Country Dept. I
Latin America and the Caribbean Region
Economic Notes

Finance Options for Infrastructure Development

Jeff Ruster

June 1997

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INTRODUCTION

Profound political and economic reforms in Brazil were necessitated by the debt crisis of the 1980s. Many of these reforms have already been undertaken, while others are now underway or at the inception phase. The reforms have already helped to set the stage for rapid economic growth in the 1990s and into the next millennium. However, an enormous investment in Brazil's infrastructure areas is required if significant growth is to be sustained in a viable manner. Though based primarily on the needs of a rapidly growing economy, the investment requirements are also partly due to a legacy of underinvestment in infrastructure during the 1980s, with years of deteriorating conditions resulting in unreliable and inefficient infrastructure systems that have hampered regional and international trade as well as domestic growth.

Indeed, the demand for new investments in infrastructure is expected to be about 3% of GDP or US$ 15 billion each year in Brazil for the foreseeable future. According to estimates by the Government of Brazil (Government), the country will need to double the number of phone lines (reaching 23 million) by 1998 as well as increase cellular phone terminals from 500,000 to six million. On another front, Petrobras, the national oil company, will need to raise as much as US$ 7 billion in external financing to help fund its five year expansion program, which includes the cost of upgrading existing and constructing new refineries, and expanding its transportation and storage system. In the power sector, a lack of funding has paralyzed the construction of some 20 hydroelectric facilities that require an additional US$ 15 to 20 billion of investment to complete.

The infrastructure investment needs in Brazil are, however, framed by two prominent factors: (i) the Government, facing inadequate funds and competing demands for critical funding from social and other economic sectors, is unable to finance a significant portion of the needs, even though infrastructure development is seen as vital to the country's sustained economic expansion and the achievement of critical social policy goals; and (ii) the evolving role of the private sector in infrastructure areas, ranging from outright ownership in existing or planned concessions to management of particular services or functions for publicly owned operating enterprises. The second point is generally an outgrowth of the first condition, as challenges have been increasingly made in recent years to the deep-rooted notions that public ownership in infrastructure (and other) sectors should be used to ameliorate market failures due to natural monopolies and to the protection of strategic industries. As a result, current prospects for growth are generally premised upon free market principles, although the institutional and regulatory reforms and sector restructuring needed to support these principles and promote private sector participation are not yet fully implemented.

The Government, looking to adopt policies that foster private sector financing, development and operation of infrastructure projects, has outlined a privatization program embodying this shift in orientation that emphasizes a greater role for the private sector in the economy. The objectives of the privatization effort are to provide additional sources of funding, improved operational efficiency and greater responsiveness to user needs (i.e.,
improved service quality and reliability). De facto, numerous public entities have already been transferred to the private sector. Furthermore, the recently enacted Concessions Law opened up a number of new areas to private sector participation, including roads, rail transport, airports, waterways, ports, and other transport areas; telecommunications; gas, water, and electricity supply services; and mining. Monopoly positions in oil exploration, production and refining, as well as natural gas transportation, have also been eliminated through recent amendments to the Constitution.

Despite these milestones, progress in implementing the requisite supporting sector structure, regulatory regime, and consistent operating rules is lagging behind. This, in turn, affects the nature and scope of financing and risk allocation for Brazilian infrastructure projects. Yet, financial market considerations are crucial when determining Brazil's strategic direction for infrastructure development, particularly as it not only involves, but depends on, private sector sources of financing. Moreover, the role of foreign capital in Brazilian infrastructure projects must also be taken into account, since—despite high domestic savings of approximately 16%—local capital will not be sufficient to meet the country's overall investment needs.

The inadequacy of domestic capital to cover infrastructure projects in Brazil is mainly related to the lack of long-term financing tools. Indeed, the Brazilian capital market itself is quite large, with some US $85 billion of Government and private bonds and funds and deposits. This is roughly equal to 20% of GDP. The federal government is, however, the largest issuer in the market with some US $37 billion equivalent of outstanding bonds and notes. The corporate sector is much smaller, having issued just US $1 billion in domestic bonds. More importantly, maturities with local banks are limited generally to less than one year due to the inability to access dollar-based funding, high inflationary expectations, high annualized interest rates (50% in real terms), as well as uncertainties relating to the indexation/benchmarking of long-term interest rates. Currently, BNDES (the National Economic and Social Development Bank) is the sole provider of long-term finance in Brazil, entailing maturities of up to 10 years at local currency interest rates of about 26%.

The key financing issues for most infrastructure projects center on the need for long-term debt. Debt investors are significantly more conservative than equity investors since they receive fixed returns and have no upside potential. A related concern is that investor demand for emerging market debt, let alone project finance debt, is small relative to the needs. Consequently, Brazil faces significant competition for such capital from other countries around the world.

On the positive side, the shortage of long-term private capital relative to investment needs is expected to provide high investment returns on new projects for the foreseeable future. Project developers and sponsors are thus expected to be well compensated for the risks involved in undertaking long-term investments. The issue then

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1 In the 1990-1994 period alone, for example, Brazil has received about US$ 12 billion from privatizations concentrated largely in its steel and petrochemical sectors.
becomes how to persuade these investors that the perceived risks can be managed and in such a way that would put Brazil at the forefront in terms of attractiveness to infrastructure investors operating in developing countries.

International financiers interested in investing in Brazil are mainly concerned with risks related to (i) the still evolving and untested legal and regulatory framework, (ii) currency risks (both foreign exchange and currency convertibility/transferability), (iii) breach of contract by parastatal entities, (iv) macroeconomic conditions, accentuated by the more than US $50 billion of state government debt currently in default, and (v) uncertainties relevant to the public’s support for the privatization program. The Government believes that investors will become increasingly comfortable with limited recourse investment in infrastructure projects as the regulatory environment develops and establishes a proven track record. In the short- to medium-term, however, the Government is considering the acceleration of the investment process by covering certain risks that private investors are currently unwilling to accept.

The following sections describe a variety of publicly and privately funded mechanisms that can, in the Brazilian context, facilitate the flow of long-term capital into the targeted infrastructure sectors. Section 1 provides a discussion of key issues for defining the Government’s strategy within these limited recourse financings. Section 2 examines a variety of contingent and direct funding instruments which seek to leverage the Government’s involvement and secure debt financing on a project-by-project basis. Section 3 describes various portfolio and securitization techniques for attracting long-term debt capital. Throughout the discussion and in the remaining sections, related policy, design and implementation issues are also presented for each described facility, as well as the associated benefits and drawbacks.
1. FORMULATING A STRATEGIC APPROACH: ISSUES AND OBJECTIVES

1. Options for developing infrastructure projects in Brazil with the participation of the private sector include build-own-transfer (BOT), build-own-operate (BOO), lease-renovate-operate (LROT) and similar operative structures. In addition, the power sector features projects based on long-term offtake agreements (also known as Power Purchase Agreements or PPAs) with a distribution utility, most of which are still state-owned enterprises (SOEs). Under the PPA, the SOE agrees to purchase virtually 100% of the plant's energy and capacity under a defined tariff formula. Certain other types of power purchasers are also provided for under conditions defined by law. It should be noted that the laws governing Brazil's power and other infrastructure sectors are currently being reviewed or rewritten.

PROJECT FINANCING AND RISK ALLOCATION

2. Project financing under the above privatization schemes typically involves the establishment of a special purpose borrower, whereby an investor's recourse is limited to claims on the project's cash flow and related assets. Project financing is perhaps best characterized by the allocation of risks to the project participants—including project sponsors, lenders, third-party contractual participants, SOEs and host governments, as well as others—best able to manage them. Risks generally fall into three broad categories:

   Political - Currency convertibility and transferability, parastatal breach of contract, change of law and trade regimes, revocation of permits, expropriation, war, sabotage, etc.;

   Financial - Financial market interruption, interest rate and exchange rate fluctuations; and

   Commercial - Construction delays and overruns, increases in operations and maintenance expense, changes in prices of inputs and outputs, availability and quality of fuel supply, contractor insolvency, etc.

3. Though simple enough to describe in general terms, the actual risk allocation process in the context of the project's regulatory, contractual and financial framework represents a very detailed and complex exercise. In addition to the risk profile of the project and sector in question, factors influencing this process will include (i) development status of the enabling legal and regulatory environment, as well as local financial markets; (ii) market structure (natural monopoly

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2 This assumption is critical given the financial structures that have been developed under more open forms of competition (e.g. power pools), such as those in Chile and Argentina. Financing of power projects in these markets has resembled more corporate type financings, with leverage below 50% and equity assuming a much more prominent role in the project's overall financial structure. Only in a few instances has limited recourse debt been secured. For almost all greenfield ventures, sponsors have been willing to provide substantial credit support or take the debt fully on their balance sheet during at least the construction period. This pattern of finance is quite similar to those in other competitive industries with high sunk costs, e.g., steel mining and petrochemicals. Under PPA arrangements, however, market risk from the lenders' standpoint is eliminated and the "project financing model" (featuring limited recourse to sponsors by the debt providers, high leveraging, and financing maturities linked to the term of the contractual arrangements) then implies a distinct set of policy and financing needs for investors.
vs. competitive providers); (iii) macroeconomic conditions; (iv) financial, technical and institutional capabilities of the host government and relevant SOEs; (v) availability and quality of information required by investors to conduct due diligence undertakings; and (vi) tendering process utilized (structured vs. unstructured, competitive vs. direct assignment).

4. As these factors change in relative importance and evolve in general, the risk allocation process itself should change as well. Risk mitigation strategies that may be appropriate for today’s marketplace will require ongoing monitoring and modification as the sector develops. Consequently, incorporating formalized reassessment mechanisms and flexibility into the design of the support instruments to allow for changing Government sector priorities, macroeconomic conditions, and investor requirements, should assume high priority when developing the program’s implementing strategy.

5. Moreover, when evaluating the feasibility of public sector support mechanisms for project financing in Brazil, the temptation of applying “quick fixes” and substituting good policies with patchwork guarantees should clearly be avoided. Therefore, the Government’s strategy should be developed, as a minimum, around the following principles:

- Increase the efficiency of sector development through the provision of a transparent and systematic review of eligible projects;

- Allocate risks to those parties best able to manage them (e.g., isolate the Government from commercial risks). This ensures that incentives are in place to effectively control risks, while all information pertaining to the nature and level of the risks is usefully employed;

- Minimize and leverage the Government’s involvement while at the same time providing for a transitional mechanism to facilitate financial closing of a number of benchmark transactions which would affirm the working legal and regulatory environment for the sector; and

- Improve the project’s financial viability through enhancement of its security package and/or cash flow for the direct benefit of long term debt providers. This should result in a direct improvement in the availability and terms and condition of financing (quality, pricing, timing) available to the projects.

**FINANCIAL MARKET CONSIDERATIONS**

6. The Government will need to address the following issues when assessing various options for facilitating private sector project development:

- How can the Government’s participation be efficiently channeled in order to mitigate the negative impacts of national policies and/or critical project constraints without de facto converting these financings into government recourse transactions?
- How can multilateral and bilateral agency participation be structured so as to optimize the sourcing of private capital on a sustainable basis from the various market providers (commercial banks, institutional investors, local investors)?

- Can these projects access the tremendous advantages in the cost of capital, maturity and liquidity that are found in the investment-grade end of international capital markets if the Government itself is far below investment grade?

7. In light of the current lack of liquidity in local financial markets, access to international capital plays an especially critical role over the short- to medium-term. In particular, tapping into international institutional investor markets (pension funds, insurance companies, mutual funds, endowments) deserves special emphasis given that (i) commercial bank borrowing is becoming increasingly difficult as banks adhere strictly to BIS capital adequacy requirements, and (ii) the longer maturities and fixed rate funding characteristics of bond issuance are ideally suited to project finance.3

8. Within this context it is also important to note that the worldwide market for investment grade debt (i.e., those securities having a credit rating of BBB- or above as determined by the international rating agencies) is estimated to be on the order of $15 to $17 trillion. However, many of these institutional investors (pension funds, insurance companies, mutual funds) face internal, industry and governmental restrictions, which limit the amount they can invest in sub-investment securities to less than 3% to 5% of their portfolios. Moreover, only 1% of the total is allocated to debt investment, which is then spread across three classes of assets: (i) corporate bonds traded in the Euromarket, (ii) local currency sovereign debt, and (iii) Brady bonds. In 1994, for example, institutional investors held only $126 billion of emerging market debt.4

9. Working within these market constraints, it cannot be overlooked that the Government’s long-term foreign debt rating is B+/B2, as offered by Standard & Poors (S&P) and Moody’s Investor Services. In this environment, high priority must be given to developing mechanisms for mitigating restrictions on low-cost long-term capital on a sustainable basis.

10. Moreover, given that project financing entails all risks associated with sovereign and corporate issuances (e.g., political and macroeconomic instability, foreign exchange), as well as commercial risks (e.g., related to construction, operation and maintenance, regulatory, force majeure influences), interest rate spreads for these securities should be in excess of those offered for sovereign issuances of similar size and maturity. This is often referred to as the “sovereign ceiling effect”. The following table presents an indication of sovereign financing costs that can be derived from Brady Bond stripped yields.5 Quotes for the period November 3-8, November 1996 provide a rough proxy of how private investors perceive Brazilian Government credit risk vis-à-vis that of other Latin American sovereign issuers.

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3 See Annex 2 for a sampling of project finance transactions in capital markets.
4 Of this $126 billion, $65 billion was invested in Brady bonds, $43 billion in corporate securities, and $18 billion in local currency, sovereign and other debt instruments.
5 As only a portion of the interest payments of the Brady bonds are guaranteed by the U.S. government, the stripped yield spread offers pricing indications for that debt service portion not covered and thus is representative of perceived GOV credit risk.
Sovereign Debt Ratings, Outlook and Stripped Yields for Selected LAC Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Credit Rating</th>
<th>Outlook</th>
<th>Stripped Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venezuela</td>
<td>B</td>
<td>Stable</td>
<td>1250</td>
</tr>
<tr>
<td>Ecuador</td>
<td>NA</td>
<td>NA</td>
<td>1460</td>
</tr>
<tr>
<td>Argentina</td>
<td>BB-</td>
<td>Stable</td>
<td>1350</td>
</tr>
<tr>
<td>Mexico</td>
<td>BB</td>
<td>Stable</td>
<td>1210</td>
</tr>
<tr>
<td>Peru</td>
<td>NA</td>
<td>NA</td>
<td>1233</td>
</tr>
<tr>
<td>Panama</td>
<td>NA</td>
<td>NA</td>
<td>1399</td>
</tr>
<tr>
<td>Brazil</td>
<td>B+</td>
<td>Positive</td>
<td>1250</td>
</tr>
<tr>
<td>Chile</td>
<td>A-</td>
<td>Stable</td>
<td>130</td>
</tr>
</tbody>
</table>

Sources: S&P, Bloomberg

11. However, notwithstanding the sovereign ceiling, one of the leading international credit rating agencies stated:

"Prudently applied and carefully crafted use of multilateral agency guarantees to cover certain policy risks for well-structured and strategically important projects may allow these financings to achieve credit ratings above that of the host government."

