WHY INFRASTRUCTURE FACILITIES OFTEN FALL SHORT OF THEIR OBJECTIVES

by

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As part of an overall strategy to induce private funding and provision of infrastructure services, governments have offered support to investors in the form of grants, loans and guarantees. These supports have often been provided through an institutional approach of specialized financing facilities. A preliminary stocktaking of the experience shows that these facilities have often fallen short of their intended objectives mainly for two sets of reasons: (i) a lack of a conducive environment for private participation in infrastructure—poor sector policies, unstable political environment, a poor macro-framework and inadequate financial sector policies—and (ii) faulty design of the facility itself—inconsistent objectives, instruments, and pricing of instruments, sectors targeted.

SUMMARY FINDINGS

As part of an overall strategy to induce private funding and provision of infrastructure services, governments have offered support to investors in the form of grants, loans and guarantees. These supports have often been provided through an institutional approach of specialized financing facilities.

Governments worldwide are seeking to increase private capital flows to a broad range of infrastructure sectors. However, private sector involvement, most notably within the emerging markets, has been limited due to investor unwillingness to assume many of the commercial, financial and political risks surrounding these large-scale undertakings.

As part of their overall strategy to induce private funding and provision of these services, governments have sought to attract private investment by offering support to investors, often in the form of of grants, soft loans, or guarantees. A growing number of governments have developed an institutional approach to providing such support. This institutional approach, referred to hereafter as Infrastructure Financing Facilities (IFFs) appear to offer a number of benefits, including the following:

- leverage Government and donor funding;
- reduce transaction costs by offering a wholesale approach for allocating donor support for smaller-scale infrastructure financings;
- increase transparency and consistency to evaluating and allocating government support; and
- allow for portfolio diversification.

This paper attempts to take stock of some of the cross country experiences with IFFs via desktop review, evaluates their preliminary success and attempts to draw some initial lessons. It provides examples of infrastructure funds/facilities with varying institutional arrangements, sources of funding, sector(s) targeted, instruments offered and policy orientations. A preliminary stocktaking of the experience shows that these facilities have often fallen short of their intended objectives mainly for two sets of reasons: (i) a lack of a conducive environment for private participation in infrastructure—poor sector policies, unstable political environment, a poor macro-framework and inadequate financial sector policies—and (ii) faulty design of the facility itself—inconsistent objectives, instruments, and pricing of instruments, sectors targeted.

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I. EXECUTIVE SUMMARY

1. Governments worldwide are seeking to increase private capital flows to a broad range of infrastructure sectors. However, private sector involvement, most notably within the emerging markets, has been limited due to investor unwillingness to assume many of the commercial, financial and political risks surrounding these large-scale undertakings.[1] In addition to the risk profile of the project and sector in question, additional factors that will determine private sector involvement in infrastructure include the following:

- the development status of the enabling legal and regulatory environment;
- market structure (natural monopoly vs. multiple potential providers);
- macroeconomic conditions;
- financial, technical and institutional capabilities of the host government and relevant state-owned enterprises;
- availability and quality of information required by investors to conduct due diligence undertakings;
- tendering process utilized (structured vs. unstructured, competitive vs. direct assignment); and
- liquidity of local financial markets.

2. As part of their overall strategy to induce private funding and provision of these services, governments have sought to attract private investment by offering support to investors, often in the form of of grants, soft loans, or guarantees.[2] A growing number of governments have developed an institutional approach to providing such support. This institutional approach, referred to hereafter as Infrastructure Financing Facilities (IFFs) appear to offer a number of benefits, including the following:

- leverage Government and donor funding;
- reduce transaction costs by offering a wholesale approach for allocating donor support for smaller-scale infrastructure financings;
- increase transparency and consistency to evaluating and allocating government support; and
- allow for portfolio diversification.[3]

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[1] For the purposes of this discussion risks are classified according to the following categories: political—currency convertibility and transferability, parastatal breach of contract, changes in law and trade regimes, revocation of permits, expropriation, war, sabotage, etc.; financial—Financial market interruptions, interest rate and exchange rate fluctuations, prepayment; 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.

[2] However, governments can also attempt to address the policy problems that underlie investors' concerns by raising prices to cost covering levels, ensuring macro stability, and establishing a sound macro-framework. See for a detailed discussion on instruments: Dailami, Klein (1997).

