

Value for Capital: *Concepts for Loan Guarantees in Financial PPP Transactions*

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Loan guarantees are a powerful economic policy tool for highly rated governments. In substance, guarantees can reflect the nation's full faith and credit. Their form is endlessly flexible, implementation requirements are minimal, and guarantee exposure may have only subtle or limited effects on the government's accounts. For exactly these reasons, loan guarantee programs can also cause unintended consequences or pervasive distortions that may surface only in time, when damage is done in scale.¹

Currently, the U.S. and several European countries are considering a number of new or expanded financing programs for infrastructure and renewable energy project development that include loan guarantee products.² Although the direct objectives of these programs are mainly focused on addressing specific financing constraints for the projects themselves, all have indirect objectives regarding employment and fiscal stimulus that will introduce political incentives for their use. The potential intensity of these incentives will certainly be related to the difficult economic environment and serious fiscal constraints now prevailing in the U.S. and much of Europe. Expanding guarantee capacity to accelerate the development of large-scale projects will likely be quite tempting to policymakers as well as potentially a very effective way to activate underutilized resources to create long-term

value. But, there is also a risk of excessive or misdirected guarantee usage that could result in sudden demands on already-burdened national balance sheets to pay up for projects with little economic value. Controlling the power of loan guarantees and demonstrating that their results are worth the risk and resources involved will be more important than ever.

This article outlines an approach for government loan guarantees of rated senior project finance debt. The approach has two related parts. The first part describes how some of the intrinsic problems of public-sector financial investment in private-sector projects can be mitigated by using a type of public-private partnership, financial PPP. The second part considers the need to demonstrate in a transparent way that (in addition to adequate risk mitigation) the public sector is receiving acceptable value for the resources utilized by the loan guarantee, or "Value for Capital."

FINANCIAL PPP

One approach to mitigate potential risks and politicization of government loan guarantees is to avoid guaranteeing all of the project's senior debt and require that qualified private-sector lenders provide a significant share of the debt on an unguaranteed basis on generally equal or identical seniority.

The private-sector lenders should be making such loans in accordance with their standard credit and investment criteria. This approach can generally be described as a “financial public-private partnership” or financial PPP.

Financial PPP is not exactly the same as the “standard” public-private partnership approach for public sector infrastructure. Under the standard PPP approach, the public sector executes a contract for services or capacity from a project that is built and financed by the private sector.³ In contrast, in financial PPP, the public sector is investing directly with private-sector lenders and other investors into the capitalization of a project, the output of which is connected to a policy objective but may or may not be sold to the public sector. However, the fundamental theory is the same for both PPP approaches; in the partnership between the two, the strengths and weaknesses of government are complementary to those of the private sector with respect to resources, time horizon, and social goals (public sector strengths) and expertise, efficiency, and value maximization (private-sector specialties).⁴

The theory of complementary strengths may be more practically effective for financial PPP than standard PPP. Under standard PPP the public sector is on one side of an operating contract with the private sector on the other. This contract separates and puts into zero-sum opposition each sector’s interests in most aspects of the project. It is only a “partnership” in the sense that both sides want to see the project successfully operating, but beyond that there is little co-alignment of risk and interest. The lack of natural co-alignment is arguably one of the biggest practical problems faced by the standard PPP approach, because risks and costs supposedly transferred to the private sector can be subtly re-introduced to the public sector through a complex operating contract.⁵

In contrast, under financial PPP, the public and private sectors more closely resemble actual “partners” because intrinsically they both face the same risks at the same level of project capitalization. In addition, they are aligned together across the negotiating table from the other parties to the project, the owners and off-takers, at least with respect to credit and other downside risk.⁶

More specifically, there are two aspects of senior project finance loans that may make a financial PPP approach especially effective for a government guarantor of senior project debt. First, credit analysis and loan covenant design for long-term non-recourse

project finance loans is not a simple or straightforward process, and it is quite unlike other areas of economic activity where the public sector usually has private sector-like experience (e.g., competitive procurement or construction management). Private-sector expertise from specialized lenders with their own money at risk should reflect best market standards and practices in this process. Under a financial PPP approach, a guarantor government will be able to benefit from that expertise with more confidence than if the lenders were simply paid advisors.

Second, and more importantly, there is a high level of co-alignment between risk-averse senior project finance lenders and a government guarantor of senior debt with respect to their investment objectives, due to the limited profit potential in senior loans. Like any private-sector investors, project finance lenders are trying to maximize profit, but the primary way to do that for such relatively low-yielding senior loans is to avoid credit losses. The public sector of course is not seeking to maximize profit but to minimize cost to the taxpayer for a given policy result, which in the case of a loan guarantee also means avoiding credit losses. Albeit for different reasons, a primary objective for both senior lenders and a government guarantor is the same (e.g., to avoid credit losses), so co-alignment arises not just from making similar investments in a project’s capitalization but also from what the parties are trying to accomplish or avoid in that investment.