12. Thus, to the extent that many of the policy/country risks can be eliminated, all-in funding costs for commercially viable and well-structured projects may approximate or even fall below that which the sovereign nation is able to achieve on a stand-alone basis. This focus on pushing projects near or over the sovereign ceiling while allowing for a sustainable flow of limited recourse capital to the targeted sectors is critical in terms of shaping the Government’s involvement in private sector projects.
2. PUBLIC SECTOR SUPPORT MECHANISMS

13. Though at least initially some type of Government involvement will be necessary for developing private ventures in infrastructure areas, support mechanisms need not be all-encompassing in order to provide the level of security required by investors. Guarantees may be limited in scope, amount and time and need not constitute an unconditional obligation to pay or perform under all circumstances.

SUPPORT MECHANISMS

14. Below are some examples of financial support mechanisms which could be funded and perhaps managed by a public-sector facility ("Facility") to provide certain guarantees and direct funding products aimed at fostering private sector participation in economically viable projects. If the Facility was called upon to perform under its financial commitments, the MLAs could provide a liquidity line to support and enhance its obligations. Co-financing for the Facility could also be obtained from other bilateral agencies such as JEXIM.

15. It is important that the Government not provide more guarantees than are necessary to get transactions completed. Hence upfront recognition of the delicate balance between the Government's objective of minimizing its contingent liabilities and developing these projects as true private ventures with the legitimate requirements of investors who are unable to bear or even evaluate certain risks is necessary. The Facility would allow the Government to define a formalized and consistent approach for defining what guarantees they might offer, as well as for tracking and managing their exposure under these obligations.

16. The guiding principles of the Facility would be to (i) define and systematize certain parameters for the evaluation, selection and prioritization of projects and the provision of Government guarantees, (ii) develop operating procedures, including methods of fiscal appropriation, pricing, and contingent liability management, and (iii) develop model guarantee documents that are consistent with the Facility's stated principles and that can be used as a basis for negotiating individual contracts, which are likely to have many project-specific features.

17. The range of available support mechanisms includes policy guarantees, refinancing guarantees, performance-based grants, contingent lines of credit, and partially subordinated debt facilities in order of increasingly greater Government exposure to commercial risks. Thus, policy guarantees involve no commercial exposure for the Government, while subordinated debt entails its full risk exposure. Whenever the Government's is exposed to commercial risk, it must be recognized that some degree of government subsidy exists. If this risk is deemed acceptable by the Government, the question then becomes how much, using what criteria, and in what form should the subsidy be provided to a particular project, as well as allocated across eligible sectors as a whole. The final answer will depend on the Government's sectoral and macroeconomic objectives, risk profile of the targeted projects, and perceived strength of the implemented or ongoing policy reforms.
18. Finally it must be emphasized that though this note centers upon discussion of Government support options for private projects, the basic starting point for ensuring the successful and sustainable implementation of an infrastructure privatization program will revolve around a transparent and well-structured legal, regulatory and institutional framework. Sector-specific issues related to, inter alia, planning, market structure, tendering procedures, tariff setting practices, and permitting, as well as cross sectoral issues as budgetary appropriations procedures, import restrictions, labor, anti-trust provisions, dispute resolution mechanisms, and tax and accounting issues will require very careful attention in order to encourage domestic and international private involvement. Until such a framework is established, the consideration of stand-alone private sector funding options is simply not feasible.

A. Policy Guarantees

19. The success of private sector infrastructure ventures depends in large part on the political, economic and regulatory environment of the host country. In addition, governments influence what kind of infrastructure is promoted on what priority basis through the establishment of a pipeline of projects, approval procedures and financial regimes. Governments may also influence the type of projects that evolve by setting prices for the services or output, and/or through their participation as offtakers/purchasers.

20. It is important to note as well that project financiers do not look to the general credit of the borrower for repayment. They depend on the legal viability of a dedicated set of contracts. Countries that have succeeded in attracting financing for infrastructure projects have first established a system for protecting private domestic and foreign investment; second, they have created mechanisms for parties to bind themselves through contracts, including the granting of collateral to secure obligations (whether by pledge, assignment, mortgage, power of attorney, trust, sale-leaseback, title retention or otherwise); and finally, provided for enforcement of agreements reached.

21. Emerging market economies, however, are often characterized by evolving legal, regulatory, and institutional frameworks; a lack of macroeconomic stability; difficulties in obtaining (developing) quality information; and uncertainties regarding the financial and technical capabilities of the SOEs.

22. In Brazil, though private investors are comfortable in accepting most commercial risks, they are very reluctant to assume those associated with (i) foreign exchange (both exchange rate and currency convertibility/transferability), (ii) parastatal breach of contract, (iii) long-term government compliance with the concession framework, (iv) gaps that exist in the legal and regulatory framework, (iv) macroeconomic conditions which might undermine the project’s financial equilibrium and contractual framework, and (v) long-term support for the privatization program itself.

23. In the interim, while the policy framework is being developed and then tested and interpreted by the courts and regulatory authorities—thereby gaining credibility with private investors—the Government can offer coverage against certain risks. These include those related
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to, inter alia, currency inconvertibility, payment defaults by SOEs, non-compliance with the regulatory framework, and changes in governing laws. Coverage for currency convertibility/transfer risk specifically entails protection against an investor’s inability to convert local currency returns (profits, principal, interest, royalties, capital and other remittances) into hard currency. This coverage insures against excessive delays in acquiring and remitting foreign exchange caused by the Government’s actions or failure to act, by adverse changes in exchange control laws or regulations, and/or by deterioration in the conditions governing the conversion and transfer of local currency. Breach of contract coverage can also be expanded to cover failure to pay arbitrated awards and wrongful calling of on-demand guarantees.

24. Guarantees can cover all outstanding principal payments owed by the borrower; alternatively, they can cover scheduled payments for principal plus interest. In the latter case, the guarantee cannot be accelerated, except in the event of project termination. This latter option basically makes lenders whole on a continuing basis and provides the Government, the borrower, and the lenders time to undertake corrective actions in the event of a default.

25. However, considering the Government’s sub-investment grade credit rating and the need to tap long-term, low-cost capital on a sustainable basis, there will be a need for credit enhancement of the Government’s obligations, even with Facility guarantees. In the absence of such credit enhancement, private debt capital funding will continue to be limited over the short- to medium-term and this at a high cost due to portfolio limitations of both institutional investors and commercial banks.

26. As such, policy guarantees can be credit enhanced by multilateral agency (MLA) or bilateral contingent lines of credit. The credit enhancement aspect of the instrument becomes one of the primary benefits in those instances where Government is basically guaranteeing its own word, as in the case of investor concerns over the Government’s continued adherence to the relevant regulatory and contractual framework. Through an “AAA” credit enhancement provided by MLAs (albeit just for political risks), and depending on the degree of commercial viability of the project, the project financings may be able to obtain a credit rating equal to, or even higher, than that of the Government.

27. Though the MLA backstop facility would only cover debt holders, stand-alone Government guarantees may have to extend to equity providers as well. This is especially so when regarding such sensitive issues as SOE breach of contract and governmental compliance with regulatory and concession frameworks.⁶

28. In order to develop these guarantees as transitional instruments, the feasibility of including automatic reduction or cancellation provisions upon achievement of certain quantifiable events should be assessed. For example, policy guarantees may be required over the short- to medium-term to backstop an SOE’s contractual obligations. However, if the SOE is eventually able to achieve a stand-alone investment grade rating, then such guarantees are presumably no longer be necessary and the cancellation provisions can be executed. Similarly, the same structure can be

⁶ Equity investors could also seek political risk insurance from such agencies as MIGA and OPIC.
applied for convertibility guarantees, whereby if the Government is able to achieve some minimum grade credit rating, fall-away provisions will be applied.\(^7\)

29. Other design considerations involve possible leveraging of the Facility’s reserve base, as described by the following:

- **“Wholesale Leveraging”** can occur if the Facility’s commitments under the policy guarantees do not have to be matched dollar-for-dollar with MLA or bilateral agency liquidity lines. For example, as investor confidence and familiarity with the sector in question and the Facility itself grows, for every dollar of funded or contingent reserves, the Facility will perhaps eventually issue $5 to $10 (dollars) of policy guarantees.

- **“Retail Leveraging”** strategies may entail policy guarantees which cover, for example, only the upcoming 24 to 36 months of debt service (versus the full outstanding amount of the loan). To the extent it is not utilized, the guarantee is automatically extended. This structure can be seen as a rolling debt service reserve fund which covers debt service shortfalls resulting from very specific risks (e.g., currency inconvertibility). The expectation is that, during the period covered by the guarantee, the problem at hand will be resolved. Full debt service payments will continue during this period and thus a “project meltdown” can be avoided.\(^8\)

30. Other key issues regarding policy guarantees include:

- Developing an allocation mechanism for the guarantees in order to provide sufficient oversight regarding exposure management. Likewise, an assessment would be required of ways for minimizing the exposure impact of the policy guarantees on the Government borrowing capacity both with MLAs and private lenders;

- Assuring user friendliness of the guarantees (i.e., design of call procedures that are transparent, clearly defined and provide for rapid collection)\(^9\)

- Defining triggering events related to the call provisions; for example, for the breach of contract guarantees;\(^{10}\) and

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\(^7\) Presumably, such fall-away features would also result in some increase in pricing to the lenders given that the hurdle rating established for the cancellation provisions would most likely fall below the “AAA” backing of the MLAs. In such instances, the bump up in pricing for the debt could approximate that previously paid by the government to the MLAs for its guarantee and/or involve some profit-sharing arrangement between the lenders and equity investors.

\(^8\) This leveraging and limited evergreen structures would perhaps be most appropriately applied once the legal and regulatory framework has been more fully developed and tested and thus would represent a longer-term transitional mechanism for gradually reducing the Government’s participation.

\(^9\) According to the one of the rating agencies, the need to structure rapid disbursement procedures for the guarantees, especially if the project’s credit rating is to benefit in any substantial way, is the “key unaddressed issue” in many of the MLAs’ guarantee programs.

\(^{10}\) In practical terms, it is very difficult to pinpoint the exact cause of non-servicing of debt because such a situation could be due, at least in part, to other concurrent commercial or country factors.
Minimizing rigidities in future sector restructuring options available to the Government given the existence of policy guarantees that support current policy and operating environment. For example, policy guarantees in today's context may be required to backstop SOE payment obligations under an off-take agreement; while over the medium-term, the sector may move towards more market-oriented structures such as power pools. Issues of how these guarantees can be assigned, restructured, or canceled need to be addressed upfront at the time of their issuance.

B. Refinancing and Maturity Extension Guarantees

31. Financiers in Brazil are unable to provide debt maturities on a stand-alone basis that extend much beyond three to four years. Local currency debt normally does not exceed two to three years for final maturity.

32. In order to (i) allow lending institutions to better match their assets with liabilities, and (ii) mitigate investor concerns regarding long-term credit risk surrounding the projects, the Facility can provide commitments, made at the time of initial financial closing, to refinance (on a short-term rollover or a long-term take-out basis) the debt of projects at some point after construction and at a pre-defined interest rate. As with policy guarantees, the Facility's refinancing commitments can be backstopped by MLA contingent lines of credit.11

33. Under refinancing guarantees, the Facility's standby commitment effectively acts as a backstop mechanism to provide liquidity support if market disruptions occur at the time of a scheduled bond redemption. This allows the borrowing entity to better match assets and liabilities. This course of action should be limited to disruptions affecting all market participants rather than those affecting only a single issuer. Such events may stem from political, economic or international causes. Under this type of scenario, the Facility can buy and hold a new bond to liquidate the issuer's redemption obligation until it can be resold into the market. Under this type of operation, the Facility provides systematic risk insurance to qualifying issuers (not directly to investors) through the issue of this put option.

34. Any proceeds provided pursuant to these refinancing commitments are priced so that the guarantee is drawn down only when there is no liquidity in financial markets. For example, the yield at which the Facility purchases the securities from participating issuers can be expressed as a multiple of the original spread. This multiple is then set so as to establish the Facility as an investor of last resort, and not as a source of direct subsidy to the project. Project companies are therefore motivated or "incentivized" to obtain refinancing in the market, rather than by using commitments they had obtained from the Facility. It should be kept in mind that the Facility, via the refinancing guarantees, looks to support, rather than crowd out, private markets.

35. Having exercised the refinancing commitments, the Facility can then actively manage its inventory of purchased debentures (including, for example, the lending of such bonds). When the

11 A refinancing guarantee for domestic currency issues most likely would not require any such credit enhancement as the Government could just continue to print additional currency.
markets stabilize, the Facility can sell its portfolio to domestic or international investors, or both, thus creating additional liquidity in the secondary markets.

36. With maturity extension guarantees, the Facility guarantees back-end debt service obligations of particular projects. For example, lenders provide a 15-year amortizing loan, with the Facility guaranteeing all principal and perhaps interest payments during years 11-15. This implies that lenders will take full project risk during the first 10 years. In this context, maturity extension guarantees more directly address the long-term credit risks concerns that lenders may have, while refinancing guarantees aim more to assist debt providers in better managing their balance sheets and funding operations. As such, refinancing guarantees may be targeted at facilitating the participation of both local and international commercial debt providers, while maturity extension guarantees may prove, perhaps, to be more applicable for institutional investors that can already provide extended maturities for certain project credits, but are not necessarily willing to do so on a long-term basis.

37. However, it should be recognized that an unconditional commitment to refinance on a date certain (even at some pre-defined interest spread multiple) or to guarantee all back-end maturities still potentially exposes the Government to all commercial risks surrounding a project. In order to insulate the Government from such risks, the call provisions of the refinancing guarantee can be restricted if, for example, the borrower has not achieved some minimum debt service coverage ratio (both forward and backwards looking) or if the borrower is not in compliance with the concession arrangements or permitting (e.g., environmental) requirements. This helps to remove the Government from certain commercial risks (e.g. cost overruns, low market demand, operating cost increases, force majeure) better than if it simply provides an unconditional guarantee to refinance on a specified date. *If structured along these parameters, the basic risk assumed by the Government is that relevant to financial market disruption.*

38. Evergreen renewal features can be also incorporated into the guarantee structure. Assuming the project is meeting or is above basecase expectations, lenders can have the option of extending the effective date of the guarantee by one or more years. For example, if the guarantee is to become effective at the beginning of Year 6 and the project continues to meet basecase expectations, lenders could delay, with the consent of the Government, the effective guarantee date until the beginning of Year 7. This process has the potential to be repeated at the end of each subsequent year. The renewal process can continue with lenders potentially offering a rolling 5 year commitment to the project, thereby reducing the Government’s potential credit exposure.

