the

cost of the guarantees in budget documents. Second, fees can worsen the budgetary illusion that guarantees are cheaper to provide than cash subsidies, since not only are the costs hidden, but guarantee fees can count as revenue (a problem noted by Brixi and Mody 2002).

Many governments charge something for their guarantees. Often, however, the fees are unrelated to, and usually lower than, the guarantees' costs. In Vietnam, to take an example that is not unusual, the Asian Development Bank (2017) estimated that guarantee fees typically covered only the administrative costs of the guarantee program. Generally better is to set fees to cover the full costs of the guarantees (e.g., OECD 2005). Among other things, this reduces the borrower's incentive to seek a guarantee instead of a cash subsidy of an equivalent amount. If a cost-covering fee is not charged, it should still be estimated, since the difference between the actual fee and the cost-covering fee is an implicit subsidy.

In New South Wales, fees for guarantees for state-owned enterprises are based on stand-alone credit ratings (New South Wales Treasury 2014). An enterprise seeking a guarantee must pay for a rating by an agency chosen by the Treasury. (Estimated credit ratings may be used for very small borrowings.) The rate of the guarantee fee is then set at the difference, at the time the guarantee is given, between the interest rate paid by the New South Wales Treasury and an estimate of the interest rate paid by borrowers with a stand-alone credit rating equal to that of the borrowing enterprise.

Charging the fee to the borrower is the norm, but the relevant line ministry can be charged instead. In Sweden, borrowers are normally charged a fee equal to the expected cost of the guarantee plus administrative costs, but sometimes the borrowers are partially or fully exempted from this fee. Then the subsidy may be funded from the central government's budget, in which case it counts toward the total level of spending that is subject to the government's expenditure ceiling (Swedish National Debt Office 2018). If the fee is paid by the sponsoring ministry, the ministry has an incentive to consider whether the guarantee is the best use of public resources.

Guarantee fees can be charged in a lump sum at the time of borrowing or in installments over the term of the debt. The borrower may prefer paying in installments, since it keeps more of the initial proceeds of the debt, but charging the full fee upfront protects the government from the risk that the borrower will not only default on the debt but also fail to pay the full guarantee fee. Denmark charges an upfront fee, while South Africa charges an annual installment fee (World Bank 2019, p. 141).

Decision-Making Process

Decisions about guarantees should be taken following a carefully designed process. Such a process can incorporate a checklist that ensures that all relevant issues are considered (e.g., UK Treasury 2017). It can encourage deliberation and debate and help overcome some of the flaws of unstructured decision making (Kahneman 2011; Hearn and Phaup 2018). The appropriate process will vary from country to country, but in designing the process, it will be useful to address the following questions.

Who does what in the ministry of finance? Within the ministry of finance, several units may have a role to play in decisions about guarantees. The debt-management office is likely to have the most expertise in the analysis of credit risk and to understand best the links between a proposed guarantee and the government's own debt and borrowing program. Thus, it is likely to play a major role (Currie 2002; Ülgentürk 2017; Wheeler 2004, ch. 6). But groups working on fiscal policy and fiscal risks will have relevant expertise in relation to the government's fiscal position, its fiscal targets, and its exposure to other, possibly correlated

fiscal risks. If the guarantee is for a subnational government or a state-owned enterprise, the groups in the ministry of finance (or other ministries) that supervise these entities may know the most about the guarantee's riskiness. Making each group's responsibilities clear should improve decision making as well as subsequent monitoring.

Who can formally request a guarantee? For example, can a state-owned enterprise request a guarantee itself or must the proposal be made by the line ministry that oversees the enterprise?

Does the ministry of finance have an opportunity early in the development of the underlying project to say whether it will look favorably on a guarantee proposal? This may help prevent needless work or the ministry of finance's being presented with a *fait accompli*.

What information must the requestor provide in the formal proposal? The ministry of finance should not be asked to offer an opinion on a guarantee unless it has access to good information about the guarantee. Typically, the borrower and its supervising line ministry are in the best place to provide much of that information. Required information might include:

- The expected lender or lenders and the draft debt contract; the contract's main provisions, including the term, currency, and interest rate of the debt and whether the debt includes call, redemption, or other options; and a schedule of debt payments over the term of the debt.
- The details of the proposed guarantee, including its conditions and whether it covers all payments or just some and all causes of default or just some.
- If the guarantee is for a particular investment project, information on that project and estimates of the borrower's future cash flows with and without the project.
- The borrower's audited financial statements for the last few years, as well as *pro forma* financial statements showing forecasts of its finances for the next few years.
- The borrower's stand-alone credit rating from a recognized credit-rating agency (chosen perhaps by the ministry of finance).
- The proposer's estimate of the expected costs and risks of the guarantee.
- Information on how risks affecting the guarantee would be monitored and mitigated throughout the life of the guarantee, including the role of the line ministry.
- A justification of the proposed guarantee that takes account of issues such as those considered above under "Guidelines."
- Information on how any payments under the guarantee would be made. Would they come in whole or in part from the budget of the line ministry, as for example in the Netherlands (Hofmans and van der Coevering 2013)?