[3] However, country funds will have only very limited possibilities of diversifying risks as infrastructure projects tend to be lumpy and thus the fund in effect may not finance more than 10 to 20 projects. In addition,

3. IFFs effectively serve as a wholesale mechanism to channel either direct funding in the form of equity, senior and subordinated debt and grants and/or contingent support (e.g. political risk guarantees or refinancing commitments). They are typically government owned entities and are housed in commercial banks, public agencies or set up as shell companies (see Table 1).

Table 1: Overview of Government Sponsored Infrastructure Funds

Country (Status)	**Sector**	**Ownership Structure/ Legal Structure**	**Management Structure**	**Instrument**	**Funding Base**
Bangladesh (operational in January 1998)	• Cross-Sectoral	• 100% public • Set up as non-bank financial institution	• Public, but exempted from public sector rules and regulations	• Mezzanine financing	• Proceeds of WB US$225 million loan
Colombia (under development since 1995)	• Initially toll roads, others on a as-needed basis	• 100% public • housed in two institutions: a state-owned bank and public sector agency	• Public	• Refinancing commitments • Liquidity Support	• Proceeds of WB US$100 million loan
India (operational in January 1998)	• Multi Sectoral	• Mixed • set up as non-bank financial institutions	• Private	• Mezzanine financing • Senior loans • Contingent instruments • Junior loans and equity	• Shareholding capital of US$278 million • Subordinated loans of US$168 million
Jamaica (canceled)	• Multi Sectoral	• 100% public • Housed in a state-owned bank	• Public	• Mezzanine financing	• Proceeds of WB and IDB loan of US$81 million loan
Mexico (canceled)	• Multi Sectoral.	• 100% public • Housed in a state-owned bank	• Public (Banobras)	• Junior equity	• Proceeds from privatization revenues of US$225 million
Pakistan (ongoing)	• Energy	• 100% public • Housed in a government-owned bank	• Public	• Mezzanine financing	• Proceeds of loans from bi- and multi-lateral donors of US$900 million
Philippines (canceled at concept stage)	• Telecom • Transportation • Water, Port, Rail	• 75% private & 25% public • Set up as a separate entity	• Private	• Equity • Mezzanine financing	• Over five year period expected to raise US$5 billion in local and foreign currency

empirical evidence shows that returns in infrastructure projects tend to be highly correlated and correlate with national income. For example, electric power, highways, waterways, airports and postal services are all positively correlated with national income. See for more detail: Bailey, Jensen, 1972.

Country (Status)	**Sector**	**Ownership Structure/ Legal Structure**	**Management Structure**	**Instrument**	**Funding Base**
Sri Lanka (recently canceled)	• Multi Sectoral	• 100% public • Set up as a separate entity	• Public	• Mezzanine financing	• Proceeds from WB US$70 million loan and KfW loan of US$14 million
Thailand (operational since 1994)	• Cross-Sectional	• Public and private	• Private	• Loan guarantee; bond insurance	• US$150 million from government; USAID, domestic and foreign financial institutions

Source: World Bank reports.

Table 2: Overview of Other Government Sponsored Financing Facilities

Country (Status)	**Sector**	**Ownership Structure/ Legal Structure**	**Management Structure**	**Instrument**	**Funding Base**
Argentina (canceled)	• Financial Sector	• 100% public. • Set up as a shell company	• Private	• Refinancing commitments ;	• Proceeds of WB US$500 million loan;
Bosnia (operational since December 1996)	• Pre-export	• 100% public; • Set up as a separate corporate entity	• Public	• Pre-export partial risk guarantee;	• Proceeds of WB US$10 million loan; plus US$5 million from Switzerland.
Moldova (canceled)	• Pre-Export	• 100% public. • Set up as a shell company	• Public	• Pre-export political risk guarantee.	• WB contingent line of credit of US$30 million.

Source: World Bank reports.

4. This paper attempts to take stock of some of the cross country experiences with IFFs via desktop review, evaluates their preliminary success and attempts to draw some initial lessons. It provides examples of infrastructure funds/facilities with varying institutional arrangements, sources of funding, sector(s) targeted, instruments offered and policy orientations. The success of the facility will be determined by assessing whether the facility has (i) minimized and leveraged government's involvement in the financing of infrastructure projects; (ii) increased the efficiency of sector development through the provision of a transparent and systematic review of eligible projects; (iii) allocated risks to those parties best able to manage them (i. e.

distance the government from commercial risks); and (iv) provided a transitional mechanism to facilitate the closing of a number of benchmark transactions.