The degree of natural co-alignment between the private and public sectors in this specific area has useful implications for loan guarantee program design. When a loan guarantee program is targeted at large and complex projects but for policy reasons is expected to be implemented quickly and show near-term results (despite the high level of expertise needed for this kind of loan exposure) the ability to fundamentally trust the private sector in a financial PPP transaction could be a key component in making the program simultaneously successful for policymakers and safe for future taxpayers. If the loan guarantee’s fundamental credit analysis and related due diligence is delegated to qualified private-sector lenders (who are performing the same work for their own significant investment in the project), the government can maintain its natural focus on the policy-related aspects of the proposed guarantee. The overall approval process should then become faster and more efficient but without introducing additional risk.⁷

VALUE FOR CAPITAL

A financial PPP approach to government guarantees of senior debt should be effective in mitigating some of the particular pitfalls a government faces as guarantor by harnessing private-sector loss-avoidance expertise and co-aligned motivation. But the approach in itself does not ensure that the public sector is getting adequate value in return for the resources it deploys in a project's capitalization. Even if the supported projects are operational and successful, and losses from guaranteed loan defaults are no higher than expected and reserved for, a guarantee program might not be accomplishing anything that would not have otherwise occurred. The economic value of the supported projects may be overstated or the required public-sector resources utilized understated.

A related issue occurs when an apparently successful guarantee program also creates windfall profits for project owners, an outcome that likely indicates a wasteful transfer of public sector resources and is obviously unacceptable.⁸ The project's private-sector lenders may be indifferent to this outcome or even subtly supportive of it (project owners are presumably valued clients) so a financial PPP mechanism is not applicable. The government guarantor needs to address this question directly and exclusively.

There is not likely to be a single "anti-windfall" term or provision that, if included in each guarantee as a programmatic requirement, would effectively address the issue. The project finance equity market is generally private, opaque, and highly idiosyncratic, so simply attempting to cap project yields is fraught with practical difficulties and unintended consequences. Project finance debt yields are somewhat more observable. However, charging a "market rate" (based on comparable senior loan margins) for the guarantee would exclude projects that cannot be capitalized on market terms but could deliver the positive externalities and other benefits that a government policy might be seeking. Furthermore, where a guarantee product is necessary to address a specific market failure in a segment of project capitalization, the government guarantor itself is the "market" and comparable senior loan margins may not exist.

Clearly, the decision to provide a guarantee to a particular project, and on what terms, requires a fine-tuned analysis, centered on a cost-benefit evaluation. In most established programs such cost-benefit evaluations are routinely done, and at a very high level of sophistication. But if new and large-scale guarantee programs are

proposed in connection with major aspects of a nation's economy, at a time when there is a perception that public resources are scarce and not always well managed, cost-benefit analyses that are highly customized or esoteric may not be sufficiently convincing, however sound theoretically. Analyses that are more explicable to a broader audience and usable for comparisons across different projects and programs may be required.

For the standard PPP approach used in Europe, there is an analytical framework to address the question of whether or not a PPP approach is better than public-sector procurement for a particular project or development program. Descriptively called a "Value for Money" analysis, it is a relatively standardized methodology that projects and compares financing alternatives for proposed PPP projects.⁹ Importantly, the Value for Money framework is also used for broader policy discussions, as well as program design and evaluation. Results from actual transactions suggest that Value for Money analyses are far from perfect¹⁰ (which in part may reflect the difficulty of getting the long-term standard PPP contract terms exactly right, as noted above), but the centrality of Value for Money concepts at least seems to encourage the right pragmatic questions to be asked and provides some common technical language and concepts to express disparate views.

For the same reasons, loan guarantee programs using a financial PPP approach should benefit from a focused analytical framework that also introduces standardized concepts into public discussion. This framework would be different than Value for Money, since under a financial PPP approach the public sector is making a different type of commitment, but the broad objective would be the same: to test in a relatively transparent and communicable way whether or not the public sector should proceed with a proposed involvement in a private-sector project. For financial PPP, the specific test is whether the public sector is getting adequate value for the investment of resources that it is making by supporting a project's capitalization with a loan guarantee. This evaluation can be termed a "Value for Capital" analysis to be explicitly analogous to the Value for Money analysis for standard PPP.

The next sections of this article outline some primary components of a Value for Capital analysis:

- *Additionality and scaling*—the assessment and clear demonstration that the guarantee results in an intended outcome that would not have happened otherwise and is scaled for that purpose.

- *Direct output*—the measurable objective value of the project’s actual output, which should be straightforward to estimate and not controversial.
- *Multipliers and externalities*—the value of the indirect economic and social impact of the project’s construction and operation, which is difficult to estimate and may be controversial.
- *Credit cost*—the estimate of expected credit loss (and therefore the required loss reserve) associated with making a loan guarantee, and how it should be paid for.
- *Opportunity cost*—the difference between what the public sector is charging for a guarantee and what the private sector would charge for the equivalent product, and how that might be justified.
- *Debt capacity utilization*—an assessment of the guarantee’s utilization of national debt capacity, whether or not the loan guarantee is classified as off balance sheet by the government.

ADDITIONALITY AND SCALING

The most fundamental requirement of a government loan guarantee is “additionality”—that is, an intended economic activity occurs that would not otherwise occur without the guarantee. For loan guarantee programs that do not use a financial PPP approach the demonstration of additionality is usually straightforward. For example, a project that uses an innovative technology might be able to attract some amount of high-return equity investment but none of the required senior debt. Because the project simply cannot proceed without a 100% guarantee of a sufficient amount of leverage to make the numbers work, the additionality is obvious.¹¹ So too is the risk to the guarantor government.