What analysis should the ministry of finance undertake? How much analysis should be done depends on how big and risky the guarantee is and on how much difference the analysis will make to the decision, but possible steps include the following:

- Checking that the proposal provides all the required information.
- Checking whether the guarantee can be granted without breaching, or risking breaching, any limit on guarantees.
- Checking that the guarantee is permissible given any restrictions on the kinds of guarantee that can be offered.
- Challenging the forecasts underlying the beneficiary’s estimate of expected costs of the guarantee, which may be optimistic (see Bain 2009; Flyvbjerg, Bruzelius, and Rothengatter 2003; Kahneman 2011, ch. 24). Ideally, the ministry of finance should be able to hire its own technical consultants to review such forecasts.
- Making its own estimates of the costs and risks of the guarantee. In doing so, the ministry may find it useful to hire consultants to help with the estimate and, at least for large guarantees, to check whether different estimation methods lead to similar results. It could consider running a prediction market as another check on the results (Sunstein and Hastie 2015, ch. 11).
- Determining how the guarantee would affect the government’s portfolio of outstanding guarantees (total amount, currency composition, time profile of future payments, etc.) and overall debt levels, counting both direct and guaranteed debt.
- Considering whether the timing and nature of the proposed guaranteed borrowing would conflict with the government’s own borrowing program.
- Considering what conditions should be attached to the guarantee if it is granted (see “Conditions”, above).

How are draft recommendations reviewed before being submitted? The range of issues that needs to be considered is broad, so even if one group in the ministry of finance takes the lead, other groups will need to be involved, both to provide inputs and to review and challenge draft recommendations. Having the guarantee considered by a committee with members from different groups in the ministry may be useful. Some evidence suggests that decisions are better if those with new information or dissenting views are encouraged to speak up (Nemeth 2018; Sunstein and Hastie 2015) and if a “premortem” is held in which it is assumed that the decision turned out to be wrong and people are asked to explain why (Klein 2007).

What analysis and recommendations are transmitted to the decision-maker? If the minister of finance is the decision-maker, what information does he or she receive?

How is the decision documented? The documentation should make clear not only whether the guarantee is granted, but also state precisely the terms of the guarantee, including any conditions. (See “Recording and Reporting” below.) To address the problem of secret guarantees, a government might consider legislating that no guarantee was valid unless it was publicly disclosed at the time it was granted.

Post-Decision Follow-Up

Monitoring

After guarantees have been granted, they need to be monitored. As the Swedish National Debt Office (2018) notes, the ability to monitor properly depends crucially on the government's rights to information. Those rights may need to be established in the guarantee contract.

If the guarantee contract imposes conditions on the borrower, the government must monitor the borrower to ensure that the conditions are met. For example, if collateral of a certain value is required, the existence and value of the collateral must be ascertained periodically.

In addition, the government needs an early warning of any likely call on a guarantee. Typically, governments prefer guaranteed subnational governments and state-owned enterprises not to default (to avoid cross-default, loss of confidence, or disruption of services), so they prevent the triggering of the guarantee by giving cash to the subnational or enterprise or otherwise ensuring it can make the necessary payments.

Monitoring the portfolio of guarantees can help inform decisions about future guarantees. If the risks of default on the portfolio of existing guarantees are estimated to have increased, for example, the government may prefer to grant fewer new guarantees.

Processes for monitoring need to make clear the responsibilities of several different entities:

- *The guaranteed borrower*, which may be required to report regularly to the government on its finances and its compliance with guarantee conditions and to notify the government immediately of any developments that significantly increase the risk of default.
- *The lender*, which may be required to do its own monitoring and to report to the government.
- *The relevant line ministry*, which may be responsible for monitoring the borrower and reviewing its reports and where appropriate taking action to solve problems or mitigate risks.
- *The ministry of finance or other central body*, which may be responsible for monitoring the portfolio of guarantees, monitoring any individual guarantees that are particularly risky, and ensuring funds are available to meet or prevent a guarantee call. Within the ministry of finance, the roles of different units may have to be clarified, as discussed above under "Decision-Making Process."