39. To the extent that these guarantees can be utilized to structure significant balloon payments (i.e., lenders agree to approximately 12- to 15-year amortization schedules with a 7- to 10-year final maturity), debt service ratios are greatly improved while the project’s tariff is reduced. This would enhance the project’s credit rating due to (i) its increased ability to meet debt service payments and (ii) the increased strategic importance of the project due to its lower tariff.\(^\text{12}\)

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\(^{12}\) One of the rating agencies commented that projects offering competitive tariffs relative to the avoided cost of the system, ceteris paribus, can achieve higher credit ratings than higher cost producers. This is due to the assumption that, with
40. Finally, one very important policy consideration regarding application of the refinancing guarantees arises from the fact that refinancing guarantees basically protect the borrower from unexpected increases in real interest rates. Such scenarios may be the result of rising uncertainty reflecting economic turmoil or a deliberate tightening of monetary policy. In the latter case, these guarantees can weaken the response of the economy and require tighter monetary policy than otherwise necessary for uninsured borrowers. In the former case, it is questionable whether liquidity should be injected or maintained when the economic fundamentals are wrong. Some may argue that governments know better about real interest rate risk than other actors because they control policy. However, the case of “external shocks”—such as the recent Mexico currency crisis, which had an adverse impact on emerging markets around the world—the Government’s assumption of this risk is questionable.

41. Latin American issuers—especially when they are compared with other emerging markets—came under intense pressure following the Mexican currency crisis of December 1994. Monetary authorities were forced to raise interest rates, among other things, in order to prevent a significant devaluation. This resulted in a subsequent increase in required yields for competing sovereign, Brady, corporate, and project debt. The pressure on the Brazilian Real was largely a result of a general “contagion effect” stemming from investors’ nervousness related to the Mexican crisis, thus prompting a general exodus from emerging market investments in general, as a reflection of investors’ concerns regarding country specific fiscal issues.

42. As a minimum, then, the feasibility analysis of utilizing refinancing guarantees should be based on a careful examination of their macroeconomic implications, in addition to the Government’s sectoral priorities and risk allocation objectives.

C. Performance-Based Grants

43. The Government may agree to provide performance-based grants in cases where: (i) the project’s social benefits—e.g., in the form of economic development (rural roads, electricity services) or contributions to health or the environment (water treatment or municipal waste disposal facilities)—exceed the public’s willingness to pay and the project does not provide a return that is attractive to private investors; (ii) marginal cost is below average costs (e.g., a hydroelectric plant or lightly travelled toll road); or (iii) it simply is not politically feasible to raise tariffs to cost recovery levels over the short-term (e.g., existing roads, water distribution systems). This grant then represents an add-on to the tariff (e.g., a “shadow” toll) that is a payment beyond that paid by the end-user for each unit of production or service offered by the project. As indicated in the graph below, the grant payments can possibly be reduced over time as tariffs are increased to cost recovery levels.

13 It should be recognized that projects falling under scenario (i) will be the exception rather than the rule. Hence, subsidies may be utilized in a situation where the basic legal, regulatory and general market framework has been poorly developed. Under such circumstances, performance-based grants must be seen as only an interim mechanism to facilitate private investment while the Government works on getting the basic policy fundamentals in place to allow the projects to stand on their own economic merits.
Performance-Based Grants

44. A distinguishing feature of this subsidy mechanism is that it reduces the Government's exposure to commercial risks. The grants are provided only if the project is in full compliance with the concession and permitting arrangements. If the Government participated directly in the financing of the project, it would expose itself to construction, operating, and financial risks as well as force majeure. Sponsors receive payment only after the project is operating and only based on each unit of service or production actually delivered. Payments can be made on a matching basis or on a lump sum basis given all at once or at specified points in time.

45. One very important policy and structural consideration for development of this support mechanism involves identifying some way of limiting performance grant payments when actual profits exceed basecase projections. Under this scenario, the Government is most likely to find it politically unacceptable to continue providing a subsidy when the borrower's actual return on investment is commercially attractive without the provision of grant monies. Some type of cancellation, profit-sharing, account tracking or tax arrangement might be considered.

46. In addition, grant payments need to be able to maintain their value over time. If the size of the award cannot be linked to inflation or made to accrue a market interest rate, then denomination in a foreign currency may be the second best option.
D. Contingent Lines of Credit

47. Access to construction funding for many infrastructure projects is quite difficult. Typically, domestic banks are the most common source of construction financing because construction finance is in many respects a local business that requires considerable familiarity with the institutions, laws, regulations, and the actors relevant to the specific project. However, local banks in Brazil do not have the liquidity (for reasons mentioned earlier) to support the needs of the various infrastructure sectors.

48. On the international front, both institutional investors, which are relative newcomers to the project finance arena, and experienced commercial lenders are very adverse to providing limited recourse financing for projects involving large amounts of civil works/earth excavation: e.g., hydroelectric plant, road, rail transport and port projects. This reluctance is largely derived from the simple fact that despite the amount of technical due diligence conducted, differences between the actual costs and costs estimates made at the time of project development tend to be greater than for other infrastructure investments due to the unpredictability of certain geotechnical conditions. Thus, it is very difficult to assess with any degree of precision the amount of time, labor and equipment needed to construct the project.

49. Moreover, given the relative unfamiliarity with construction financing of many institutional investors, required construction guarantees are typically much higher than what more experienced commercial lenders require. For example, international commercial banks normally require guarantees for construction liquidated damages of around 20 to 25% of a thermal power plant’s turnkey contract price, while international rating agencies and institutional investors normally require guarantees of around 35% to 40% for the same project, especially if access to the investment grade end of the market is sought. The result of this more stringent requirement is an increase in the turnkey price charged by the construction company, leading to an increase in the project’s required tariff.

50. Regarding the transportation sector, lenders are likewise less willing to participate in greenfield development projects given the uncertainties regarding traffic levels and growth. These uncertainties arise in part because they serve limited markets which are locationally fixed (i.e., once the investment has been made—as in roads, for example—the services cannot economically be offered on other parts of the network). Furthermore, traffic on particular transport networks is significantly affected by investments in or by developments relevant to other competing transport structures/modalities, and the investor has no or limited influence on these. In addition, these ventures do not enjoy long-term fixed price offtake agreements featured in the power generation and, to a lesser extent, petrochemical and water industries. Offtake agreements generally serve to insulate projects from macroeconomic shocks (e.g., decreases in demand, increases in inflation.

14 Though institutional investors have shown an increasing willingness to provide construction financing, they still do not have the liquidity of the commercial banking sector. This is due in large part to the difficulty in getting investment grade ratings for greenfield projects. Moreover, commercial banks typically have long-standing relationships with construction companies and equipment vendors and thus a fuller understanding of the complexities, realities and administrative requirements relevant to construction financing. Given their focus, commercial banks also tend to have a greater degree of internal support in terms of manpower and highly automated trust departments in order to support the intense project supervision required during the construction phase.
currency depreciation). Hence, given their susceptibility to cost overruns and unreliable forecasts/track record regarding user demand, limited recourse financing for greenfield transport projects is very scarce on a global basis.

51. Complicating factors even more for certain projects is their extended construction period. Commercial lenders typically provide grace periods on principal and often on interest payments during a project’s construction period; that is, during the period when the project is not generating any cash flow. Given the impact on lenders’ real rate of return and difficulties in matching the funding requirements of the project with their own, the extended grace periods present very difficult financing issues to be resolved. As a result, market liquidity is very limited for projects requiring more than a 42- to 48-month grace period.

52. Under these circumstances, the Government may look to mitigate risks through certain contingent credit support mechanisms. However, this support should be considered as an option only if it (i) serves to tap private funding that otherwise would not be available, (ii) is based on a rigorous cost-benefit analysis comparing scenarios with and without Government support, (iii) can be precisely limited in scope without exposing the Government to other risks that private investors are already willing to assume, (iv) does not subordinate Government participation to that of equity holders, and (v) is offered under commercial terms and conditions.

Contingent Line of Credit

53. The line of credit (LOC) can also serve to enhance debt service and operating contingency reserves provided by the private sector sponsors to cover possible cash flow deficiencies during
the operating period. The LOC thus supplements debt service reserve funds and thereby increases the project’s debt service coverage ratios \((\text{operating cash flow} + \text{debt service reserve fund})/\text{debt service}\). For thermal power projects, lenders normally require minimum and average pre-tax debt service coverage ratios of around 1.5 to 2.25:1. In addition, one subtle, but very important advantage of the LOC is that it allows for the establishment of the debt service reserve fund from Day 1 of operation. In many cases, such reserves are established over the first two to five years of operation, leading to a discounting of their importance by the rating agencies and hence by institutional investors.

54. Recognizing that this instrument potentially exposes the Government to certain narrowly specified commercial risks, it is important to include disincentives regarding availability and use. The disincentives may include, for example:

(i) Structuring of the LOC in such a way that private participants absorb initial losses (i.e., by exhausting construction liquidation damages, retainage accounts, sponsor guarantees, debt service, and operating contingency accounts) before it can be drawn upon.

(ii) Applying penalty points to bids that seek access to these funds;

(iii) Having the LOC carry commercial fees and interest rates;

(iv) Including automatic cancellation provisions that allow the Government’s financial support to fall away to the extent that the project eventually obtains a stand-alone, investment grade rating without the LOC;

(v) Having the LOC substantially or fully amortized if it is drawn before allowing dividend payments to the equity holders; and

(vi) If drawn, providing certain conversion features for the debt (i.e., to non-voting common shares), which allow the Government to benefit from the project’s upside potential.

E. Partially Subordinated Debt

55. Given macroeconomic and policy concerns, it can be expected that, over the short- to medium-term, investors’ appetite for limited recourse debt will be insufficient relative to demand. Under these conditions, project developers may approach the Government seeking direct funding for the projects in question. Investor rationale for seeking this support may be based upon the following:

- taking into account other competitive financings in the country, the region and emerging markets in general, the required amounts for certain “mega-projects” with extended gestation periods may simply exceed available market funding for limited recourse financings in Brazil. This situation would be exacerbated if the projects were unable to tap the investment-grade debt markets;
• This prior issue is further accentuated by the fact that subordinate debt is sometimes provided by construction contractors or equipment vendors to complement a project’s financial package. However, this financing is quite often sourced from the contractor’s retained profits for the services provided to the project. As a result, capital or operating costs may be higher than if such financing was provided by an “independent” third party private financier;

• Some investors may simply feel more comfortable having the Government as a passive co-financier in projects because it reduces the likelihood of the Government engaging in any discriminatory action against the project or not complying with its obligations under the relevant project agreements or authorizations; and

• These projects may be of interest to senior debt providers even if they are uncomfortable with the project’s high debt-equity ratio and/or tight senior debt service coverage ratios.

56. However, before considering direct funding options, the Government should assess the feasibility of the other support mechanisms that may more effectively address investor concerns. Policy or refinancing guarantees or performance-based grants may provide more exact risk mitigation and credit enhancement instruments. Performance-based grants could be utilized to increase the project’s risk/reward profile faced by both equity and debt investors, thereby enhancing market liquidity and improving debt service coverage ratios without exposing the Government to commercial risk. Policy guarantees, as supported by the MLAs, may also prove a more effective instrument for providing the comfort that investors may otherwise seek through having the Government as a “co-investor”.

57. These support mechanisms obviously have to be market-tested. In the end, if they do not sufficiently address investor concerns, the Government will have to take an explicit policy stance on whether it should provide direct financial support to the projects. Provision of contingent LOCs may indeed represent a “second-best” alternative as the Government is only exposed to certain commercial risks for a limited time period. Through the provision of direct funding, however, the Government exposes itself to all risks surrounding the project. This option, therefore, represents the “third-best” approach for developing these projects as private ventures.

58. Upon final analysis, however, if direct funding is deemed necessary and is presented as a viable funding alternative based on investor requirements and explicit Government cost-benefit analyses, the Government can strive to protect itself from certain conventional commercial risks. Similar to the conditionality proposed for the refinancing guarantees, if the project’s debt financiers experience losses resulting, for example, from failure to comply with the concession arrangement (e.g., provision of adequate maintenance) or environmental requirements, the Government can then be treated on a pari passu basis with other senior lenders. In other words, the subordination of the debt is only partial. It aims to give comfort to the senior debt providers on the risks about which they are most concerned while not exposing the Government to most conventional commercial risks.
Moreover, in addition to the disincentives mentioned with respect to the provision of the LOC (e.g., carrying commercial terms and conditions, or including penalty point provisions in the bidding documents applicable to project developers seeking access), a clear definition of exit mechanisms for the Government's financial participation need to be established. This may be conducted by pooling and securitization of the Government’s respective participation or even via an equity offering to local investors.

**Generic Policy and Implementation Issues**

In addition to the design and policy issues mentioned for each specific support mechanism, an in-depth analysis of the following issues is also required:

- criteria to be applied by the Facility to initiate, evaluate, select, prioritize, award and supervise projects;

- mechanics of how the Facility’s support mechanisms should be treated in bidding documents. For example, the Government could award a particular project through competitive bidding based on the minimum present value exposure incurred by the Government under the support mechanism. The Government would simply need to set a reservation price (maximum level) for the award, proxying for the “public good” characteristic of the project;

- elaboration of how the Facility/Government will measure, manage and limit its exposure on an ongoing basis, including guidelines for the day-to-day supervision of the guarantee portfolio and reporting to and cooperation with participating multilateral and bilateral agencies;

- pricing of the support mechanisms so as to allow for the development of (i) contingent liability reserves, (ii) proper incentives regarding the prudent and optimal allocation of risks among project participants and (iii) an efficient and sustainable regulatory and legal framework;

- principles according to which new product development should occur (e.g., future securitization of projects financed by the Facility under the subordinate debt, LOC or refinancing facility);

- facility funding mechanisms, whether through local or international capital market/bank debt instruments, government budget resources, or borrowing from MLA or bilateral sources;

- mitigating the potential for possible intra-Government conflicts of interest; e.g., if one government agency is required to negotiate policy guarantees with other government agencies which are involved in the project’s funding arrangements (e.g., contingent LOC or subordinate debt facility). These conflicts are possible in the pricing and conditionality
provisions of the various facilities, as well as in the project’s cross-default, inter-creditor and security arrangements; and

- procurement, environmental and similar criteria.

**DERIVED CAPITAL MARKET DEVELOPMENT BENEFITS**

61. Domestic capital formation should represent one of the key components in the Government’s strategy for fostering private participation in infrastructure projects. Measures to encourage local savings and the prudent and careful liberalization of restrictions governing investments of pensions funds and other local capital pools are critical to domestic capital market development. The Facility may be able to assist in this process through:

- development of a pool of reasonably standardized securities and introduction of a class of high quality non-government bonds for investments by new institutional investors. This is encouraged by the Facility’s endorsement of the type of the securities it is willing to backstop.