Under a financial PPP approach, a guarantee will be less risky but the assessment and demonstration of additionality will be more difficult in many cases, since by definition at least some unguaranteed private-sector debt is available for the project (e.g., the project is intrinsically financeable by the private sector). A relatively clear situation is where a guarantee can be designed to specifically address a well-known discontinuity in a credit market caused not by risk aversion per se but regulatory or institutional constraints, and the guaranteed debt (by filling a specific gap in the project’s capitalization) is required for the project to proceed.¹² Many

financial PPP situations will not be so straightforward, however, even when additionality actually exists. For example, for a guarantee designed to address an obvious, perhaps temporary, general credit market failure or capacity constraint, additionality may still be difficult to prove if the capacity constraint is binding on the aggregate requirements of a series of desirable projects in development, but not necessarily on the margin.¹³

Additionality is usually described in “binary” terms: The overall project either proceeds or it does not. But this is not intrinsic to the relevant sense of additionality for guarantees, especially under a financial PPP approach. A project might be viable in some limited size using unguaranteed debt, but in a larger and more technically efficient size if a guarantee was available to increase project capitalization to an optimal level. The guarantee’s specific additionality would not be the viability of the project itself, but the increase in project size and productivity, as compared to a smaller project. Such “incremental additionality” is a realistic scenario when the project’s debt needs to come from a limited pool of specialized lenders, due to project technology being proven but not well known or the project belonging to a specialty asset class experiencing significant growth.¹⁴ The guarantee in effect expands their expertise, but project leverage is still bounded by the private-sector lender’s credit requirements.

Incremental additionality is related to another concept, “scaling” the size or terms of a loan guarantee to achieve the intended policy goal. If a guarantee is offered in a standardized amount, based for example on a fixed percentage of project size or proposed debt level, the size of a guarantee for a particular project might significantly exceed what is required to achieve additionality (or incremental additionality with respect to optimal project size). The excess value might be converted into windfall returns to the private sector that erode the public sector’s Value for Capital. Ideally, the guarantee should be scaled in size or price such that project investors earn no more than a just-adequate return at the exact point additionality is achieved, but this is a difficult test to fine-tune in practice, especially for projects exposed to new market or technology risks. Competitive solicitations or auction mechanisms based on lowest guarantee usage would let the private sector “clear the market” to an adequate extent in cases where a number of potential projects can be treated as a class. For large idiosyncratic projects, a process of negotiation (starting from a low

initial offer) is likely required, which can be effective as long as it is clear the government guarantor is in a position to walk away. The credibility of such a threat may be a silver lining to an era of constrained public-sector budgets.

DIRECT OUTPUT

Additionality is a one-time test to determine to what extent the economic and social impact of the project can be attributed to the guarantee, but the real benefit of the project is of course the projected impact itself. The most straightforward part of this impact is the value of the direct output of the project: what it produces or sells, priced at the market rate. Examples would include the estimated revenues from forecast traffic and permitted toll rate schedules of a new toll lane, or electricity purchases under a long-term power purchase agreement for the megawatts of output at “P50” of a wind farm project.

The estimate of direct output used in a Value for Capital analysis should be the most realistic value available, to provide a solid “baseline” for assessment that will be above suspicion with respect to possible politicization. Under a financial PPP approach, such conservative projections of direct output are readily available by using the project finance lenders’ base-case credit financial model. Not only will this model reflect the latest market expertise brought to bear on estimating revenues and costs, but its primary purpose is explicitly connected to a hard-headed (and presumably apolitical) decision about credit extension using the lender’s own money.

Other estimates of project direct impact can be derived from the baseline estimate of output value and the financial model. For example, future tax revenues associated with the project’s income and sales would be a useful metric to estimate for policy purposes.

MULTIPLIERS AND EXTERNALITIES

From a policy perspective, the indirect impact of a project with respect to multipliers of economic activity and positive externalities can be more interesting than the project’s direct output. Indirect benefits of the project, such as an increase in regional employment or a decrease in carbon emissions, are often the basis of the guarantee’s ultimate social rationale.

Unfortunately, the value of multipliers and externalities is also much harder to estimate than the project’s direct output, and the analysis can get caught up in political or even ideological debates. In the U.S., for example, “green jobs” are either a key component of economic recovery or they don’t actually exist, according to respective camps in an ongoing debate.¹⁵ Estimates of the possible value of positive externalities associated with reduced carbon output vary widely, and the subject is clearly contentious in the U.S.¹⁶ But even the degree to which any government intervention in an economy has a positive multiplier, once a settled matter for textbooks, has been called into question by some economists.¹⁷

For the purposes of a Value for Capital analysis, which should seek to be as neutral as possible, it may be the better part of valor to treat the value of potential positive multiplier and externality effects of the project as a type of residual metric. Once all other aspects of the analysis are completed, the need for these indirect effects to demonstrate acceptable Value for Capital can be assessed. In the case of guarantees that address a specific debt-market discontinuity and fill a gap in an otherwise-viable project’s capital structure, Value for Capital may be acceptable without the need for any value from indirect effects. In this case the possible value of positive multipliers and externalities is pure upside and can be described as such by policymakers. In other situations, the required residual value may be small enough that it falls within a practical consensus. For example, the addition of a number of construction jobs in a distressed community might be viewed as improving a marginal Value for Capital assessment without the need for theoretical justification. However, if an acceptable Value for Capital evaluation of a proposed guarantee relies heavily on assumptions of high and long-term levels of economic multiplier or externality effects arising from the project, a full debate would seem to be justified. Whether that debate will result in a clear answer is another question.