Payment and Recovery

The government should know in advance how it will make payments to meet or prevent a guarantee call. It should know where the cash will come from, and it should know that it will have the legal authority to make the payment. It must also consider whether to try to recover some or all of the payment from the defaulting borrower.

Legal authorization can come from one or more of several sources. What is appropriate is likely to depend on the country context, but the aim should be to ensure that legally required payments can be made, while still preserving some of the discipline and transparency of prior legislative approval of each year's budget.

The options, which should be accompanied by transparent reporting of any disbursements, include the following:

- The budget may include a line specifically for possible guarantee calls, though the unpredictable and volatile nature of the calls may mean that this budget line is usually either too small or too large.
- The budget may include a general contingency line that allows spending on urgent, unforeseen, and unforeseeable items of many kinds, including guarantees. Compared to a line only for guarantees, this allows for the pooling of more risks.
- The public finance act or organic budget law may create a standing authorization, allowing the government to honor guarantees without need for additional authorization in the budget, as, for example, in Kenya (2012, §60) and New Zealand (2019, §65D and definition of “public security” in §2).
- An extrabudgetary guarantee fund with its own authority to spend can be used to make the payment.

Cash typically comes from either a guarantee fund or the government’s general cash reserves funded by taxes and borrowing.

What a guarantee fund can do depends on its nature. Turkey, for example, has a real-money guarantee fund with its own financial resources (Ülgentürk, 2017, p. 23). Some guarantee funds, however, are notional, as in Sweden (Swedish National Debt Office 2018). Notional funds do not have their own financial resources, but instead serve an administrative purpose, such as keeping track of guarantee fees and payments, allowing costs to show up in the budget, or allowing payments to be made without specific legislative authorization.

A real-money (funded) guarantee fund is likely to be too small to meet several simultaneous calls, such as might occur during a crisis. Such a fund usually needs the government as a backstop. From the perspective of cash-and-debt management, it might be cheaper to rely only on the government’s general reserves, which can be used to pay the costs associated with the realization of a wide range of somewhat diversified fiscal risks. If there is a real-money fund, consideration needs to be given to the kinds of assets it can invest in and how they will be managed, and how the choice of assets and their management affects the government’s total portfolio of financial assets. A real-money fund is most likely to be effective if there is a large, diversified portfolio of guarantees that are granted in return for cost-covering fees, and there are devices to ensure that the fund’s resources are not used for other purposes. Such a fund could eventually become a limited-liability company with private investors and no backing from the government (Cohen 2002).

Whatever the strategy for ensuring the availability of cash and the necessary legislative authority for payment, care also needs to be taken to ensure payments are properly made. For example, it may be appropriate to separate the jobs of preparing and executing the payment; to require two people to authorize the payment; and to ensure that invoices are checked against internal records of required debt payments.

If a guarantee is called, the government must decide whether to try to recover some of its payment from the defaulting borrower. In general, establishing the principle that losses will be recovered reduces the moral hazard associated with the government’s guarantee. If the borrower is government owned, recovering the loss does not directly benefit the government, however, since the recovery is offset by a reduction in the value of the government’s investment and any assets that the borrower has may be needed to provide public

services. If the borrower is a private firm, or if collateral has been provided, recovery may be possible and desirable. If the borrower is a subnational government, it may be possible to recover some money by reducing future budgetary transfers to the subnational government.

Recording and Reporting

Recording information on guarantees is essential for monitoring them, and publishing the information may create useful pressure to keep the level of guarantees within safe limits while also helping to persuade creditors that public finances are well-managed.

Internally, the ministry of finance should have a full register of debt guarantees, with information recorded as carefully as is information on direct debt. The register, which could be part of the same database that is used to record direct government debt, should include the details of each guarantee, the schedule of guaranteed payments, the results of monitoring, and any payments that have been made to meet or prevent guarantee calls. It should include all the details of the original loan agreements. Guarantee and loan agreements need also to be stored securely.