- reliance by the Facility on the rating provided by local rating agencies. As mentioned, in order to exercise the Facility’s commitment under the refinancing guarantees, the issuer may be required to maintain a credit rating above a certain minimum standard, as determined by at one or more credit rating agencies. Similarly, fall-away provisions of policy guarantees can be linked to issuer attainment of stand-alone investment grade ratings. This linkage with credit ratings should serve to enhance the agencies responsibilities and credibility.

- support of the secondary market liquidity through the Facility’s (or Investment Fund’s) management of its bonds portfolio. For example, the Facility itself can seek the securitization of its own portfolio when circumstances warrant it.

- greater exposure to market operating parameters and hence acquisition of expertise by local public and private investors through demonstration effects achieved under the Facility’s operations. Over time, this in itself is expected to enhance local market liquidity for stand-alone, commercially-viable projects.

- Aside from assuring market liquidity, the refinancing security—especially when combined with MLA participation—may well act as a catalyst in extending maturities that private debt providers would otherwise be willing to provide (“push the envelope” effect).

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15 In the case of the Argentine Backstop Facility, described in Annex 1, a private fund manager is responsible for proposing new ideas for developing the domestic capital market.
Possible Technical Assistance Support

62. Assuming that the government decides to pursue development of the Facility along lines described above, the World Bank could initially support this effort through a technical assistance loan. The Bank could provide financing to bring advisors on board who among other things would work with the government in defining the following issues:

Phase 1 - General Strategy Formulation

63. This phase is designed to generate options which will allow the government to most efficiently allocate its support to individual projects:

- Diagnostic (both sector-specific and cross-sectoral) of the principal issues limiting the flow of private financing to infrastructure projects in India;

- Development of a recommended menu of options regarding government provision of direct funding and contingent guarantees to facilitate private investment while meeting the global objectives mentioned above;

- Definition of an implementation/action plan for developing the recommended mechanisms;

- Definition of basic institutional framework to be established to administer the proposed mechanisms;

Phase 2 - Structuring of the Institutional Framework and Financial Instruments

64. On the basis of the selection of mechanisms and institutional frameworks decided by the government, the consultants would then focus on designing these issues to the level of detail required to make them fully operative. This would include, inter alia, undertaking the following tasks:

- Development of detailed term sheets or draft loan and guarantee agreements;

- Pricing structure of the financial products;

- Development of conceptual framework for incorporating the government’s financial support into the tendering process, including incentives for bidders to use them optimally;

- Legal framework for the operation of the institutional framework required to support the mechanism, including status of incorporation and all basic authorizations and contracts required;

- Organizational structure of the Facility, including staffing matters and adaptation of operative systems of the host institutions;
• Operating criteria for the institutional framework, including
  - Criteria for project evaluation, selection and prioritization
  - The role of co-financiers in project evaluation
  - Allocation and prioritization of resources between competing infrastructure sectors
  - Ongoing institution exposure management
  - Sources of financing, including private sources and multilateral and bilateral agencies
  - Reporting requirements to the Government and to financiers
  - Financial management, including budgeting and auditing

Phase 3 - Implementation

65. Once the modules of support of have been designed, they will have to be incorporated into the organization(s) which will manage them. This process will involve principally the following tasks:

• Selection of personnel (including design of profiles)

• Training of personnel in the use of the instruments and guidelines developed, including all software support;

66. Depending on the structure and path taken in developing the Facility, multilateral and bilateral support could also take the form of (i) loans to facilitate government investment in the Facility, (ii) guarantees offered to backstop government obligations (e.g. as under policy guarantees) undertaken by the Facility, and (iii) direct financial investment in the Facility (e.g. through the IFC).
3. INFRASTRUCTURE DEVELOPMENT FUNDS

67. The application of portfolio financing for infrastructure projects has allowed for significant benefits in terms of enhanced credit ratings and market liquidity. A number of securitized infrastructure-related transactions have closed in recent years. Many expect that more will come to market as borrowers and investors fully understand the advantages derived from these securitization techniques for what have typically been perceived as non-liquid assets.

68. One vehicle for capturing these benefits are Infrastructure Development Funds (IDFs), established to purchase securities issued by a pool of infrastructure projects. As envisioned, the credit support for these offerings is expected to be the project's assets and operative arrangements (construction, offtake, concession, insurance, etc.), third party limited guarantees, contingency reserves and combined cash flows generated by the portfolio of projects.

69. Specifically, the IDF could finance projects through (i) U.S. dollar or other foreign currency-denominated debt, (ii) local currency-denominated debt, and (iii) equity investments, in the below-described manner.

- To on-lend foreign currency senior debt to projects, the IDF could borrow from (i) institutional lenders in the U.S.' fixed income capital markets, (ii) international commercial banks, (iii) export credit agencies, and (iv) MLAs.

- Local currency debt could be secured from (i) local commercial banks, (ii) local institutional investors, and (iii) the Government or state development banks.

- Equity funds could potentially have a local currency component, and a foreign currency component. Local equity could be raised through strategic investors, high net worth individuals or a flotation of IDF shares on the local stock exchange and possibly through direct investment by the Government or SOEs.

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16 Based on market requirements, it may be necessary for the IDF to invest in both debt and equity instruments in order to allow investors some upside potential. The IDF, for example, could invest in debt and equity in the same proportion as its own capital structure.
70. On the basis of the composition of fund investors, markets targeted, type of funding products offered, fund manager qualifications, Government involvement, possible MLA credit enhancement, and overall investment strategy, the IDF could seek a credit rating. To the extent that the IDF can achieve a rating in the investment grade end of the market, this would (i) significantly increase the investor base to which it has access, (ii) reduce its all-in borrowing costs, (iii) open up new investor markets, (iv) provide for stable access to capital, and (v) provide for greater flexibility with respect to market timing.

FINANCING STRATEGIES

71. As presented below, several options exist for developing the IDF concept. A fund may be a disguised government-owned development bank. The subordinate debt fund initially established for Hub power project fits this model. It could also simply represent a conduit for the financing/securitization of two or more projects. This is often referred to as a discrete fund, and has been used to secure long-term debt for a number of infrastructure projects.17 Or, as in the case of the World Bank’s Philippines initiative, it may actually involve the creation of an infrastructure bank non-bank or mutual fund.

72. The chosen strategy will ultimately depend on the Government’s sectoral and financial objectives, the degree of development of the regulatory environment, characteristics of the pipeline of available projects and the degree and form of Government support. The following

17 See Annex 2 for a sample description of securitization transactions in the infrastructure sector that have closed to date.
offers an overview of the key components which would form the basis for developing the IDF’s general investment strategy.

A. **Discrete Pool**

73. Under this structure, the IDF identifies a defined pool of projects for which it would provide financing prior to their financial closing. These may be presented by the Government as "model projects" in order to establish the operating environment for the sector, for example, as it would be under competitive bidding procedures.

74. This form of asset securitization can be seen as a snapshot approach in the sense that a discrete pool of investments is identified and investors look only to the pooled cash flow of the projects to service the debt. The IDF simply represents a conduit for channeling the financing, rather than an active investor buying and selling participations on an ongoing basis in different projects.

75. The fund manager function under this structure resembles more that of a trustee. As investors must conduct their own due diligence and the IDF is established just for a single financial offering, a trustee/agent bank is required to administer the project’s cash flow and oversee compliance with the project’s operative and financial agreements.

76. One important consideration is that infrastructure-related discrete-pooled financings that have thus far been closed have centered principally upon projects that were already in an operational stage; that is, they were already generating cash flow. To pool five or six 1000 MW greenfield hydroelectric plants is simply not feasible given (i) the legal complexities associated with the documentation of security arrangements, especially if the projects fall under different ownership, (ii) the tremendous administrative burden involved in supervising these projects through their construction phase, (iii) the adverse impact of negative arbitrage if capital market issues are utilized, and (iv) the basic fact that many institutional investors are still uncomfortable with construction risk. Moreover, construction financing has typically been the domain of commercial banks. Nevertheless, these same financiers are generally unwilling to delegate any decision-making authority to a fund manager.

77. Based on preliminary conversations with a few investment banks, if the IDF seeks an investment grade credit rating, then at least 25% to 35% of the capital raised should be targeted for existing projects. This will provide investors with earnings potential during the early years and allow the rating agencies a framework and defined benchmarks to gauge future financings. Conversely, to obtain participation in refinancing projects from the MLAs, selected projects should include major modernizations, expansions, or environmental improvements.
78. In the final analysis, the distribution of IDF funds to refinance already completed projects and finance greenfield ventures is a function of maximizing returns and market liquidity, as well as managing risks. To the extent that an appropriate portfolio of already operating and greenfield projects cannot be achieved, a project-by-project approach as facilitated by the support mechanisms described in Section 2 may be advisable until a sufficient pool of projects is identified for its securitization.

B. Quasi-Blind Pool

79. A quasi-blind pool effectively represents the creation of a infrastructure bank or operating company capitalized with equity and/or existing projects. The IDF in this case is formed as a public-private partnership between the Government (which may or may not contribute cash) and strategic sponsors, such as developers, contractors and equipment providers, local investors (who are the primary managers of the IDF) and passive equity.

80. The IDF’s ability to access capital will be based on a diversified corporate scenario rather than on an individual project company or pooled project vehicle scenario. In other words, there is value to investors from the management and operating expertise brought in at both the company level and the project level by the strategic sponsors.
81. Subsequent to the initial capitalization, the IDF is able, based on its financial standing, to access international or local bank or institutional debt and equity markets as needed to acquire or develop new projects. The type and tenor of IDF funding available to particular projects can be invested as debt or equity at the project level. Key determinants include the capitalization capacity for each project, as well as the fund manager’s assessment of the existing project ownership portfolio and potential impact of the proposed debt or equity investment on the project’s cash flow and earnings per share.

82. As with the discrete model, an initial package of projects can be identified upon establishing the IDF (Phase I). The IDF can invest in additional projects subsequent to this initial investment (Phase II). Once Phase I and II projects are developed, the IDF can seek to securitize a portion of its portfolio by issuing debt and/or equity offerings backed by the cash flow generated from these projects (Phase III). “Sale proceeds” received from these offerings can then be (i) invested in new projects and/or (ii) paid to IDF investors as capital gains.

83. The fund manager is entrusted to identify, analyze and present before a credit committee (most probably comprised in part by core investors) new investment opportunities. It is guided by investment criteria, with approval procedures defined during the design phase. It likewise monitors and actively manages the IDF’s portfolio of assets and liabilities.

84. When compared with the discrete approach, advantages of the quasi-blind model center upon increased flexibility to changing market conditions and investment opportunities, as well as
reduced transaction costs. However, given the added risk to investors (i.e., the requirement to delegate decision-making authority to a fund manager), market liquidity may be significantly dampened, resulting in higher IDF cost of funding vis-à-vis the discrete model.

85. Depending on market conditions, a private sector quasi-blind model may prove to be more viable once a positive track record of private investment—developed via discrete pooled financings or through a series of individual undertakings—is established. Indeed, discrete funds or stand-alone ventures can represent attractive financing candidates once the market matures to the point where the IDF quasi-blind model prove viable.

C. Construction Revolving Fund

86. A public sector IDF can also be established to assist greenfield ventures through the construction phase. Similar to the Municipal Bond Banks established in more than 18 states in the U.S., a Government-sponsored IDF provides construction financing or guarantees to private financiers. Once these projects have established an operating track record they can be refinanced on a stand-alone basis in the private markets or the IDF guarantee can fall away.

87. A Construction Revolving Fund can act as an important catalyst for projects that involve a large degree of civil works and/or have extended construction terms, for which the problems were previously discussed. Depending on the pipeline of projects, their respective timing for entering into commercial operation, and governmental budgetary considerations, refinancing IDF loans can take place on a pooled or individual basis. The refinancing proceeds can then be subsequently reinvested by the Government in new greenfield projects.

88. Though advantages of such an approach include reducing the Government’s need for ongoing budgetary appropriations, special attention is required regarding the Government’s exposure to effectively all commercial risks during the construction phase, as well as the possible negative effects on the growth of private sector funding options.

D. Insurance Fund

89. A Government/MLA-sponsored IDF could look to provide credit enhancement for debt issued by power projects. If the IDF could achieve an investment grade rating and provide coverage for the full array of project, policy and country risks, the bonds issued by the private projects should achieve a rating equal to that of the IDF. Assuming a high investment grade for the IDF (based principally on the MLA credit standing), this greatly increases market liquidity and reduces the project’s financing costs. Over time, as the sector and IDF’s operating track record is developed, direct private shareholding in the IDF can be sought.

90. As with the Construction Revolving Fund, a close review of the Government’s exposure to commercial risks and possible crowding out of private sector funding options is required. Moreover, one key component to the commercial viability and profitability of bond insurance

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18 See Annex 3 for an overview of the Municipal Bond Banks and State Revolving Funds that have been established in the U.S.
companies in the U.S. has been their ability to achieve gearing ratios on the order of 100 to 150:1. This very high leverage and low credit risk of the insured securities allow these companies to offer very low premiums that allow the issuer to capture the .75% to 1.5% interest rate difference typically seen between a AAA-rated bond and that of a BBB issue. It can be expected that, given the higher risks of these limited recourse securities in emerging markets, gearing ratios will be adjusted significantly downwards, while premiums will be adjusted upwards to reflect the risk profile of the respective financings.

E. First Loss Tranche

91. As part of a complementary strategy for the IDF options presented above, certain investors (e.g., the Government, IFC, IDB, local investors), possibly seeking a higher yield, may agree to subordinate their investment in the IDF to that of others. If the IDF portfolio does not generate the cash flow originally expected, first loss tranche investors will absorb initial losses up to a pre-agreed level. This structure provides an additional cushion of protection to senior investors and presumably leads to a reduction in the IDF’s overall cost of borrowing.

92. Based on preliminary market soundings with the rating agencies and investors, a first loss tranche may be required on the order of 10% to 25% of the total IDF’s capital base. As a minimum, the level of equity has to be large enough to cover a default of the largest individual project in the portfolio.

93. As the IDF develops a positive track record over time, it is expected that both domestic and international investors will be able to buy out the Government’s equity position. Another option, as mentioned above, is for the IDF to list its shares in the local stock exchange and provide local retail investors with an opportunity to invest in their country’s development.

94. Participation in this equity tranche by the Government or the MLAs may prove sufficient to allow lenders to get comfortable on issues deemed to be within the Government’s control (parastatal compliance with contractual obligations or government adherence to the legal and regulatory framework). However, for issues that are perceived outside the full and immediate control of the Government (e.g., currency risk), other forms of direct and explicit guarantees may nonetheless be required.

F. Leveraging/Equity Offerings

95. Regarding exit strategies, the IDF, as envisioned for all the proposed structures, can pool either some or all of its projects and issue securities in amounts sufficient to pay off existing debt and provide investors with the required return. These securities can be backed by a dedicated portion or all of cash flow generated by the IDF’s portfolio of investments, as well as the capital contribution of its investors. This allows investors to leverage their returns while increasing their liquidity.