CREDIT COST

Any loan or loan guarantee will have a “credit cost” (the discounted present value of expected loss based on the probability of default and the estimated amount of recovery after default) that needs to be set aside as a reserve at the time the loan or guarantee is made. The methodology of this technical assessment should be almost exactly the same for the government

guarantor as for the private-sector lender.¹⁸ The quality of the credit cost calculation and sufficiency of reserves should not be controversial within the risk spectrum of project finance senior loan guarantees under a financial PPP approach.

A loan guarantee's credit cost must be paid in order to create the required reserves, but it does not necessarily need to be sourced exclusively from one sector or the other. Obviously, the project's owners would be more than happy for the public sector to pick up the tab, but in the larger context this may not be the best result, even for them. For relatively low-risk projects, where a financial PPP approach is being used, the value of the guarantee should not be primarily related to absorbing pure credit risk, but to fulfilling some other function that for some reason the private sector cannot do effectively. The credit cost is likely to be a small percentage of the loan guarantee amount, and if the project's owners are unable or unwilling to pay it, other questions about the guarantee award should be raised.¹⁹ More pragmatically, in the context of serious fiscal constraints, a government appropriation for credit cost (however minor) associated with a privately owned project may become a disproportionate focal point of public discussion about a particular guarantee. This is likely to be an unwelcome distraction for both the guarantee program's policymakers and the project owners. A better general approach may be to have the project owners self-pay the credit cost whenever possible, perhaps on a structured basis over time if necessary.

OPPORTUNITY COST

Private-sector lenders need to charge some amount of loan margin in addition to their own credit cost in order to provide for a return on the equity capital (regulatory and otherwise) allocated to the transaction. The overall loan margin will always exceed the credit cost alone.²⁰

A guarantor government does not need to earn this type of financial capital return on a loan guarantee because the government does not require a "capital base" (its power to tax or in some cases to print money is the source of its liquidity and borrowing power).²¹ But charging anything less than what the market would require for this aspect of an equivalent private-sector loan guarantee (e.g., a below-market rate) would seem to represent an opportunity cost for the government

guarantor. How should this be evaluated in connection with Value for Capital?

There are three scenarios to consider: The first is where the project requires a below-market rate on the loan guarantee in order to proceed at all or achieve an optimal size. In this case, there is no opportunity cost since the low rate on the guarantee is justified by the project's additionality; the "opportunity" does not exist without the low-cost guarantee. It may be possible to "trace through" and specifically connect the guarantee's rate to a widely based benefit for project end-users that is required for the project's viability. For example, if a new toll road can only generate sufficient projected volume with an initial toll schedule that is slightly too low to pay for full project capitalization at market rates, a low-cost loan guarantee could address that issue, and the project would proceed. The trace-through analysis would also be able to show that the lower guarantee cost resulted in to lower tolls for end-users of the road, not higher profit for the road's owners.

The second scenario is where the project can in fact pay a market rate for all of the project's capitalization, including the guarantee, and the required capitalization is available. If so, the government guarantor should clearly charge the full market rate. However, in such cases it may be difficult to see where the project's additionality arises or why the guarantee is not simply replacing private-sector lenders, so the proposed guarantee's Value for Capital will likely be unacceptable for fundamental reasons.

The third scenario is where the guarantee is fulfilling some specialized function. In these cases, the opportunity cost is the difference between the highest price the project could bear and the proposed guarantee price. In theory, the highest possible price might be much higher than the project's senior debt margin because, in effect, the government has a monopoly on the required financial product, a specialized guarantee. But pragmatically this result might be difficult and time consuming to successfully negotiate, and the government is not in the guarantee business to extract monopoly profit. Perhaps the more-effective approach is to simply charge the same margin as the senior lenders and use the negotiating effort to ensure that the guarantee does not make windfall profits more likely. If this is accomplished, the opportunity cost can probably be considered, with some justification, to be immaterial.

DEBT CAPACITY UTILIZATION

The amount of national debt capacity utilized by a loan guarantee will likely be the most important element of the Value for Capital evaluation on both sides of the Atlantic for the foreseeable future. At the time of writing, U.S. long-term debt has been downgraded by S&P²² and the Eurozone continues to face a serious sovereign debt crisis, both as the result of high existing or projected national debt.²³ These issues will not be resolved soon.

Loan guarantees, even when unconditional and irrevocable, are classified as off-balance-sheet contingent liabilities under some government accounting regimes.²⁴ This may be a useful feature for policymakers in terms of overall government program management, including its political aspects. But for a Value for Capital analysis, which is focused on individual guarantees to specific projects, the proposed guarantee should be treated as if it were a funded loan made by the government from the proceeds of an equal amount of its own sovereign debt issuance. Such on-balance-sheet treatment will reflect the simplest and most conservative estimate of the amount of public sector “capital” that is being used by the guarantee.