External reporting of guarantees can take several forms (Heald and Hodges 2018):

- Much of the information in the just-mentioned registry can be made public, the possible exceptions being sensitive information, such as the results of recent monitoring.
- A measure of public and publicly guaranteed debt can be published. Countries where such reports are available include, in addition to those mentioned under “Limits”⁵, Albania, Armenia, Jordan, and North Macedonia
- A summary table can be published showing basic information on guarantees by category. Suggestions about what to include in such a summary can be found in IMF (2019, §3.2.3) and World Bank (2009).
- More detailed information on debt guarantees can be included in a report on debt, such as Danish National Bank (2020), or in a report devoted to guarantees, such as Brazilian National Treasury (2020).
- Summary information can also be incorporated in reports with broader scope, such as a report on contingent liabilities, a report on fiscal risks, or a budget report.⁶ This can help reveal how big the risks of guarantees are in the context of public finances.
- It is possible to record guarantees in the budget at their expected cost, as in the United States (Phaup 1993, Schick 2002).
- Information on guarantees also belongs in official statistics. The *Government Finance Statistics Manual 2014* (IMF 2014a) recommends recording obligations under standardized guarantee schemes as liabilities on the balance sheet (¶7.201) and one-off guarantees in a memorandum item to the balance

⁵ See Kikoni and others (2019); World Bank (2013a); Jordanian Ministry of Finance (2019, p. 2); and North Macedonia (2019, Table 7).

⁶ For examples, see Chile’s report on contingent liabilities (e.g., Gómez, Huerta, and Martínez 2019); the reports on fiscal risk published by Finland, Ghana, and the Philippines (e.g., Finnish Ministry of Finance 2020; Ghanaian Ministry of Finance 2019; Philippines Development Budget Coordination Committee 2019); and the budget documents of Peru and South Africa (Peruvian Ministry of Economics and Finance 2019; South African National Treasury 2019).

sheet (§7.255). An exception is made for one-off guarantees granted to companies in financial distress, which are treated as called as soon as they are issued (§7.258). The *Manual* also recommends compiling finance statistics for the public sector as well as general government (§4.7). Doing so creates a measure of liabilities that includes the liabilities of subnationals and state-owned enterprises.

- Finally, information on guarantees should be part of the government's financial statements. Accounting standards sometimes require all financial guarantees to be recognized as liabilities on the balance sheet (Financial Accounting Standards Board 2002), but more commonly they require guarantees to be recognized as liabilities only if they will probably be called. Otherwise, they require the guarantees to be disclosed in notes to the accounts (unless the probability of a call is remote). See, for example, International Public Sector Accounting Standard 19, "Provisions, Contingent Liabilities, and Contingent Assets", in International Public Sector Accounting Standards Board (2018, vol. 1). International Public Sector Accounting Standards require governments to consolidate in their accounts all the entities that they control, which leads to the reporting of a measure of liabilities that includes the liabilities of state-owned enterprises and, if they are controlled, subnationals as well.

Learning

Finally, the government should take steps to maximize what it learns from its experience with guarantees. It should record its decisions and what happened, and it should periodically review the evidence to look for ways of improving its decisions and the framework in which the decisions are made.

The unpredictability of the world means that learning is not straightforward. Good decisions sometimes have bad consequences, and bad decisions sometimes have good consequences. Statisticians and econometricians can help extract the signal from the noise. To learn more from its experience, the government can also experiment with different approaches, for example by trying new kinds of guarantee when it is not certain that they will work.

To get the most out of its periodic reviews, the government needs comprehensive information. The reviews should consider all guarantees, not just those that have been called, and it should include all decisions, not just the decisions to grant guarantees. Because governments often preempt the calling of a guarantee, a record needs to be kept not only of payments under guarantees calls but also steps taken to preempt guarantee calls. The guarantee registry should record all this information.

Conclusions

Managing government guarantees poorly can lead to a waste of public resources, and it exacerbates the risks of a fiscal crisis. But managing guarantees well is hard to do because of the difficulty of understanding their potential cost and the temptation to use them excessively since they have no immediate effect on the reported budget deficit and level of public debt. These problems can be mitigated by establishing a sound framework of rules and policies to govern the granting and monitoring of guarantees. This paper has suggested a checklist of issues to consider in designing such a framework, one that should help governments establish macroeconomic control over the use of guarantees, improve decisions about awarding individual guarantees, and ensure appropriate follow-up after award.