96. Similarly, the IDF could seek a listing on the local or regional stock exchanges. Many closed-end equity infrastructure funds have been set up to allow for possible listings after an initial
time period (typically around five years), sufficient to allow for preliminary returns on investments as well as to allow the overall portfolio of investments to develop the required track record that many stock exchanges and investors require.

IMPLEMENTATION CONSIDERATIONS

97. Key global considerations which would serve as the focal point for determining the IDF’s general legal and operative framework are presented below.

- **Project Pipeline Analysis:** This consists of assessing the technical, commercial and financial feasibility of projects that seek funding from the IDF. In other words, is there be a sufficient pipeline of projects to justify the additional start-up costs of putting together the IDF? The characteristics of the pipeline should be sufficient to enable the IDF to meet its credit rating criteria and the depth of the pipeline should likewise provide evidence of the Government’s commitment to privatization of the targeted sectors.

One important aspect of this analysis is whether the fund will be sector-specific or if it will have a cross-sectoral focus. Obviously, a cross-sectoral focus broadens the basis of potential projects and allows for some degree of diversification. However, it also complicates the analysis for investors, especially institutional investors, which tend to be very conservative and “plain vanilla” in their approach. These investors have a relatively high comfort level with the power, oil and gas, and telecommunications sectors. Including road, rail, port, and water projects represents new ground that may will lead to a direct reduction in market liquidity and/or higher expected returns.

- **General Operating Framework:** Once the profile of projects is established, an assessment of the IDF’s general operating structure (discrete vs. blind), capital structure (initial and subsequent capital requirements, time periods for “capital calls” and new investments, leveraging expectations), as well as a general menu of funding products (construction vs. term financing, senior debt vs. mezzanine vs. equity) can be defined.

- **Definition of Core Investor Base:** Once projects have been identified, the targeting of key investor groups (commercial banks, institutional investors, local participants, strategic investors) can be pursued. These investors play a fundamental role in defining the investment criteria, legal structure, and listing/rating strategy for the fund, as well as the pre-qualification criteria and responsibilities of the fund manager.

- **Government Participation:** The primary focus should be on minimizing and leveraging the Government’s participation, which can range from that of a guarantor of certain policy risks, to that of direct investor and even to more subtle forms of support such as facilitating approval of securities, which are eligible for investment by domestic institutional investors.

Government support of such securities may include the following: (i) exemptions from or reductions of local IDF investors’ tax burden on the interest income, or (ii) subjecting
domestically-listed common shares in the IDF to a lower capital gains tax. Similarly, the use of fiscal incentives can lengthen the maturity of local debt financing and to make common shareholding by local investors more attractive. In addition, an important structural enhancement is for the regulatory authorities (insurance, bank, and pension fund regulators) to classify the IDF’s local currency securities as eligible investments for statutory reserve and other similar purposes. This may play a very important role in the development of a market for long-term fixed income local currency securities.

98. **Upon definition of the above issues, other more detailed matters to resolve would include:**

- **Investment Structure:** The IDF can be created as a trust, or as a closed-end or open-end fund, managed within a limited partnership or corporation (local or offshore) structure. If developed as a construction revolving fund or bond insurance facility, the IDF can be established within an existing development bank or as a separate legal entity. Each option has its own pros and cons vis-à-vis tax implications, dispute resolution mechanisms, investment criteria, political viability, government guarantees and overall attractiveness to particular investor markets.19

- **Legal/Regulatory Environment:** Careful determination of the legal and regulatory base is critical to facilitating flexible operating parameters for IDF activities. For example, it needs to be decided whether the IDF will fall within the definition of the host country’s banking, mutual fund, securities, trust or corporation/partnership laws. Important implications that depend on the outcome include capital adequacy, disclosure and reporting requirements, and its working relationship vis-à-vis public entities such as state development banks.

Other legal and regulatory issues encompass the IDF’s tax regime, including applicability of value added, stamp, sales, capital gains or withholding taxes associated with the transfer of assets to the IDF. All of these taxes may offset the expected gains from the refinancing of the assets. In addition, U.S. trust structures similar to that of the IDFs have been widely utilized due to their “bankruptcy remote” status. This configuration allows the assets transferred to the IDF to actually belong to it (that is, legally constituting a “true sale”) even if the entity selling the assets or trustee administering them files for bankruptcy soon thereafter.

- **Shareholders Agreement:** In order to assure efficient and flexible operations, careful crafting of IDF bylaws and the shareholders agreement should include the following: duration, early termination and extension provisions, shareholder eligibility criteria, 

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19 Interest on the IDF’s debt will constitute a large component of its expense. Since international investors expect to receive their interest payments net of local taxes, the IDF would be required to expend even greater sums to “gross up” interest payments to enable investors to receive their interest free of local taxes. This may be one reason for establishing the IDF offshore (e.g., the Cayman Islands or British Virgin Islands) so that it can pay interest to investors without having to deduct local taxes. However, even if the facility is located offshore, interest payments may still be subject to local withholding taxes. Other potential tax issues may be associated with income taxes if the IDF occasionally generates net income from investments and gains that exceed its expenses.
restriction on share transfers, sale of existing shares, public offering of shares, holding periods/exit strategies for particular investments, confidentiality provisions, dispute resolution mechanisms, indemnifications, voting rights of different shareholder classes, project approval criteria and procedures, definition of the roles of advisory boards and investment committees, procurement and dividend distribution policy, etc.

- **Development Role:** The IDF may play a passive role or, alternatively, look (in certain instances) to co-sponsor or actively advise the development of a particular project. It also must be determined at what stage—e.g., during the bidding stage, or after award—the IDF needs to commit funding to a specific project.

- **Investment Criteria:** This includes parameters related to transaction structure (e.g., BLT vs. BOO vs. LROT); application of environmental, health and safety standards; maximum investment exposure to a particular project, private party, technology, fuel type, or geographic region; and so forth. In addition to its bond or loan portfolio, the IDF may require a separate cash management function depending on the size, viability and/or predictability of expected cash flows. Investment guidelines regarding quality, yield and tenor are therefore required.

- **Financial Products:** Though potentially a variety of equity-related products can be offered, special attention must be paid to the IDF's offering of senior debt instruments. General parameters relating to currency and interest rate exposure, all-in pricing, average life/final maturity, grace periods, and contingency reserve requirements (debt service, major overhaul) are likewise required.

- **Fund Manager:** Pre-qualification and tendering criteria for fund manager selection need to be clearly defined, as well as those for the manager's respective responsibilities and investment authority, compensation, substitution and cancellation provisions, indemnifications, relationship with advisory/investment committees, and reimbursement mechanisms of administrative, operating and marketing expenses.

- **Planning and Evaluation Criteria:** Design of appropriate accounting and risk management systems is required for monitoring financial, operational and asset performance, including a definition of reporting requirements, product and market information, cash flow, financial management reports, and profit/loss and balance sheets.

**IDF MANAGEMENT**

99. If the IDF is developed under the quasi-blind model in conjunction with private investors, it will need to be managed by an independent fund manager of international stature, which is experienced in analyzing project loans. The Fund Manager must be viewed by the investment community as being politically autonomous and impartial. Though the Government and/or the MLAs may have representation on the Board of Directors or investment/advisory committees, investors and the rating agencies should be confident that investment decisions by the IDF will not be subject to political control or influence by MLAs or the Government.
100. For credit rating purposes, the flexibility of the fund manager may initially need to be limited. Investment discretion may be solely confined to those projects outlined in the prospectus. Only under special circumstances, which need to be documented prior to the establishment of the IDF, would the fund manager be able to invest in projects outside those initially identified.

101. Additional oversight and operating entities within the IDF include the following:

- **Board of Directors**, responsible—together with the Fund Manager—for conducting and supervising the IDF’s daily business operations. The Directors are responsible only for reviewing and supervising the Funds Manager’s activities and are not directly involved in any investment decisions.

- **Credit Committee**, which may be partly composed of core investors, to be responsible for all credit commitment decisions. Members of the Credit Committee, like those of the Board of Directors, are to be elected under a voting arrangement with equity shareholders.

- **Advisory Committee**, with a membership that may comprise representatives from the Government, MLAs, developers, local financiers, prominent local citizens, environmental groups, etc., to provide recommendations, information, or technical assistance regarding investment opportunities and trends in the marketplace. Membership is to be strictly guided by confidentiality and the prior resolution of any possible conflicts of interest.

- **Audit Committee**, to be responsible for reviewing financing and accounting matters.

- **Facility Administrator**, responsible for maintaining the IDF’s books and records, preparing and filing reports with respect to reporting requirements, and other accounting and general administrative services.

**Possible IDF Benefits**

102. The concurrent development of the appropriate policy and institutional framework for limited recourse financings and local capital market development in Brazil is critical to the overall success of the IDF proposal. If these areas are effectively addressed, the expected benefits to be derived from the creation of the IDF include the following:

- **Access to Capital Markets**: Major institutional investors are interested in larger issues because of the wider secondary market. Smaller issues are virtually unknown, and the detailed information on them needed by bond dealers and buyers is very often not available. Moreover, given the large transaction costs, international offerings less than $100 million are rarely justified. Nonetheless, a large issue by a pool of borrowers can achieve the necessary economies of scale. This approach also enhances access to the bond market by providing a debt instrument that is more familiar and acceptable to investors than small, lower-rated or unrated bonds issued by a relatively unknown borrower. *This potentially represents the most significant advantage of the IDF concept.*
Portfolio Diversification. The IDF is to consist of a portfolio of investments in an array of limited-recourse financings. The diversification of risk in the portfolio serves, ceteribus paribus, to provide a certain degree of enhancement for the overall credit quality of the IDF (versus a project-by-project financing approach).

In addition, a fund, especially under the discrete model, may provide more comfort to institutional investors regarding construction risk. For example, if two operating projects are pooled with a greenfield project, the construction risk is mitigated, though not totally eliminated. Such a mixing of projects can also enhance the pool’s financial viability by reducing the adverse impact of negative arbitrage.

Risk diversification also serves to enhance the credit rating that the IDF may obtain, allowing it a broader investor base, especially with respect to the international institutional investor base. This may lead to a reduction of its overall cost of borrowing.

It is important to note that the statistical analysis used for securitization of assets such as mortgages and credit card receivables has not been viewed by the rating agencies as an appropriate ratings methodology for pooled project financings. This is based on a number of reasons: (i) projects are not standardized; (ii) pools have an insufficient number of projects for statistical analysis; and (iii) every project has a complex credit structure with its own nuances and characteristics.

As a result, the credit analysis of pooled financings has included an assessment of each individual project. Depending on the size of the project pipeline, the initial four or five projects—most likely the largest or most promising projects—might undergo detailed review by the rating agencies and be given a full rating. The other identified projects are more generally reviewed and analyzed by the rating agencies and “shadow rated” to provide some comfort to investors.

Once the first phase of individual projects has been evaluated, the rating agencies review sensitivities to ascertain how well the pool performs as various projects are impaired or eliminated. The rating agencies also consider the pool structure and, for blind pools, the criteria to be satisfied before new projects can be added.

Thereafter, the rating agencies look at each new investment possibility in turn, to ensure that the IDF’s investment in these projects meets the established investment parameters. Depending on the final set of investment criteria and procedures, this clearance is needed before the IDF can invest in new projects. As the IDF gains greater experience and establishes a track record, the rating agencies are likely to impose a less onerous review process.

Reduced Transaction Costs. Through accumulation of market-specific expertise regarding project structuring and implementation, strict adherence to transparent and well-structured tendering practices, and standardization of certain products (possibly through
securitization), the up-front transaction costs (legal, financial advisory, underwriting) can be reduced by eliminating duplication of fixed costs. Likewise, similar benefits can be derived under the IDF quasi-blind model with the fund manager accumulating very specialized project assessment capabilities that facilitate the structuring of projects and provide comfort to local and international investors on the creditworthiness of specific projects.

- **Tailored Products.** IDF's can provide tailor-made loans under terms and conditions that are not available for publicly offered bonds or private placement loans. This is especially advantageous for projects that may require extended grace periods. Another significant and often overlooked benefit is the ability of larger, more creditworthy issuers to capitalize on specialized techniques and structures to reduce interest costs (such as derivative products, zero coupon bonds, variable rate bonds). These are not otherwise available to smaller borrowers.

- **Broader Financial Scope.** IDF construction funds, as previously described, provide a continuous availability of funds for future lending, with or without ongoing appropriations. This is due to its revolving nature whereby funds return to the program from the loan repayments of existing borrowers, i.e., via principal allocations and interest earnings on reserve funds.

- **Enhanced Market Liquidity.** Over time, lenders' confidence and comfort in funding projects through the IDF is expected to increase. This may also result in some lenders feeling more comfortable participating as co-investors with the IDF, which in turn may lead to an overall increase in the volume of lending to the power sector. The lenders' increased comfort will be derived from the perception that defaults on IDF loans are equivalent to defaults on MLA or bilateral agency financings, given the role of these institutions in providing credit enhancement for the IDF.
4. APPLICATION OF FINANCING OPTIONS

PROGRAM STRATEGY

103. In light of the (i) lack of a credible regulatory and legal framework, (ii) still nascent record of private sector investment in limited recourse infrastructure financings, (iii) Government's sub-investment grade rating, and (iv) tremendous investment needs required in the various sectors, both Government and MLA involvement will be required to expand and then sustain private participation at this higher level in the Brazilian infrastructure market.

104. The delicate balance between the Government's objective of minimizing its contingent liabilities and the legitimate requirements of investors who are unable to bear or even evaluate certain risks is well recognized. Clearly, the Government should not give more guarantees than those that are required to get transactions to financial closing. The issuance of a Government guarantee should be based upon a detailed evaluation of its benefits in terms of mobilizing private capital flows versus the risks related to moral hazard, and balanced with the need to avoid unwanted precedents for future financings. As such, a guarantee should be considered a scarce resource and its issuance should be reserved for priority projects, as determined by all involved parties. There may be a handful of projects each year for which government guarantees will be critical in securing financing over the short- to medium-term.

105. The Facility approach, therefore, can provide the Government with a framework that constitutes a starting point for what guarantees might be offered in each sector. In any event, these ideas have to be market-tested, for which purpose a technical assistance component can be provided.

PRODUCT APPLICATION

106. In Brazil, a multifaceted approach is most likely required given the extensive cross-sectoral reach of the country's privatization program, the characteristics of the project pipeline, and current investor perception of risks related to these projects. Based on the stated program objectives and preliminary investor feedback, the following observations can be offered:

- **Policy guarantees**, initially developed with fall away provisions and later with rolling evergreen provisions, may represent the most appropriate Government support mechanism. These directly address a large proportion of investor concerns, while not exposing the Government to any commercial risks.