As noted above, 1) the value of the project’s economic multipliers and externalities is likely to be a residual upside metric, 2) the credit cost for a guarantee can usually be paid by the project’s owners, and 3) the typical opportunity cost is immaterial or can be traced through to an acceptable benefit. This effectively leaves the value of the project’s direct output and the loan guarantee’s debt capacity utilization as the main components of the Value for Capital analysis. These two components dovetail almost exactly into a metric that is currently the subject of intense focus for many policymakers—the national debt-to-GDP ratio.²⁵

The loan guarantee amount, treated as an on-balance-sheet debt liability for Value for Capital purposes, can be considered a marginal increase in the national debt. The project’s annual direct output can be considered an approximation of the project’s marginal GDP contribution.²⁶ Loan guarantees for specific projects can therefore be evaluated in the context of their marginal impact on the national debt-to-GDP ratio.

For example, if a loan guarantee is 30% of project cost, and the project’s annual direct output is 10% of project cost, then the marginal impact of making the loan

guarantee with respect to the national debt-to-GDP ratio in the project’s first year of operation is 300%. Obviously, this greatly exceeds any acceptable level for a national debt-to-GDP ratio.²⁷ However, two features of a loan guarantee under financial PPP for a long-lived project suggest that a modified approach to the ratio is justified. First, the loan guarantee declines in accordance with the amortization of the underlying debt, and it should be structured so that it cannot be renewed or extended without new authorization. Unless the guarantee is called (in which case there is a credit cost reserve), it will be extinguished under its own terms automatically. In contrast, national debt is usually non-amortizing and is refinanced and extended in the normal course.

Second, under a financial PPP approach, it is reasonable to assume that the project is generally commercially viable and will almost certainly make a long-term contribution to GDP. The loan guarantee is therefore intrinsically dedicated to making a relatively low-risk investment in national infrastructure, as opposed to a government guarantee or grant for experimental projects or other non-commercial economic development.

In this context, the project’s marginal debt-to-GDP impact can reasonably be modified to include more than one year’s direct output or to reflect the extinguishing nature of the guarantee. If 10 years of direct output were used in the example, discounted at 10% (the project’s assumed weighted average cost of capital, a relatively observable value), the modified marginal debt-to-GDP impact would be only 50%, which is a conservative national debt level.²⁸

Alternatively, the number of years required for the marginal debt-to-GDP impact to decrease to an acceptable level (as the guarantee extinguishes but project output grows or remains constant) could be calculated. In the previous example, assuming 15-year straight-line amortization of guarantee exposure and level direct output, it would take 12.5 years to reach the conservative target of 50% marginal debt-to-GDP impact. Thereafter, the project would have an increasingly beneficial impact on the ratio.

There are likely many variations on these themes. None is compelling from a theoretical perspective as an important measure for evaluating Value for Capital. This is partly because the national debt-to-GDP ratio itself lacks a theoretical base (debt is a static level, GDP measures an annual flow, and the ratio’s unit is a relatively meaningless “time”). But these types of

calculations are still fundamentally useful in Value for Capital evaluation.²⁹

Ratios that summarize a series of projected values into a single metric can be useful for relative ranking of projects. For example, projects that are being competitively evaluated for a loan guarantee will have different specific projections of output. Calculating a ratio of “10-year discounted output-to-guarantee” would allow the projects to be ranked with respect to one aspect of debt capacity usage (e.g., the relative impact on the national debt-to-GDP ratio) in a straightforward way. The absolute value of the ratio in each case is relatively meaningless, but the comparative ranking would provide some valid insights for project selection with respect to an important criterion—the guarantee’s marginal impact on national debt management.

Ratios or other Value for Capital metrics that are specifically derived from “mainstream” economic measures serve another, perhaps more important, purpose. As described previously, a primary objective of the Value for Capital framework is to provide concepts that assist in a public discussion of the purpose and value of a loan guarantee. When there is an economic issue of general concern (e.g., excessive national debt), questions about how a proposed guarantee of a project might marginally worsen or improve the situation will inevitably arise. The general discussion might be focused on a particular metric (e.g., debt-to-GDP ratio) that may not be strictly relevant in theory but is an important concept in practice, especially with respect to actual policy targets or limits. To the extent possible, a Value for Capital analysis should address questions in terms of these “general discussion” metrics, at least on a modified basis (as in the examples discussed previously).

This is not to suggest that politicization of a Value for Capital assessment is acceptable. It is not, and the underlying components of a Value for Capital analysis should remain (as described) theoretically correct and conservatively estimated. Rather, the suggestion is that Value for Capital components should be used where possible in a way that provides generally valid insights in the specific terms of a public discussion about a proposed loan guarantee. This pragmatic approach is consistent with the framework’s purpose.

FURTHER DEVELOPMENT

Loan guarantee programs may be poised for significant expansion in the U.S. and Europe. This article

outlines an approach for loan guarantees of senior project finance debt composed of two related parts: financial PPP as a way to mitigate downside risk and Value for Capital as a framework to assess and demonstrate that the public sector is receiving acceptable value.

The two parts are separate but integral to the approach because their functions depend on each other. Financial PPP can effectively and almost automatically reduce the risk and politicization of a government loan guarantee, but a partnership mechanism with the private sector cannot address public-sector value. A Value for Capital framework should be designed for transparency and to connect to public discussion, because an effective evaluation of public-sector value requires some degree of consensus about common objectives and resource use. But a transparent and responsive evaluation framework for loan guarantees is prone to misallocation and politicization without the commercial limits imposed under a financial PPP approach. The two parts check and balance each other.