References

- Andrews, Matt. 2013. *The Limits of Institutional Reform in Development: Changing Rules for Realistic Solutions*. Cambridge: Cambridge University Press.
- Asian Development Bank. 2017. *Viet Nam: Improving Public Expenditure Quality Program—Strengthening Fiscal Risk Management of Government Guaranteed Loans in Viet Nam*. Asian Development Bank.
- Bachmair, Fritz Florian. 2016. “Contingent Liabilities Risk Management: A Credit Risk Analysis Framework for Sovereign Guarantees and On-Lending. Country Experiences from Colombia, Indonesia, Sweden, and Turkey.” Policy Research Working Paper 7538, World Bank.
- Bachmair, Fritz Florian, Çiğdem Aslan, and Mkhulu Maseko. 2019. “Managing South Africa’s Exposure to Eskom: How to Evaluate the Credit Risk from the Sovereign Guarantees?” Policy Research Working Paper 8703, World Bank.
- Bain, Robert. 2009. “Error and Optimism Bias in Toll Road Traffic Forecasts.” *Transportation* 36: 469–482.
- Baldwin, Carliss Y., Donald R. Lessard, and Scott P. Mason. 1983. “Budgetary Time Bombs: Controlling Government Loan Guarantees.” *Canadian Public Policy* 9 (3): 338–346.
- Belli, Pedro, Jock Anderson, Howard Barnum, John Dixon, and Jee-Peng Tan. 1998. *Handbook on Economic Analysis of Investment Operations*. Washington, DC: World Bank.
- Black, Fischer and Myron Scholes. 1973. “The Pricing of Options and Corporate Liabilities.” *Journal of Political Economy* 81 (3): 637–654.
- Bova, Elva, Marta Ruiz-Arranz, Frederik Toscani, and H. Elif Ture. 2016. “The Fiscal Costs of Contingent Liabilities: A New Dataset.” IMF Working Paper WP/16/14, International Monetary Fund.
- Brazilian National Treasury. 2020. *Guaranteed Debt Report, Sep–Dec 2019*. <http://sisweb.tesouro.gov.br/apex/cosis/thot/transparencia/arquivo/31546:1038669:inline:2611349027064>.
- Brazilian Presidency. 2000. *Lei Complementar No. 101 de 4 de Maio 2000*. http://www.planalto.gov.br/ccivil_03/Leis/LCP/Lcp101.htm.
- Brazilian Senate. 2007. *Resolução No. 48, de 2007*. <https://legis.senado.leg.br/norma/576233/publicacao/15741369>.
- Brixi, Hana Polackova. 1998. “Contingent Government Liabilities: A Hidden Risk for Fiscal Stability.” Policy Research Working Paper 1989, World Bank. Published under the name Hana Polackova.
- Brixi, Hana Polackova and Ashoka Mody. 2002. “Dealing with Government Fiscal Risk: An Overview.” In Brixi and Schick (2002), pp. 21–58.
- Brixi, Hana Polackova and Allen Schick, editors. 2002. *Government at Risk: Contingent Liabilities and Fiscal Risk*. Washington DC: World Bank.
- Budina, Nina and Murray Petrie. 2013. “Managing and Controlling Fiscal Risks.” In *Public Financial Management and Its Emerging Architecture*, edited by Marco Cangiano, Teresa Curristine, and Michel Lazare, pp. 175–204. Washington, DC: International Monetary Fund.
- Cebotari, Aliona, Jeffrey M. Davis, Lusine Lusinyan, Amine Mati, Paolo Mauro, Murray Petrie, and Ricardo Velloso. 2009. *Fiscal Risks: Sources, Disclosure, and Management*. Washington DC: International Monetary Fund.
- Chilean Budget Department. 2007. *Informe de Pasivos Contingentes 2007*. Dirección de Presupuestos del Ministerio de Hacienda. https://www.dipres.gob.cl/598/articles-21701_doc_pdf.pdf.