- **Refinancing guarantees** may also prove very attractive, especially as a vehicle to (i) enhance the participation of local investors and (ii) improve the commercial viability of projects with extended gestation periods (and thus with shorter available pay-back periods). However, care must be taken regarding the
macroeconomic implications of these guarantees and regarding the insulation of the Government from exposure to commercial risks (through inclusion of conditionality of call provisions).

- For those sectors in which tariffs have historically been below cost-recovery levels (water, rail, gas) and marginal cost fall far below average cost (toll-roads), some interim support could be provided through performance-based grants as tariffs are brought up to cost recovery levels.

- Given the implications for Government exposure to commercial risks and outstanding public indebtedness, the utilization of LOC and subordinate debt facilities should be carefully guarded. The Government must first assess what the key impediments to private investment in these projects are. Policy or refinancing guarantees and performance-based grants may indeed prove sufficient to mitigate many investor concerns (adherence to the regulatory framework, parastatal breach of contract, foreign exchange, refinancing risk). Nonetheless, given that market liquidity for large civil works projects with long gestation periods is quite thin, some Government involvement may be required, preferably through some standby mechanism targeted specifically at risks that are very difficult to assess (e.g., subsurface conditions). This leaves any direct funding option available only for extremely limited applications. If these instruments are utilized, they must be offered under commercial terms and conditions, with very clear exit strategies defined for the Government (e.g., securitization, local equity offering, mandatory out options for project sponsors, and fall away provisions).

107. Regarding fund options, the primary focus of the IDF is to enhance market liquidity and only secondarily to protect investors against risks per se. Given the tremendous potential pipeline of existing projects to be privatized and greenfield assets to be developed, the IDF under its various forms could be utilized as follows:

- **Discrete funds** may be most appropriate for sectors where (i) individual project size is not sufficient to access the international capital markets (e.g., water treatment, sanitation, and perhaps certain transmission line, rail and port projects) and (ii) financing of greenfield assets is a problem for private investors (e.g., toll-roads) and a pool of operating projects is available.

- The **quasi-blind model** can initially be utilized in conjunction with strategic and local investors. Nonetheless, given the lack of an investor track record in limited recourse financings in the country, international investor demand is quite likely to be limited (though equity-based funds may prove more attractive). One way of enhancing the viability of this option may be to seed it with debt and/or equity securities, offered from/through a flotation of one or more of the major SOEs (Telebras, Petrobras, Rio de Janiero “Light” power company, Companhia Vale do
This may allow the IDF to immediately develop a pool of cash generating assets and thus enhance the fund’s overall financial viability.

- A public sector construction revolving fund can bridge financing gaps for certain types of projects, including those with significant civil works components, extended construction terms, large financing requirements, and smaller projects that, on a stand-alone basis, may not be able to justify the added transaction costs associated with private sector financing. These assets might be developed under the construction revolving fund and later securitized through a discrete fund offering.

- A Government/MLA bond insurance entity may prove particularly effective in the initial phase of the privatization process as this can allow investors to develop a relationship with the Government, relevant SOEs, and sector regulators. It is expected that direct private sector participation in the entity can eventually be secured.

108. The public sector support mechanisms may be used separately or in conjunction with IDF operations. For example, a discrete pool of assets may be securitized with the Government offering policy or refinancing guarantees to backstop the IDF’s debt obligations. For many smaller projects, this may represent the only means of accessing low-cost, long-term debt capital.

109. In the final analysis, the Government must balance the objectives of maximizing private funding while minimizing its exposure to project risk. Based on preliminary investor feedback, policy guarantees appear to have the greatest applicability across sectors. The value added by the other described instruments depends on the risk profile of the sector and targeted project.

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20 The referenced SOEs are offered for exemplary purposes only.
5. EXPOSURE MANAGEMENT MECHANISMS

110. In light of the extensive funding requirements for the infrastructure sector, it is critical for the Government to develop a systematic approach for evaluating, tracking, and budgeting for contingent obligations incurred under the relevant support delivery mechanisms. This effort can also serve in related efforts, such as the privatization of SOEs and development of local capital markets.

111. The appropriate design of support mechanisms is central to reducing Government exposure to the targeted operations. Structural issues related to the type of risk covered, fees charged, and contractual provisions that increase the conditionality surrounding the call provisions of the guarantee all require explicit government attention and eventual policy definition.

112. The guarantees also have to be accounted for in a fiscal sense. A guarantee or similar contingent support often appears to have no cost since no cash payments are incurred at the time the instrument is issued. Nonetheless, its cost is very real and is measured by the discounted value of expected future payments when it is exercised. Valuing a contingent instrument through some systematic and consistent process at the time of its issue and immediately reflecting its cost in the budget is a key component of the overall program effort.

113. One way to achieve this objective is by setting up a separate "Guarantee Unit" responsible for the administration of the Government’s support mechanism program. A formal system should be developed for (i) controlling issuance of guarantees by linking their value to current appropriations and/or to their total credit, (ii) evaluating their possible impact on public expenditures and budgetary planning process in general, and (iii) creating liquidity mechanisms, whether through appropriate pricing of the guarantees, budgetary allocations, or third party financial support that should be formulated in conjunction with the development of the Government’s strategy relevant to the support mechanisms.

114. Steps toward implementing a guarantee management program in Brasil could include:

- **Guarantee Design and Administration**, involving the enhancement of the guarantees’ structure and implementation of a formal review of guarantee management to reduce overall exposure;

- **Exposure Valuation**, through developing a central system for controlling and supervising government exposure on a standardized basis across all government programs;

- **Budgeting for Contingent Liabilities**, in that the cost of the guarantee must be explicitly recognized when the commitment is made and therefore these costs are
budget in an actuarially-sound manner using highly liquid budgetary allocations, revolving funds, trust funds, or other form of reserves; and finally

- *Program Re-evaluation* on a systematic basis, using this information to adjust budgetary procedures and reserves, published exposure of the Government, and the structure of new and existing guarantee contracts.
6. FINAL OBSERVATION

MLA SUPPORT

115. MLA support may represent a powerful vehicle for pushing forward the privatization program as viewed by the rating agencies and potential investors. MLA participation can take a variety of forms, including (i) technical support centered on the development of model documents for inviting and evaluating bids, as well as the overall legal and regulatory framework, (ii) liquidity support lines that can backstop/credit enhance the Government's payment obligations under the public sector support mechanisms, (iii) assistance through representation on investment committees/advisory boards of the Facility or IDF, and (iv) direct investment as provided by multilaterals including the International Finance Corporation (IFC), Inter-American Development Bank (IDB), and Interamerican Investment Corporation (IIC).

TECHNICAL ASSISTANCE

116. The use of advisors should be considered, not only for those efforts leading up to the tendering process, but also (at least initially) for those that go through the financial closing of a few projects. This should help to avoid the many problems that numerous governments experienced when they initiated privatization programs without the support of financial, technical and legal advisors. Similarly, many governments used advisors in their privatization process up until the award of the asset or concession, which also proved to have serious consequences as the precipitate termination of the consultants unnecessarily complicated and stalled post-bid negotiations with private investors regarding the terms and conditions of the key operative and credit arrangements.

TENDERING PROCEDURES

117. Given the spillover effects that initial projects are bound to have on follow-on projects, both within and beyond a particular sector, special care must be taken regarding the development of bidding procedures. Creating a competitive and transparent award process for concessions is critical. Competition in the market helps to ensure the lowest costs for the Government and for end-users. It also provides an impartial means of allocating projects among rival firms, reduces concerns about corruption, and reduces public opposition to privately provided services and toll-based concessions by instilling greater confidence that the deal was the best available. Providing institutional mechanisms for (i) conducting question and answer sessions with potential investors before and during the bidding process, (ii) debriefing the losing bidders following project awards, and (iii) establishing public hearing and notification procedures to incorporate business, local community and consumer feedback for proposed development projects will all serve to create a much more transparent and fluid development process for the projects and the sector as a whole.
118. Similarly, incorporating a strict pre-qualification process can greatly facilitate the
development of these projects. The criteria should be based on a bidder’s technical and
financial qualifications that demonstrate the company’s long-term commitment to the
project. Bid evaluation criteria should either be based on the lowest required tariff or, if
appropriate, on the lowest present value amount required under the policy or refinancing
guarantee, performance-based grant, LOC or subordinate debt facilities.

119. Finally the Government’s information package (including geotechnical
investigations, environmental analysis to obtain clearances, permits, and land acquisition to
obtain rights of way) for investors should strike a balance between facilitating investor due
diligence undertakings and allowing sufficient room for the private sector to introduce
innovative design and engineering techniques. This may not only result in a reduction of
the project’s overall development costs, but also serve to distance the Government from
certain liability issues arising during the project’s construction and operating phases.

**ADDITIONAL FUNDING CONSIDERATIONS**

- **Structured Credits and Pricing Implications.** The cost of funding is clearly one of
  the critical factors in determining whether a particular financing facility is a viable
  instrument for infrastructure development in a particular market. Achieving the
  lowest cost of financing for the project is determined by numerous factors, in
  addition to actual credit rating, some of which can be controlled through
  structuring, while others are a function of market conditions and timing. An
  investment grade rating is important to maximize the size of the issues and to
  reduce the cost of funding. However, credit ratings from the investors’
perspective, particularly in the triple-B category, can indicate a broad range of
  credit quality. Consequently, spreads for triple-B credits range from + 75 bps to +
  300 bps over U.S. treasuries.

  Straightforward, domestic corporate credits in attractive industries normally
  achieve the tightest spreads in the market. Triple-B issues that are priced at the
  higher end of the spread range tend to be those that are based in out-of-favor or
  troubled industries (real estate), or are transactions that have been structured to
  achieve an investment grade credit rating.

  The latter category is priced at a premium because these transactions are perceived
  as more complicated and contain “structural risk.” Structural risk refers to the
  possibility that the mechanics of the credit enhancement will not work as smoothly
  as they are supposed to and thus they represent some additional risk to the
  investor. To the extent that the underlying credit of the structured transaction is
  non-investment grade, the probability of the structure being tested is as great as the
  default risk on the underlying credit.

  Therefore, structural risk is higher for “wrapped” non-investment grade credits and
  commands a higher structural risk premium. Recent examples, presented below, of
structured transactions include the future dollar receivables issues completed by certain Brazilian and Mexican issues. In each case, the transactions were structured to eliminate currency and devaluation risk by backing the debt with foreign currency receivables offshore, and each received an investment grade rating. As illustrated below, these transactions were issued at spreads falling at the higher end of the triple-B range, as previously indicated.

<table>
<thead>
<tr>
<th>Issuer</th>
<th>Rating</th>
<th>Rating Agency</th>
<th>Spread (bps over 3-year Treasury bonds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banamex</td>
<td>BBB</td>
<td>S&amp;P</td>
<td>300</td>
</tr>
<tr>
<td>Aracruz</td>
<td>A1</td>
<td>Moody's</td>
<td>240</td>
</tr>
<tr>
<td>Samarco</td>
<td>BBB-</td>
<td>S&amp;P</td>
<td>250</td>
</tr>
</tbody>
</table>

120. Hence, it can be derived that creating a consistent, effective and credible policy framework is of fundamental importance as this reduces the need for Government support mechanisms and allows the projects more efficient access to private sources of capital on a stand-alone basis.

- **Negative Arbitrage.** One drawback frequently cited in the use of capital market issues for infrastructure projects, which typically feature long gestation periods, is that of negative arbitrage. That is, typically the full amount of the bonds are placed upfront though the actual proceeds are only gradually drawn down during the construction period. The difference between the coupon rate and the presumably lower reinvestment rate results in a negative interest carryover.

In order to mitigate this effect—which is of particular importance in the case of the IDF and dependent on its operative structure (e.g., blind vs. discrete)—two to three tranches of different maturities could be offered instead of structuring the initial issue as one single maturity. The blend of maturities can be designed to match the IDF’s initial lending requirements while at the same time tapping the most aggressive and liquid pockets of investor demand. This should maximize the issue size consistent with achieving favorable pricing.

In addition, if the IDF is developed under the quasi-blind model, future financings will be able to achieve increasingly better terms as its portfolio becomes seasoned, provided that market conditions remain stable and the IDF’s performance is good. The IDF can then pursue a SEC-registered shelf offering for the total amount of the funding required in the first two to three years of operation. In combination with a Medium Term Note (MTN) program, this allows the IDF to put in place the framework for future issues as well as facilitating attractive opportunistic funding through “reverse inquiry” (e.g., investors contacting the fund manager about their

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21 Some capital market investors are willing to provide draw-down commitments of up to 6-12 months. Market funding beyond this time horizon quickly becomes quite thin and expensive.
interest to buy securities at a particular maturity, amount and spread level). The MTN program can potentially be designed to provide the IDF with multiple funding options, including fixed and floating rate debt as well as issuance in different currencies.

One rather attractive feature typically associated with MTN programs is the low average transaction cost. The set-up costs for master documentation are expected to be minimally higher than, for example, a stand-alone Eurobond issuance. However, the MTN structure allows for diminishing marginal costs of succeeding tranches since essentially the same set of documents is utilized for each tranche. Furthermore, the flexibility to access windows of opportunity quickly should enable the IDF to minimize its funding costs over time.

Finally, a MTN program would send a clear signal to the international investor community that the IDF has a coherent strategy for accessing the international capital markets and that such a strategy is consistent with the IDF’s balance sheet position.

- **Brady Bond Exchange Program.** Another funding option involves the use of Brady Bonds. Essentially, these instruments represent a pool of cross-border debt available via institutions that are also comfortable in evaluating the commercial risks of limited recourse financings. Brady Bonds can be converted by means of a premature redemption by the Government with the proceeds being used specifically for on-lending to the IDF.

By providing holders of Brady Bonds with re-lending rights, the IDF may be able to tap into the bank investor base, both domestic and foreign, which otherwise may not be interested in participating in a “fund” since they can evaluate the commercial risk on each project independently. The bank investor base is also more comfortable with evaluating commercial risk, but is usually hampered by cross-border limitations. This approach may be attractive to banks as they are not incurring incremental long-term, cross-border exposure and can enhance their returns from the Brady Bonds assuming that they are in a position to take on the commercial risks of the projects. The program may also provide transparent benchmark pricing mechanisms for the IDF’s on-lending program, with the base price for the country’s sovereign risk given by the current strip yield on the Brady Bonds.

When considering the use of Brady Bonds, public sector concerns may develop given that (i) no “fresh money” is being raised and (ii) the potential crowding out of developing sources of private financing may occur, some of which may be willing to take on the commercial risks of the projects in exchange for investment returns that may fall below that of the Brady conversion program (especially if the discount is taking into account).
Additional issues to assess include: (i) at what price would the Brady Bonds be exchanged, (ii) should a minimum tenor be specified for the on-lending of the liquidation proceeds, (iii) would the approval by all Brady Bond holders be required, and (iv) the pricing parameters that the banks would require for taking the commercial risks. Likewise, there may exist a whole host of accounting, legal and regulatory issues to clarify in order to make such a relending program feasible.