Further development of the approach outlined in this article should follow separate paths that reflect the different functions of the two parts. For the financial PPP mechanism, public-sector policymakers should actively work with private-sector financial institutions and other participants in the project finance debt market at an early stage of loan guarantee program development. Areas of joint development could include loan guarantee design for specific debt market discontinuities, model inter-creditor agreements, and the terms of delegated credit authority for qualified lenders.

For the Value for Capital part of the approach, development efforts should generally reflect public policy priorities, but there are different areas of focus. An important initial area is building a solid theoretical basis for the components and technical methodology of a Value for Capital analysis. This area will likely be of interest to academic economists who specialize in public policy. A second area of focus involves the Value for Capital framework’s objectives of transparency and responsiveness to current public discussion. Here development is primarily a matter of encouraging continued dialogue about loan guarantee cost-benefit questions among policymakers, economic policy experts, think-tank specialists, and other commentators naturally engaged in public policy discussion.

Note that developing a financial PPP and Value for Capital framework seems naturally to require

engagement across a spectrum of economic activity, with private-sector project finance lenders on one end and economic opinion-makers on the other. This is as it should be. Creating and managing effective government loan guarantee programs during a time of difficult economic conditions and serious constraints on public sector resources will be challenging on several fronts. Balanced combinations of private and public sector capabilities in risk management, value assessment, and consensus-building will certainly be needed to meet these challenges.

ENDNOTES

¹A frequently cited example of large-scale unintended consequences of off-balance sheet government guarantees is the case of U.S. mortgage agencies, Freddie Mac and Fannie Mae. To quote from a recent article by well-known economists Carmen Reinhart and Kenneth Rogoff [2011]: “In addition, off-balance sheet guarantees and other creative accounting devices make it even harder to assess the true nature of a country’s debt until a crisis forces everything out into the open. (Just think of the giant U.S. mortgage lenders Fannie Mae and Freddie Mac, whose debt was never officially guaranteed before the 2008 meltdown).”

²New or expanded government programs that are specifically dedicated to loans and loan guarantees currently include 1) the U.S. Department of Transportation (DOT) Transportation Infrastructure Finance and Innovation Act (TIFIA) loan program, which would be significantly expanded under a proposed House Transportation Committee bill, 2) the U.S. Department of Energy (DOE) Loan Guarantee Authority, which would be expanded by the inclusion of a new Section 1706 to Title XVII under a proposed Senate bill, 3) the European Investment Bank (EIB), a multilateral agency, which is seeking to accelerate the Europe 2020 Project Bond initiative for pilot launch in 2012, 4) the U.K. Green Bank, whose current implementation plan contemplates loan guarantee capacity in 2015. In addition, there are currently four competing proposals being developed by the U.S. Congress and Administration for a national infrastructure bank: 1) S.652 the American Infrastructure Financing Authority, 2) S.936 the American Infrastructure Investment Fund, 3) H.R. 402 National Infrastructure Development Bank, 4) The White House’s “I-Bank” proposal for a large DOT program which would subsume TIFIA. There is a similar proposal in Congress for a “green bank,” the Clean Energy Deployment Agency (CEDA), within the DOE. Under each proposal, the U.S. government would provide loan guarantees to qualifying projects.

³There are various specific models to utilize PPP. According to a 2006 Deloitte Research Paper (Eggers and Dovey [2007]), worldwide there are seven types of models in which the private sector constructs the project (e.g., design-build, design-build-operate, build-own-operate-transfer, etc.) and four other where the private sector uses an existing facility to provide services (e.g., service contract, management contract, lease, etc.). However, all the models share a common “standard” approach wherein an operating contract associated with a specific asset or group of assets is executed between the private and public sector.

⁴A quote from an EIB programmatic principles document summarizes the point succinctly: “The core objective for the public sector of a PPP program is to harness private-sector skills in support of public sector services” (EIB [2004]).

⁵Successfully negotiating a complex, long-term operating contract for large-scale assets requires a very high level of skill and experience. It would not be surprising that a focused and motivated private-sector investor generally would frequently have a significant advantage over any public sector counterpart in such negotiations. The need for the public sector to negotiate complex operating contracts without a co-alignment of most interests with the private-sector counterparties seems inconsistent with the fundamental point of standard PPP—to mitigate public sector weaknesses in economic activities, especially with respect to commercial expertise and motivation.

⁶Many established government loan and guarantee programs use a co-lending, financial PPP approach. For example, for TIFIA, the “program’s fundamental goal is to leverage Federal funds by attracting substantial private and non-Federal co-investment in critical improvements to the nation’s surface transportation system” (U.S. Department of Transportation [2009]). EIB and U.S. Export-Import Bank also generally seek a co-investment role. The U.S. DOE Loan Guarantee Program did not utilize co-lenders under its Section 1703 Innovative Technology Guarantee Program. But to implement Section 1705 of the American Recovery and Reinvestment Act (ARRA) for commercial renewable energy technology, the Department established the Financial Institution Partnership Program (FIPP), which is based on co-lending. FIPP requires 20% private-sector lending and appears to have been successful, but it will expire in September 2011 without any currently proposed replacement.