- Cohen, Daniel. 2002. “Fiscal Sustainability and a Contingency Trust Fund.” In *Government at Risk: Contingent Liabilities and Fiscal Risk*. In Brixi and Schick (2002), pp. 143–157.
- Colombian Ministry of Finance and Public Credit. 2015. *Resolución 923 de 2015*. Diario Oficial No. 49.482 de 14 de abril de 2015.
https://normativa.colpensiones.gov.co/colpens/docs/resolucion_minhacienda_0932_2015.htm.
- Colombian Presidency. 1993. *Decreto 2681 de 1993*.
<https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=1190>.
- Côte d’Ivoire. 2014. *Loi organique No. 2014-336 du 5 juin 2014 relative aux lois de finances*.
<https://igt.tresor.gouv.ci/pdf/decret/LOI-ORGANIQUE-RELATIVE-AUX-FINANCES-PUBLIQUES.pdf>.
- Currie, Elizabeth. 2002. *The Potential Role of Government Debt Management Offices in Monitoring and Managing Contingent Liabilities*. Washington, DC: World Bank. Report 45228.
- Danish National Bank. 2020. “Danish Government Borrowing and Debt, 2019.” 31 January.
https://www.nationalbanken.dk/en/publications/Documents/2020/01/REPORT_No%201_Danish%20Government%20Borrowing%20and%20Debt%202019.pdf
- Financial Accounting Standards Board. 2002. *FASB Interpretation No. 45: Guarantor’s Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others*. Norwalk, CT: Financial Accounting Standards Board.
- Finnish Ministry of Finance. 2020. *Overview of Central Government Risks and Liabilities, Autumn 2019*. Ministry of Finance.
http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162029/VM_6_2020.pdf?sequence=1&isAllowed=y.
- Flyvbjerg, Bent, Nils Bruzelius, and Werner Rothengatter. 2003. *Megaprojects and Risk: An Anatomy of Ambition*. Cambridge: Cambridge University Press.
- Ghanaian Ministry of Finance. 2019. *Fiscal Risk Statement, 2018*. Ministry of Finance.
<https://www.mofep.gov.gh/reports/2019-03-15/fiscal-risk-statement-2018>.
- Gómez, José Pablo, María José Huerta, and Germán Martínez. 2019. *Informe de Pasivos Contingentes, 2019*. Santiago: Dirección de Presupuestos, Chile. https://www.dipres.gob.cl/598/articles-198711_doc_pdf.pdf.
- Heald, David and Ron Hodges. 2018. “Accounting for Government Guarantees: Perspectives on Fiscal Transparency from Four Modes of Accounting.” *Accounting and Business Research* 48 (7): 782–804.
- Hearn, James J. and Marvin Phaup. 2016. “Making Better Budget Decisions Easier: Some Changes Suggested by Behavioral Research.” Discussion Papers on Re-Imagining the Federal Budget Process 5, Brookings.
- Hofmans, Heleen M. J. and Clement R. van de Coevering. 2013. “How to Deal with Contingent Liabilities—Lessons from the Dutch Experience.” *OECD Journal on Budgeting* 14 (1): 35–45.
- Indian Ministry of Finance. 2010. *Government Guarantee Policy*. New Delhi: Ministry of Finance.
https://dea.gov.in/sites/default/files/govern_guarantee_policy_1.pdf.
- International Monetary Fund. 2014a. *Government Finance Statistics Manual, 2014*. Washington, DC: IMF.
- . 2014b. *Russian Federation: Fiscal Transparency Evaluation*. Washington, DC: IMF. Country Report No. 14/134, May.
- . 2015. *Romania: Fiscal Transparency Evaluation*. Washington, DC: IMF. Country Report No. 15/67, March.
- . 2017. “How to Strengthen the Management of Government Guarantees.” How-To Note 17/01, IMF, Washington, DC.