**IMPORTANCE OF POLICY FRAMEWORK**

121. The lesson to be learned from both successful and failed privatization programs around the world is that keeping privatized infrastructure projects in the private sector requires a stable macroeconomic environment, appropriate market structure, and a well-designed regulatory and institutional framework. The balancing act becomes one of ensuring the viability of privatized enterprises while at the same time allowing for commercial failure. This can only be accomplished by:

- allowing prices to be set so as to provide financial viability without protecting private parties from bankruptcy and concurrently checking the potential for abuse of market power and ensuring adequate services. Incentives for efficiency must be incorporated into contracts and institutional relationships. Pricing mechanisms must punish providers for inefficient operation and bad investment decisions; and

- developing mechanisms for taking over non-performing firms without disrupting service and without the Government assuming losses. This entails the development of an adequate bankruptcy code and competitive market structure, with regulation allowing for take-overs. In addition, inducing multiple providers tends to reduce potential disruption from the failure of one firm and creates of pool of knowledgeable groups with capacity to mount take-over bids.

122. Besides protecting consumers and investors, an appropriate regulatory and market structure also protects the government from bearing ultimate responsibility for the financial condition of privatized enterprises. This provokes the question of whether privatization can be undertaken through contractual agreements in the absence of an explicit broader regulatory framework. Indeed, while contracts and regulation can work equally well to get enterprises into the private sector by providing comfort to potential investors, only adequate regulation can begin to help keep them there.

123. Even if such mechanisms are put in place, losses of infrastructure companies may still come back to the government through the financial system. The government may feel compelled to bail out the financial institutions whose portfolios are saddled with bad loans to loss-making infrastructure enterprises. To prevent this alternative channel for government absorption of losses on privatized infrastructure ventures, adequate regulation of utilities must proceed simultaneously with adequate regulation and supervision of banks and related financial intermediaries.
124. With this said, it must be recognized that regulatory reform and project development efforts represent a very dynamic and evolving process. Through the course of partly unplanned developments the policy, legal and regulatory framework will influence the market, while experience with projects in turn will refine the policy and institutional development process. The key will be to incorporate flexibility into the overall planning and operating environment.
Annex 1 - Descriptive Overview of Infrastructure Financing Vehicles

The following provides a sampling of different public- and private-sector infrastructure financing initiatives. The projects referenced are not meant to be exhaustive, but rather representative of the wide variety of options that are potentially available.

A. Public-Sector Sponsored

**Colombia Infrastructure Facility**

The Government of Colombia (GOC) is considering development of institutional mechanisms for facilitating private sector participation in limited recourse infrastructure projects. Currently under examination is the possibility of establishing an Infrastructure Development Facility (IDF) which would be owned and managed by GOC.

The IDF’s specific objective would be to increase the flow of private debt capital into the targeted infrastructure sectors. As currently envisioned the IDF would be administered by the state-owned financial institution Bancoldex or Fiducoldex (the Bancoldex fiduciary trust) and would have a cross-sectoral orientation, looking to assist limited-recourse projects in power generation, gas transmission and distribution, toll-roads, ports, airports, and water treatment and distribution sectors.

The IDF potentially could support private financings through the provision of a wide array of instruments, including policy and refinancing guarantees, as well as a local currency put options to provide liquidity to domestic capital market investors. However, GOC has explicitly expressed its desire to limit its exposure under the IDF to principally non-commercial risks. Hence, policy guarantees, focusing mainly on foreign currency risk and governmental compliance with the contractual arrangements, as well as refinancing guarantees, subject to the project’s maintenance of minimum debt service coverage ratios or credit ratings, may serve as the primary products offered.

In order to support and credit enhance IDF obligations under the support instruments, a World Bank contingent line of credit may be utilized. The expectation is, however, that the IDF, through the development of contingent reserves, budgetary allocations from the Government, and World Bank support would be able to leverage this funding support and issue guarantees in excess of its funded and contingent reserves.

The actual design and implementation of the IDF has been divided into a three part exercise as presented below:

- *A Diagnostic Effort* will be conducted to generate options from which GOC will choose the exact support mechanisms to be developed further. This will include identification of principal issues limiting the flow of private debt capital to the
targeted sectors and definition of a basic institutional and operating framework to administer the proposed support mechanisms.

- **Support Mechanism Design** will then focus on structuring the financial instruments to the level of detail required to make them fully operative. Specifically, this will include issues of how the support mechanisms will be treated in the bidding process, pricing of the mechanisms, as well as definition of the legal and organizational framework of the IDF. This latter effort will entail definition of operating guidelines related to project evaluation criteria, allocation and prioritization of resources between competing infrastructure sectors, as well as financial management, budgeting and auditing parameters and procedures.

- **Implementation Support** will then follow and will include hands-on assistance in the selection (including design of profiles) and training of personnel as relating to, inter alia, the use of the support instruments and IDF operating guidelines.

**Argentina Capital Markets Backstop Fund**

In September 1995, the Argentina Backstop Fund was established to provide refinancing commitments to participating local banks under scenarios of financial market disruption. In order to provide liquidity support, the World Bank provided a US$ 500 million contingent line of credit to the Argentine Republic, which in turn entered into a subsidiary loan agreement with the Backstop Fund to support its obligations under the refinancing commitments. To date, six offerings have been conducted with approximately US$ 200 million of commitments issued through the Fund’s operations.

The operation’s main objective is to promote local capital market development. Participating banks must first acquire funds by issuing securities in the private markets. As such, the Fund encourages the market to respond to the credit of individual institutions and does not provide financing when the markets are already willing to do so. The Fund, therefore, acts as a “lender of last resort”.

The Fund is owned by the Government and is administered by Banco de inversion y Commercio Exterior S.A. (BICE), a second-tier government-owned bank. BICE also designates banks that meet established credit standards to participate in the program. Qualifying banks are required to demonstrate as well that their pool of loans meeting certain criteria grows by at least as much as the issuance of the backstopped bonds. Solomon Brothers acts as financial consultant and provides on-going support regarding operating and investment activities of the Fund.

The World Bank does not approve any individual loans made by the participating banks and the operation of the Backstop Fund relies on the judgment of the local fund administrator and approved domestic rating agencies.
This operation was possible because Argentina had successfully undertaken broader economic reforms which created a more stable environment, as well as capital market initiatives which enhanced and simplified funding operations within the domestic market. The measures undertaken prior to initial operations of the Fund included (i) passage of the Convertibility Law, which established a fixed-peso-U.S. Dollar exchange rate, Pension Security Reform and Mutual Fund Laws, creating institutional investors, Securities laws, defining the powers and responsibilities of the Argentine National Securities Commission, and the Negotiable Instruments Law, creating primary and secondary corporate bond markets; (ii) removal of restrictions on foreign portfolio investments, as well as stamp and transfer taxes; (iii) equalization of tax treatment of capital gains for foreign and domestic investors; and (iv) external debt agreement, which although not a reform, was fundamental in allowing the country to return to the international financial markets.

**Pakistan - Private Sector Energy Development Fund (PSEDF)**

PSEDF was created in 1988 for institution building and to provide subordinate debt financing for limited recourse private power projects. The fund is to serve as a catalyst for attracting equity and commercial loans. PSEDF was capitalized with a Work Bank loan of US$150 million. The loan was co-financed in the amount of $314 million by USAID, Nordic Investment Bank and the governments of France Italy, Japan and the United Kingdom. The fund was replenished in January 1995 through a $250 million World Bank loan co-financed by JEXIM with a $110 million loan and a government of France loan of $10 million.

PSEDF provides debt financing of up to 30% of the financing needs of private energy projects. Projects sponsors are expected to mobilize 20 to 25% equity and raising the remaining 45-50% of funding in the domestic and international financial markets. The repayment period for on-lending the Fund’s resources to sub-projects is up to 23 years with 8 years grace.

PSEDF provided US$602 million in subordinated loans to the Hub Power projects. PSEDF has also extended a $20 million loan to the $100 million APL oil pipeline between Karachi and the Hub site. In addition to HUB, PSEDF has provided or has committed partial financing for five new power projects with a total costs of about US$2,1000 million.

While the 1995 financing of the Hub Power project constituted the main focus of the PSEDF, plans are underway to extend its financing services to private projects in other infrastructure sectors under a new designation as the “Long Term Infrastructure Credit Facility of Pakistan.”

**Jamaica Private Sector Energy Fund**

The Private Sector Energy Fund was created by the government in 1992 as a measure for enhancing the availability of long-term, non-recourse financing for private companies
investing in the energy sector. The Fund was co-financed by the World Bank and the IDB which provide US$ 40.5 million each in loans.

The Fund is administered by the “Private Power Unit” of the National investment Bank of Jamaica. An Administrative Agreement between the government and NIBJ specifies the duties and authority of the latter under the fund. The selection of sub-projects, their approval and the finalization of the contractual arrangements have been entrusted to a Ministers’ Steering Committee.

This fund is more targeted than the Pakistan fund and focuses on providing long term financing for two build own operate subprojects: (a) a 60 Mw diesel power plant, with an investment of around US$ 130 million and (b) a 30 Mw combustion turbine plant

The Fund pays up to 70% of the costs of a sub-project, with the remaining 30% being equity. The sub-project sponsors assume full completion and operating risks. However, the higher the amount of limited recourse financing mobilized from other commercial sources, the lower the minimum equity contribution that a sponsor must fund.

**Jamaica Private Investment Finance Facility**

Additionally, the government, through support from the World Bank is analyzing the feasibility of establishing a government owned and managed Facility which would offer the following products to limited-recourse infrastructure projects:

**Co-financing** - The Facility could come in at the initial funding stage through the means of direct long-term loans for viable projects. To ensure leverage of public funds, the Facility would only provide a minority share (40 percent) of total financing needs, with the remainder made available by the private sector. Facility funds may be in the form of senior or subordinate debt, as well as equity.

**Take-out Finance** - This financing would provide assurance at project inception that long-term funds will be available after the construction phase has been successfully completed.

**Policy Guarantees** - The Facility may provide certain guarantees to cover such risks as political and natural force majeure events, currency inconvertibility, and parastatal breach of contract.

The Facility would be backstopped by a World Bank loan, as well as possible other multilateral and bilateral agency support. Facility funding would not be earmarked for any particular project as each venture will be analyzed on its own merits. Likewise, only those sectors where clear progress has been achieved in the establishment of rules for private sector participation, would be eligible for financial assistance.
Based on an early analysis of those sectors where commercially viable projects may be forthcoming, the transport, including rail, ports and airports, electricity generation, transmission, distribution, and water and sewage sector may be the most likely recipients over the short to medium term of Facility support.

**Mexico Debt Fund**

The Mexican Government, acting through Banobras, the country’s main infrastructure development bank, has been considering the development of a public-sector owned and managed mezzanine debt fund to supported infrastructure projects in the water, power, transport and gas sectors. These projects would be developed under BLT, BOT, BOOT, or BOO structures.

The products offered would include mezzanine debt, equity and grants, as well as possibly refinancing guarantees. The Fund would not invest more than 49% of the total investment needs of any particular project. The size of the fund would be approximately $150 to 250 million dollars and would be funded largely from the infrastructure privatization proceeds, budgetary transfers, as well as possible investments by other governmental agencies, such as the Social Security Institute (IMSS) and Federal Housing Agency (INFONAVIT).

**Philippines Debt Fund**

The Private Sector Infrastructure Development Facility would provide private infrastructure projects with a mix of government support, local resources and international capital. This Facility is part of the Private Sector Infrastructure Initiative which will also (i) improve the policy and regulatory environments for private infrastructure, (ii) improve the government’s facilitation and promotion of private projects, and (iii) enable equitable assignment of project risk between the private sector and the government.

The PSIDF would invest mainly in non-power private infrastructure project such as toll roads, light rail transit, water supply, sanitation, and airports that cost less than US$150 million. The decision to not focus on power projects was due to the belief that less expensive export credit financing would generally be available to support the purchase of imported equipment that typically comprise a high proportion of these investments. Projects with a cost in excess of US$150 million would also be able to package their debt requirements for direct access to the international bond markets.\(^{22}\)

As currently envisaged the PSIDF capitalization would be 100% debt, though its is possible that there would also be equity capital. Equity would lead to higher funding costs because it would demand a premium compared to debt and hence higher lending rates, although the PSIDFs creditworthiness would improve as a result of the presence of equity in its capital structure. The Government itself could provide a subordinate tranche of

\(^{22}\) A minium of US100 million debt issue is more or less a threshold level below which accessing international bond markets would be unfeasible or simply not cost effective.
debt and/or equity which would be leverage to secure up to, and over time, private senior
debt of between $500 to $700 million from local and international investors.

These pooled funds would then be managed by a private sector based fund manager who
would be responsible for identifying, structuring, supervising any investments by the fund
according to a pre-defined set of investment criteria. Projects to be financed would
include those in the water, power and transport sectors and would include both greenfield
and government divestment of operating assets in these same sectors.

In order to facilitate the fund’s access to the international capital markets, a contingent
line of credit or partial risk guarantees could be made to the benefit of fund investors in
order provide protection against such risks as currency inconvertibility. The expectation is
that through providing for a government “first loss tranche”, only investing in projects
which are investment grade based on local currency rating and providing a guarantee
against certain sovereign risks, that the fund itself could actually surpass the subinvestment
grade sovereign rating and access the investment grade end of the market, thereby
significantly improving its all-in cost of funding.

PSIDF is expected to actively pursue the possibility of raising local currency funds in
order to reduce its exposure to exchange rate risks. Eventually it is intended that PSIDF
will conduct most of its intermediation operations in local currency. Local commercial
banks, pension funds and insurance companies would be the main source of local funds.
The Asian Development Bank is working with the government in developing a strategy for
ran initial PSIDF bond issue in local currency.

B. Private-Sector Debt Portfolio Financings

The following presents an overview of private-sector debt portfolio financings within the
infrastructure market.

Coso Funding Corp. - In December 1992 Lehman Brothers put together a $560 MUSD
144A placement for three operating 80 Mw California Energy Corp. (CEC) geothermal
projects. This transaction, structured as a discrete fund, benefited from the fact that these
projects were substantially similar (same sponsor, technology, geothermal field, operator,
power purchase agreement structure, offtaker) and there was no element of construction
risk. The bonds were rated BBB-/Baa3 rating from Standard & Poors and Moody’s
Investor Services, respectively.

By pooling the three projects, each with its own contracted cash flows form AA/Aa3 rated
Southern California Edison, Coso avoided having to finance the three related projects
separately. This eliminated both the potential for one financing to interfere with the others
and the need to designate artificial boundaries for each plant’s underground geothermal
fuel supply. Pooling also allowed for a public bond issue, by providing the necessary size
and liquidity, which would not have been achievable with three separate and smaller
financings.
Tribasa Toll Road - In November 1993 Salomon Brothers placed $110 million of unrated notes issued by the Tribasa Toll Road Trust 1, which holds two Mexican toll road concessions. The proceeds of these notes were used to refinance the indebtedness of these two toll road projects already in operation.