⁷The U.S. ARRA legislation for commercial renewable energy projects created just such a need for fast, large-scale implementation. Bringing private-sector expertise, deal flow, and execution capability was in fact the primary motivation for the establishment of the FIPP: “In general, the FIPP is intended to expedite the loan guarantee process and expand senior credit capacity for the efficient and prudent financing of eligible projects ... this objective will

be primarily accomplished by additional roles defined for certain financial institutions satisfying the applicable qualifications ..." (U.S. Department of Energy [2009]). However, FIPP program design reportedly was not sufficient to fully overcome certain fundamental issues in the DOE approval process, even with the ARRA impetus, which suggests that there are practical pitfalls to consider in this approach.

⁸For example, a U.K. Parliamentary Committee examining results from the U.K. Private Finance Initiative (or PFI, the U.K.'s established and extensively utilized PPP program) pursued a singularly aggressive line of questioning with the CEO of an infrastructure firm about their perception of windfall profit. In one telling exchange, the MPs viewed the profit from the sale of a project as "50% or 60%" when in fact the annualized return was closer to 7% (U.K. House of Commons Public Accounts Committee [2011]).

⁹The specific methodology may also include a "Public Sector Comparator" analysis, which sets a public sector baseline for PPP Value for Money evaluation. For example, from EIB PPP Guidance: "A PPP project yields Value for Money" if it results in a net positive gain to society which is greater than that which could be achieved through any alternative procurement route. It is good practice to carry out a Value for Money analysis (essentially a cost-benefit analysis) as part of the initial preparation of a project, regardless of whether it is procured conventionally or as a PPP. In some countries like the U.K., which have extensive PPP programs, a PPP project is said to achieve Value for Money if it costs less than the best realistic public-sector project alternative (often a hypothetical project) that would deliver the same (or very similar) services. This public-sector alternative is often referred to as the "public sector comparator" (EPEC [2011]).

¹⁰The U.K. PFI program, one of the largest and oldest PPP initiatives in Europe, has become a focal point of criticism. The current tone of discussion is captured in this quote from the financial press: "But these days [there is] a rising chorus of parliamentary" skepticism that PFI—which has delivered 700 big items of British infrastructure and services in the past 20 years—is proving Value for Money. In recent weeks, its practitioners have found themselves accused by MPs of all parties of "ripping off the taxpayer," making excessive returns and "running a racket" (Timmins [2011]).

¹¹For example, DOE Loan Guarantee Program transactions under Section 1703 have proceeded with a guarantee of 100% of the project's senior debt. This was deemed practically necessary since innovative technology (presumed not commercially financeable) is the focus of Section 1703. In theory, risks are mitigated by extensive analysis and due diligence. However, the viability of a solar panel manufacturer that received the first Section 1703 loan guarantee in 2009, Solyndra LLC, was called into question as early as 2010. This prompted a Congressional committee review that is currently

centered on the quality and extent of the analysis and diligence conducted by DOE. At the time of writing, Solyndra has announced that it is suspending operations and will file for Chapter 11 bankruptcy shortly.

¹²Some established programs actively develop products for this type of purpose, including directly engaging in dialogue with the private sector to gather and refine ideas. For example the "Europe 2020 Project Bond initiative is a joint plan between the [EIB] and the European Commission that aims to move private-sector infrastructure bonds out of the lower echelons of the investment grade category and into A-rating territory, where a larger number of institutional investors will be, in theory, more comfortable buying them." (Maystadt [2011]). The project bonds would be accomplished by an EIB loan or loan guarantee product taking a lower tranche of debt in order to raise the rating on the bond portion. Both EIB and TIFIA also have existing products (the Loan Guarantee Instrument for TEN Transport (LGTT) and the Line of Credit, respectively) that work with flexible amortization structures to accommodate near-term deficits in project revenue—something that private-sector lenders are generally uncomfortable with.

¹³An example of this problem arose in the DOE Loan Guarantee Program. A primary purpose of Section 1705 of the 2009 ARRA legislation was explicitly to alleviate capacity constraints caused by the financial crisis of 2008, and the DOE's FIPP program was designed to address this rapidly by leveraging private-sector capacity. Additionality on an aggregate basis was implicitly presumed for ARRA transactions, and it was not required to be demonstrated on a marginal basis. Nevertheless, the FIPP encountered significant criticism both in the inter-agency approval process and from the press that the proposed guarantees were unnecessary and resulted only in windfalls. For example, a *Wall Street Journal* editorial singled out a wind farm (owned in part by GECC) that received a large guarantee and that had been the subject of a leaked White House memo: "So here we have the government already paying for 65% of a project that doesn't even meet its normal cost-benefit test, and then the White House has to referee when one of the largest corporations in the world (GE) importunes the Administration to move faster by threatening to find a private financial substitute like any other business. Remind us again why taxpayers should pay for this kind of corporate welfare?" (*Wall Street Journal* [2010]). The editorial did not mention the role the large loan guarantee played in freeing up capacity for other energy projects in a still-constrained project finance loan market.

¹⁴Incremental additionality is the main subject of a recent article by the current author, Ryan [2011]. That article includes quantitative examples.