- . 2018. *Austria: Fiscal Transparency Evaluation*. Washington, DC: IMF. Country Report No. 18/193, June.
- . 2019. *Fiscal Transparency Code*. Washington, DC: IMF.
- International Public Sector Accounting Standards Board. 2018. *Handbook of International Public Sector Accounting Pronouncements*. New York: International Federation of Accountants.
- Irwin, Timothy C. 2003. “Public Money for Private Infrastructure: Deciding When to Offer Guarantees, Output-Based Subsidies, and Other Forms of Fiscal Support.” World Bank Working Paper 10, World Bank.
- . 2007. *Government Guarantees: Allocating and Valuing Risk in Privately Financed Infrastructure Projects*. Washington, DC: World Bank.
- Jordanian Ministry of Finance. 2019. *Public Debt Quarterly Report No. 11, Third Quarter 2019*. Ministry of Finance.
https://mof.gov.jo/Portals/0/MOF_Content_EN/MOF_EN/MOF_EN/Public%20Debt%20Bulletin/2019/Public%20Debt%20Quarterly%20Report%20-Q.3%202019.pdf.
- Kahneman, Daniel. 2011. *Thinking Fast and Slow*. New York: Farrar, Strauss, and Giroux.
- Kenya. 2012. *Public Financial Management Act 2012*.
<https://www.google.com/url?q=https://www.treasury.go.ke/tax/acts.html%3Fdownload%3D603:the-public-finance-management-act-2012-1-1&sa=U&ved=2ahUKewiFnbzCrNnnAhWtlnIEHTKuBQgQFjAAegQIBhAB&usg=AOvVaw04XsgT-6CDWMDfzuM-AIoC>.
- Kibblewhite, Andrew. 2016. “Mastering the Art of Free and Frank Advice.” *The Mandarin* (8 September).
- Kikoni, Edith, Sanja Madzarević-Šujster, Tim Irwin, and Charl Jooste. 2019. “Fiscal Rules for the Western Balkans.” Policy Research Working Paper 8990, World Bank. August.
- Klein, Gary. 2007. “Performing a Project Premortem.” *Harvard Business Review* 85 (9): 18–19.
- Klein, Michael. 1997. “The Risk Premium for Evaluating Public Projects.” *Oxford Review of Economic Policy* 13 (4): 29–42.
- Lewis, Christopher M. and Ashoka Mody. 1997. “The Management of Contingent Liabilities: A Risk Management Framework for National Governments.” In *Dealing with Public Risk in Private Infrastructure*, edited by Timothy Irwin, Michael Klein, Guillermo E. Perry, and Mateen Thobani, pp. 131–153. Washington, DC: World Bank.
- Lindwall, Peter. 2013. “Budgeting for Contingent Liabilities.” Discussion Paper GOV/PGC/SBO(2013)7, Organisation for Economic Cooperation and Development.
- Lucas, Deborah, editor. 2010. *Measuring and Managing Federal Financial Risk*. National Bureau of Economic Research Conference Report. Chicago: The University of Chicago Press.
- Lucas, Deborah and Marvin Phaup. 2008. “Reforming Credit Reform.” *Public Budgeting & Finance* 28 (4): 90–110.
- Marrison, Christopher. 2002. *The Fundamentals of Risk Measurement*. New York: McGraw Hill.
- Merton, Robert C. 1973. “Theory of Rational Option Pricing.” *The Bell Journal of Economics and Management Science* 4 (1): 141–183.
- . 1977. “An Analytical Derivation of the Cost of Deposit Insurance and Loan Guarantees: An Application of Modern Option Pricing Theory.” *Journal of Banking and Finance* 1 (1): 3–11.
- Merton, Robert C. and Zvi Bodie. 1992. “On the Management of Financial Guarantees.” *Financial Management* 21 (4): 87–109.
- Mody, Ashoka and Dilip K. Patro. 1996. “Valuing and Accounting for Loan Guarantees.” *World Bank Research Observer* 11 (1): 119–142.

- Mozambique Government. 2019. *Diagnostic Report on Transparency, Governance and Corruption*. Washington, DC: IMF. IMF Country Report 19/276. Prepared with the Assistance of the Legal and Fiscal Affairs Departments of the International Monetary Fund.
- Nemeth, Charlan. 2018. *In Defense of Troublemakers: The Power of Dissent in Life and Business*. New York: Basic Books.
- New South Wales Treasury. 2014. “Government Guarantee Fee Policy for Government Businesses.” Policy & Guidelines Paper tpp 14-03, New South Wales Treasury. <https://www.treasury.nsw.gov.au/sites/default/files/2017-09/TPP14-03%20%20Government%20Guarantee%20Fee%20Policy%20for%20Government%20Businesses.pdf>
- New Zealand. 2019. Public Finance Act 1989, with amendments to May 31, 2019. <http://www.legislation.govt.nz/act/public/1989/0044/latest/DLM160809.html>
- New Zealand Treasury. 2009. *Crown Retail Deposit Guarantee—Policy Guidelines for the Extended Scheme*. <https://treasury.govt.nz/sites/default/files/2009-09/erdgs-policyguid-sep09.pdf>.
- North Macedonian Ministry of Finance. 2019. *2018 Annual Report on Public Debt Management of the Republic of North Macedonia*. Skopje: Ministry of Finance. https://www.finance.gov.mk/files/u1397/Annual%20%20report%20on%20Public%20Debt%20Management-ENG_Final_0.pdf.
- Organisation for Economic Co-operation and Development. 2005. *Advances in Risk Management of Government Debt*. Paris: OECD.
- Peruvian Ministry of Economics and Finance. 2007. *Metodología de valuación de pasivos contingentes cuantificables . . .* Dirección General de Asuntos Económicos y Sociales. https://www.mef.gob.pe/contenidos/pol_econ/documentos/Metodologia_Valuacion_Pasivos_Contingentes.pdf.
- . 2019. *Marco Macroeconómico Multianual, 2020–2023*. El Peruano: Diario Oficial del Bicentenario, 23 August. https://www.mef.gob.pe/contenidos/pol_econ/marco_macro/MMM_2020_2023.pdf.
- Petrie, Murray. 2002. “Accounting and Financial Accountability to Capture Risk.” In *Government at Risk: Contingent Liabilities and Fiscal Risk*, edited by Hana Polackova Brix and Allen Schick, chap. 2. 59–78.
- Phaup, Marvin. 1985. “Accounting for Federal Credit: A Better Way.” *Public Budgeting & Finance* 5 (3): 29–39.
- . 1993. “Recent Federal Efforts to Measure and Control Risk-Bearing.” In *Government Risk-Bearing: Proceedings of a Conference Held at the Federal Reserve Bank of Cleveland, May 1991*, edited by Mark S. Sniderman. Boston: Kluwer Academic Publishers, pp. 167–176.
- Philippines Development Budget Coordination Committee. 2019. *Fiscal Risks Statement 2020*. https://www.dbm.gov.ph/wp-content/uploads/DBCC_MATTERS/FiscalRiskStatement/FY-2020-Fiscal-Risks-Statement.pdf
- Schick, Allen. 2002. “Budgeting for Fiscal Risk.” In *Government at Risk: Contingent Liabilities and Fiscal Risk*. In Brix and Schick (2002), pp. 79–97.
- Senegal. 2011. *Loi no. 2011-15 du 8 juillet 2011 portant loi organique relative aux lois de finances*. Journal Officiel No 6618 du Samedi 15 octobre 2011. <http://www.jo.gouv.sn/spip.php?article9194>.
- Smith, Warrick. 1997. “Covering Political and Regulatory Risks: Issues and Options for Private Infrastructure Arrangements.” In *Dealing with Public Risk in Private Infrastructure*, pp. 45–80, edited by Timothy Irwin, Michael Klein, Guillermo E. Perry, and Mateen Thobani. Washington, DC: World Bank.