An interesting feature of this deal was the separation of contractual (18 years) and scheduled amortization (12 years). Failure to make scheduled amortization serves to trap cash in the special purpose vehicle (by cutting off dividends and other distributions to the project sponsors) but does not constitute a default allowing acceleration of the notes (however there is a 1% increase in the interest rate upon such an event). A failure to make contractual amortization does constitute such a default. This is by far the longest limited recourse transaction completed to date in Mexico.

California Energy Company - In March 1994 CEC issued $529 million of senior discounted notes. This represented the largest debt offering to date by an IPP and provided evidence of investor's growing appetite for international power development. The net proceeds are to be applied as debt or equity investments in future domestic and international power projects, including a few identified geothermal power projects in the Philippines and Indonesia.

The Senior Discounted Notes are subordinated to debt at the project level and are repaid from the equity dividends from CEC's projects. Thus, effectively the note holders provided financing on a subordinate debt basis for a quasi-blind pool of projects.

Energy Investors Fund (EIF) - EIF of Boston, Mass. securitized 16 projects in which it had a limited partnership interest and issued $125 million of 144A debt securities. Of the total proceeds only $17 million were applied towards new investments while the remainder went directly to pay back investors. This issue, launched in August 1994, had a 17 year final maturity and a 11.3 year average life.

The portfolio of projects varied in terms of geography, technology, fuel types, equity participants, power sales contracts and cash flows and no single project contributed more than 18% of project total annual cash flow. Of the 16 projects 11 were in operation and 5 were still under construction. There were 6 gas-fired, 1 waste coal, 1 coal, 3 wind, 3 small hydro, 1 waste wood, and 1 municipal waste. As was stated in the offering memorandum "the portfolio was assembled not merely as a collection of projects, but rather as a portfolio where changes in variables, such as fuel prices or inflation, would be counter-balanced among the projects".

According to EIF, of the 16 projects only 5 or 6 on a stand-alone basis were actually investment grade. Through the matching of cash flows however the overall portfolio achieved an investment grade rating of BBB-/Baa3 from S&P and Moody's, respectively.
LIPTEC - In October 1994 Morgan Stanley brought to market the LIPTEC fund for the Long Yuan Group Power Co., which is wholly-owned by the Ministry of Energy and Power (MOEP) of China. This consisted of a $110 million 144A placement rated “A-” by Moody’s (equal to the sovereign rating) with a 7-year final maturity, 4-year average life, priced at around 120 -150 bps over the equivalent U.S. treasury rate (approximately 20 to 25 bps over sovereign paper of similar maturities). Investors were promised only that the fund would invest in a series of capital improvements of certain power stations, (basically a blind fund though two of the projects were briefly described in the prospectus).

The fund was established as a British Virgin Island partnership. Investors, comprised mainly of U.S. insurance companies and pension funds, looked only to LIPTEC for repayment of the debt. Though investors did receive a comfort letter from MOEP affirming that it would do all that it could to make sure that LIPTEC complied with its debt obligations, no guarantees were given for risks relating to convertibility, breach of contract, change of law, revocation of permits, government interference, etc.

Indiantown Cogeneration Funding Corporation - In November 1994, Indiantown issued $505 million of First Mortgage Bonds, rated BBB- by S&P and Baa3 by Moody’s. The project sponsors consisted of Bechtel Enterprises, PG&E Enterprises and GE Capital.

The offering extended the Coso pooling concept by combining the stand-alone capital markets financing of the Indiantown with the opportunity to incorporate that financing into a future pooling structure. The Indiantown pooling feature was structured as an option to create a credit enhancement vehicle (“CEV”) which would receive equity distributions from participating projects and make them available to support the indebtedness of participating CEV project partnerships in the event of cash flow shortfalls. Like Coso the CEV structure cross-collateralized equity cash flows. However, in contrast to the Coso transaction which was a closed-end pool, the CEV structure introduced the concept of an open-ended pool in that it allowed the addition of new projects in the future.

Under the terms of the financing, bondholder consent is not required to create the CEV. However, inclusion of Indiantown in the CEV cannot occur if the Indiantown bonds would be downgraded as a result. For other projects, certain criteria must be satisfied before inclusion in the CEV. CEV projects must be rated at least investment grade after inclusion, and the partnerships which participate in the CEV must own only electric power generating facilities located in the U.S., utilize commercially demonstrated non-nuclear technology and not be subject to regulation as an electric utility or a public utility holding company. Additional CEV covenants include minimum equity and control requirements by the three sponsors and limitation on refinancing of project debt with CEV guarantees.

Although the potential credit benefits from the CEV were not factored into the Indiantown initial credit rating, the rating agencies did view the CEV option favorably due to the potential for credit improvement. As more and more participating projects are included in the CEV, a “synthetic balance sheet” would be created with creditworthiness in its own right.
Advantages of the CEV structure include (i) cash flows are cross collateralized to a limited degree without the assets themselves being cross collateralized, (ii) the CEV guarantees are limited to available cash flow and a default on the debt of one project would not result in a default on the debt of other projects, (iii) the structure allows for minority partners at the project level, (iv) the structure allows for more flexibility as to how each debt issue is structured, and (v) if there are frequent and significant financings, the original three sponsors would benefit from the market’s view of their track records.

**IFC Colombia Small and Medium Scale Infrastructure Facility** - The IFC, together with Corporacion Financiera del Valle (CFV) and Corporacion Financiera Santander (CFS), both local commercial banks, has begun initial work on establishing a private sector facility which would consist of (i) a US$150 million syndicated credit line of which US$50 million will be for IFC’s account (A-Loan), and the remaining will be for the account of the participant local banks (B-loan). The A loan will be available to make mezzanine and convertible loans, while the B Loan will be for senior loans; (ii) a US$50 million Revolving Domestic Liquidity Back-stop Facility from IFC will be used to provide commitments to refinance local currency debt in U.S. dollars where refinancing was made impossible or excessively costly due to macroeconomic or domestic liquidity factors beyond the control of the project entity and where the project was operating viably; and (iii) A US$50 million domestic equity fund commitments which would be raised by IFC and the local commercial sponsors. The principal investment objective of the Domestic Equity Fund will be to achieve current cash returns and long-term capital appreciation through a diversified portfolio of investments and quasi-equity instruments.

The Borrower of the B Loan and Revolving Domestic Liquidity Back-stop Facility will be CFV. The A loan will be an agency lines of credit with the provision that CFV will guarantee a significant percentage of any loans made to projects under the A Loan, unless such loans are converted into equity of the underlying project. On loans converted into equity CFV will receive 20% of the excess cash flow, after distributions yield 20% p.a. to the IFC.

A preliminary pipeline of 50 private infrastructure projects, most of which have a total costs of US$50 million or less, have been identified and include projects in the power generation, natural gas transportation and distribution, construction and rehabilitation of toll roads, town airports, radio trunking, and privatization of small town water utilities.

The Facility will have a technical assistance component which will involve providing two man years of training to CFV and CFS in appraising, structuring and supervising infrastructure projects.

**IFC Latin America and Asia Loan Trust** - In June 1995 IFC securitized 73 loans to privately owned companies in 11 developing countries. Though not an infrastructure securitization effort, the transaction, filed with the U.S. SEC, represents the first time a pool of emerging market corporate loans were securitized and sold through a public
offering in the global markets. The lead manager was CS First Boston, with UBS Securities and Deutche Bank acting as co-lead managers.

An offshore trust was created, which issued three tranches of securities. Class A certificates of $340 million, rated Aa2 and AA by Moody's and Duff & Phelps Credit Rating Co., were purchased mainly by institutional investors. Class B certificates of $40 million were placed with commercial banks, most of whom are frequent participants in IFC's B-loan program. IFC retained $20 million of Class certificates for its own account. Both the Class B and Class C certificates are subordinated to that of the Class A securities.

A summary of the loan participations is as follows:

- Latin America (60%) and Asia (40%)
- Loans in 11 countries with 5 to 15% per country by principal amount and 2 to 11 loans per country (Chile largest with 15%, followed by Indonesia 12.5%, Colombia 10%, Argentina 10%, India 9.5% and Thailand 8%).
- Maximum exposure per participation of 2.5% and average exposure of 1.37%
- Loans distributed among 19 sectors with maximum exposure of 10% per sector and maximum exposure per sector/country of 5%. (with the larger sectors including 10% in finance, 9.82% in real estate, 8.75% in chemicals, 8.5% in textiles, 7.0% in oil and gas)
- Maturities of 1.2 to 12.1 years, average maturity of 3.5 years

Though the weighted average spread over LIBOR was 1.88% (spreads ranged from 0.625% to 3.25%), the interest rate spread for the Class A certificates was set at 40 bps.

**Private-Sector Sponsored Equity Funds**

**Enron Global Power & Pipelines (EPP)** - The EPP November 1994 $240 million public offering represented the first equity monetization for emerging market projects completed in the capital markets. Lead underwriters for this IPO were Bear Stearns and Lehman Brothers.

EPP was formed by Enron Corp. to acquire, own, manage and operate power projects and pipelines in emerging markets around the world. Initial projects included Enron's ownership interest in 2 power plants located in the Philippines (Batangas and Subic Power), a fuel-oil power project in Guatemala (Puerto Quetzal) and the largest natural gas

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23 Of the total loan amount, approximately $140 million are guaranteed by affiliates of the borrowers or other third parties. Of this amount, $75 million is guaranteed by companies organized in IFC member countries other than the countries where the loans were originated.
transportation company in Argentina (Transportadora de Gas del Sur). Enron still maintains a 52% equity interest in the company.

Enron must offer to EPP, in good faith at a commercially reasonable price (i.e., “one that a person knowledgeable in the industry would reasonably accept”), its interests in all projects developed or acquired by Enron outside of the U.S., Canada and Western Europe that commence operation prior to 2005.

Expected equity returns are on the order of 15 to 17% per year.

*Equity Investment Funds*: There have been more than 12 private equity funds established for investment in a wide array of infrastructure sectors. Some of the most notable are listed below:
<table>
<thead>
<tr>
<th>Fund (and manager)</th>
<th>Core Investors</th>
<th>Investment Targets (million)</th>
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<tbody>
<tr>
<td><strong>AIG ASIAN INFRASTRUCTURE FUND</strong>&lt;br&gt;(AIG Asian Infrastructure Management Company Ltd.)</td>
<td>American International Group&lt;br&gt;Government of Singapore Bechtel Enterprises</td>
<td>Region: Asia-Pacific (35-50% in China)&lt;br&gt;Sectors: Power, telecommunications, and Transport&lt;br&gt;Size: US$1,000</td>
</tr>
<tr>
<td><strong>CENTRAL EUROPEAN TELEC INVESTMENTS L.P.</strong>&lt;br&gt;(Central European Telec Investments Managers, Ltd.)</td>
<td>Creditanstalt Bankverein Pan European Financial Services&lt;br&gt;International Finance Corporation</td>
<td>Region: Central and Eastern Europe (Poland and Hungary)&lt;br&gt;Sector: Telecommunications&lt;br&gt;Size: US$42</td>
</tr>
<tr>
<td><strong>SKUDDER LATIN AMERICA TRUST FOR INDEPENDENT POWER</strong> (Skudder, Stevens, &amp; Clark, Inc.)</td>
<td>International Finance Corporation&lt;br&gt;NRG Energy, Inc.&lt;br&gt;CMS Energy, Inc.&lt;br&gt;Corporación Andina de Fomento</td>
<td>Region: Latin America and Caribbean&lt;br&gt;Sector: Power&lt;br&gt;Size: US$200</td>
</tr>
</tbody>
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## Investment Limits/Specifications by Country, Sector, and Project

<table>
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<tr>
<th>Fund</th>
<th>Country</th>
<th>Sector</th>
<th>Project</th>
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<tr>
<td>AIG</td>
<td>• Up to 35-50% of total commitments in China</td>
<td>• 80% of the portfolio in power, telecommunications and transport</td>
<td>• Not more than 10% of total commitments in each project</td>
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<td></td>
<td>• Rest in focus countries, with a 20% limit on each focus country&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>• Will serve as Principal sponsor, Co-sponsor, or Passive investor</td>
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<td></td>
<td>• Up to 20% of the Fund may be invested in other Asian countries</td>
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</tr>
<tr>
<td></td>
<td>AIF</td>
<td>• No more than 50% of total commitments in any one infrastructure sector</td>
<td>• Up to 10% of total commitments or US$75 million (whichever is less)</td>
</tr>
<tr>
<td></td>
<td>• No more than 15% of total commitments will be collectively invested in Korea, Singapore, Taiwan and Hong Kong</td>
<td></td>
<td>• Will not act as principal sponsor</td>
</tr>
<tr>
<td>SKUDDER</td>
<td>• No more than 25% of assets in any single country</td>
<td>• Power-specific</td>
<td>• Will not invest more than the greater of US$25 million or 15% of assets in any single project</td>
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<td></td>
<td></td>
<td>• Size of typical investment: US$20-25 million</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Will neither be principal sponsor nor passive investor</td>
</tr>
<tr>
<td>CETI</td>
<td>• No specific country-exposure limits, but will diversify</td>
<td>• Telecom-specific</td>
<td>• No more than 10% of total commitments in any single company</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Will not own more than 33% of a company's voting</td>
</tr>
</tbody>
</table>
Finance Options for Infrastructure Development

<table>
<thead>
<tr>
<th>Share capital</th>
<th>EMG</th>
<th>ABB</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Will not serve as principal sponsor, but will actively co-sponsor</td>
<td>• Up to 70% of assets in emerging markets</td>
<td>• No specific limits</td>
</tr>
<tr>
<td>• May invest up to 30% of assets in equity securities of infrastructure</td>
<td>• Not less than 70% of assets in listed securities of a wide variety</td>
<td>• No specific limits</td>
</tr>
<tr>
<td>companies in developed countries</td>
<td>of infrastructure companies</td>
<td>• Not available</td>
</tr>
<tr>
<td>• Up to 30% in listed securities in companies providing ancillary goods or</td>
<td>• Not more than 10% of total assets in any single company</td>
<td></td>
</tr>
<tr>
<td>services</td>
<td>• Will not sponsor any projects</td>
<td></td>
</tr>
</tbody>
</table>

a. The “focus countries” are Indonesia, Malaysia, the Philippines, Taiwan, and Thailand.
b. For China, this limit is 40%.
c. i.e. companies that manufacture products on behalf of, or service infrastructure companies in emerging markets.

These funds look to provide a mix of financing, including equity, subordinate debt, completion guarantees and bridge financing. They typically have an expected life of 10 to 15 years and seek between 20 to 25% minimum rate of return on their investment.