¹⁵For example, a progressive think tank (Caperton [2011]) takes one position in a white paper. On the other side,

a conservative think tank, the American Enterprise Institute for Public Policy Research, publishes the exactly opposing view in its article (Green [2011]).

¹⁶In the U.S., anthropogenic global warming continues to be a matter of contentious debate, so even the existence of positive externalities associated with avoided CO₂ emissions is questioned. In Europe, the European Union Emission Trading Scheme does in fact set a price for carbon that could be used to estimate a positive externality for a renewable energy in the short term. But there is no reliable contractual long-term market price, which would be the relevant metric of indirect output for a Value for Capital analysis.

¹⁷For example, for the 2009 ARRA programs, the U.S. Congressional Budget Office (CBO) estimated the multiplier effect for various programs, including a positive multiplier of between 2.5 and 1.0 for the energy loan guarantee programs specifically (U.S. Congressional Budget Office [2009]). The current U.S. administration has generally used a value of 1.5. In contrast, the economist Robert J. Barro rejected this range of values for ARRA stimulus and instead proposed a value of 0.8. In particular with respect to the use of an assumed multiplier for a Value for Capital analysis, Mr. Barro [2009] noted, "On the spending side, the main point is that we should not be considering massive public-works programs that do not pass muster from the perspective of cost-benefit analysis. Just as in the 1980s, when extreme supply-side views on tax cuts were unjustified, it is wrong now to think that added government spending is free."

¹⁸For the U.S. guarantee programs, the Federal Credit Reform Act legislation (FCRA) explicitly mandates a present value of expected loss methodology to calculate the subsidy cost for a specific guarantee. FCRA methodology is generally identical with those of the credit rating agencies, except for minor variations of discount rate.

¹⁹For an investment-grade project finance loan financing an asset class that has a high post-default recovery value (which includes most infrastructure), the credit cost is likely to be in the range of 1.5% to 3.0% of the loan guarantee amount. This is comparable to financing and other up-front fees paid to project finance lenders by project owners. It would also not be difficult to capitalize such an amount into the financing, if other characteristics of the project were acceptable (e.g., sufficient equity investment from the project owners).

²⁰For a high-recovery, investment-grade project finance loan, the loan margin is primarily driven by the lenders' capital requirements (which can be relatively high since project finance loans are idiosyncratic, usually private, very long term, and illiquid). For many project finance lenders, Basel III regulatory standards are expected to increase the capital required for the loan class. A sovereign loan guarantee of the U.S. and most European countries will eliminate all

or most of these capital requirements, so there is a significant potential savings in debt service cost to the project.

²¹Real or perceived levels of the national debt and default risk, possible inflation, and currency devaluation are the actual limiting factors for a government that can print its own currency (U.S. or U.K.). A government cannot ameliorate the effects of these limits by earning a return on a marginal loan guarantee.

²²On August 5, 2011, Standard & Poor's downgraded long-term U.S. debt from AAA to AA+. This was primarily in response to the level of political risk (reflected in the difficulty of passing a debt ceiling increase agreement) for future deficit reduction, not in response to current economic fundamentals. This is a specifically relevant result for Value for Capital considerations. A U.S. government loan guarantee remains very valuable, but there is a strong perception of serious issues with debt capacity utilization among U.S. policymakers and the public generally.

²³Unlike the national debt "crisis" in the U.S., which is mainly a matter of current perception, for several Eurozone countries a high level of national debt has resulted in actual potential insolvency. In turn, potential bail-outs may put pressure on the larger and fundamentally solvent European countries' balance sheets.

²⁴In the U.S., under Federal Accounting Standards Advisory Board current interpretations, the "present value of estimated net cash outflows due to the loan guarantees" (e.g., the credit cost) is recorded as the liability of a loan guarantee, which is offset by the required credit cost reserves. The full amount of the guarantee itself, however, is not recorded as a U.S. liability.

²⁵Although there are variations, the most commonly used ratio (and as used here) is sovereign debt owed by the central government divided by the country's gross domestic product. This ratio is a central metric in the public discussion of U.S. and Eurozone national debt levels.

²⁶Equating direct output of a project to an approximation of that project's marginal impact on a country's GDP requires some assumptions, including that the project uses a low amount of imported inputs (since GDP is a net domestic measure) and that the project's output is a relatively final good. These assumptions are likely reasonable for many transportation infrastructure and renewable energy projects, but a more refined approach to estimating the project's GDP impact might be needed if this becomes an important component of the evaluation.

²⁷Carmen Reinhart and Kenneth Rogoff [2010] found that debt-to-GDP ratios above 90% are correlated with slow economic growth. Levels at or above 100% are considered a matter of serious concern in the current public discussion.

²⁸The Euro Convergence Criteria (e.g., Maastricht Treaty criteria) for a country's entry into the Eurozone included a debt-to-GDP ratio target of 60%. Prior to the financial crisis of 2008, the U.S. debt-to-GDP was around 60%.

²⁹The absolute value of the debt-to-GDP ratio at best would indicate the proportion of a nation's output that would need to be devoted to pay off the national debt in a single year. But as a relative metric, for ranking countries in relation to their national debt burden, it is not only useful for policy guidance but seems to be a better prediction of sovereign default than a country's rating (Silver [2011]).

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