- South African National Treasury. 2019. *Budget Review 2019*. Pretoria: National Treasury.
<http://www.treasury.gov.za/documents/national%20budget/2019/review/FullBR.pdf>.
- Sunstein, Cass R. and Reid Hastie. 2015. *Wiser: Getting Beyond Groupthink to Make Groups Smarter*. Boston: Harvard Business Review Press.
- Swedish National Debt Office. 2018. *Central Government Guarantees and Lending in Sweden—An Introduction*. Swedish National Debt Office.
https://www.riksdagen.se/globalassets/dokument_eng/about/reports/central-government-guarantees-and-lending-an-introduction.pdf.
- Towe, Christopher M. 1991. “Government Contingent Liabilities and Measurement of Fiscal Impact.” In *How to Measure the Fiscal Deficit*, edited by Mario I. Blejer and Adrienne Cheasty, pp. 363–389. Washington, DC: IMF.
- UK Treasury. 2017. *Contingent Liability Approval Framework: Guidance*. London: HM Treasury.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/635939/contingent_liability_approval_framework_guidance.pdf.
- Ülgentürk, Lerzan. 2017. “The Role of Public Debt Managers in Contingent Liability Management.” OECD Working Papers on Sovereign Borrowing and Public Debt Management 8, OECD.
- Wheeler, Graham. 2004. *Sound Practice in Government Debt Management*. Washington, DC: World Bank. Report 27988.
- World Bank. 1998. *Contingent Liabilities—A Threat to Fiscal Stability*. PREM Note No. 9. Washington, DC: World Bank.
- . 2009. *Contingent Liability Risks from State-Owned Enterprises*. Washington, DC: World Bank. Report 53456.
- . 2013a. *Debt Management Performance Assessment (DeMPA): Armenia*. Washington, DC: World Bank. Report 91014, November.
- . 2013b. *Debt Management Performance Assessment (DeMPA): Georgia*. Washington, DC: World Bank, November.
- . 2015. *Debt Management Performance Assessment (DeMPA) Methodology*. Washington, DC: World Bank. Report 96671.
- . 2016. *World Bank Group Guarantee Products: Guidance Note*. Washington, DC: World Bank. April.
- . 2017. *Debt Management Performance Assessment (DeMPA): Madagascar*. Washington, DC: World Bank. December (in French).
- . 2018. *Debt Management Performance Assessment (DeMPA): Moldova*. Washington, DC: World Bank. December.
- . 2019. *Assessing and Managing Credit Risk from Contingent Liabilities: A Focus on Government Guarantees*. Debt Management Learning & Training Notes 2, World Bank Treasury—Public Debt Management Advisory. Washington, DC: World Bank.