5. For the purposes of conducting this analysis, three case studies were selected featuring IFFs at different stages of development. Each case was chosen to exemplify the various types of policy issues that can arise in the design of an IFF that may adversely affect the success of the IFFs. The cases were also selected so as to evaluate whether the success of the facility was related to the types of instruments offered. The three case studies include (i) Colombia, (ii) India; and (iii) Pakistan. Two of the IFFs presented, Colombia and India, were at the conceptual stage at the time this study was undertaken. As there is limited experience with the use of contingent instruments in infrastructure financing facilities, two other government sponsored financing facilities not geared at infrastructure—the Argentine and Moldovan government sponsored facilities—were included in the study given their wholesale approach and focus on utilization of contingent instruments.

6. The preliminary analysis of the three IFFs and the two other government sponsored facilities shows that these facilities have often fallen short of their intended objectives mainly for two sets of reasons: (i) a lack of a conducive environment for private participation in infrastructure—poor sector policies, unstable political environment, a poor macro-framework and inadequate financial sector policies—and (ii) faulty design of the facility itself—inconsistent objectives, instruments, and pricing of instruments, sectors targeted.

7. *Conducive Environment for Private Participation in Infrastructure*. The decisions as to whether companies will enter a market are dependent on the tariff and regulatory framework as well as on the stability of the macro-framework, political stability and adequate financial sector policies. To ensure that government resources are not used over the long term to simply compensate private investors for gaps in the regulatory framework, an appropriate legal and regulatory framework coupled with adequate enforcement mechanisms and secure property rights should be in place. An insufficient regulatory and legal framework will tend to increase the cost of capital to investors and may thus adversely affect the commercial viability of projects. In the worst of cases, private capital flows may simply not be available at any cost. Over the short-term, the government may use the IFFs as a transitional tool to bring a number of benchmark transactions to financial closure and affirm the legal and regulatory framework. To avoid a permanent subsidy, IFFs should be set up as transitional tool.

8. It should also be noted that building up a track record may prove to be a useless exercise, if a government change can result in the new government reneging on contracts or reversing decisions of the "old" government. In addition, the scarcity of long-term capital is often used as a justification for governments to establish an infrastructure fund. Yet, while a government sponsored debt fund may temporarily mitigate a lack of long-term resources, it does not tend to resolve the underlying causes for under developed or undeveloped capital markets, i. e. unstable macro-policies and inadequate financial sector policies. Finally, if the government employs contingent instruments to foster the development of financial markets (i.e.

jump-starting the primary market in long-term bonds via put options for local investors), it should ensure such development is not hampered by regulatory restrictions (e. i. are institutional funds allowed to invest also in non-investment grade securities).

9. *Adequate Design Features of Facility*. The analysis presented also illustrates that the IFF's success was also adversely affected by micro-level issues relating to its design including inconsistent objectives, an inadequate institutional framework, and inadequate design parameters.

10. *Develop Clear and Consistent Objectives*. The cross country analysis suggests that public-sector counterparts should develop clear and consistent objectives on which to base the design of the facility as some objectives could work at cross purposes. For example, the Government may want to achieve such development objectives via the facility as expanding liquidity, lowering funding cost by offering credit enhancements, better allocating risk between the government and the private sector, developing the domestic capital market, improving the quality of service and increasing competition. However, governments will be unable to pursue all of these objectives at the same time. A better allocation of risk between the private and public sector may lead to higher risk exposure of the private sector, which in turn may reduce private resources flowing into infrastructure.[4] In addition, government should avoid mixing commercial and developmental objectives as instruments for the latter may feature required pricing at levels that may not allow for a market return. Moreover, to provide effective and efficient support to private participation in infrastructure on a transitional basis, the design parameters of the IFF should be consistent with the policy environment.

11. *Understand Investor Requirements*. As experience presented in the paper further reveals, to ensure that the design of the facility is offering instruments that addresses the impediments to private participation in infrastructure, the government may want to conduct a thorough demand survey. A demand or broader market survey may also provide guidance to the government on the following issues:

- to identify the nature and magnitude of the financing gap;
- the appropriateness of the fund as an instrument to support private investment and the timing of the fund;
- the design of instruments;
- the IFF funding requirements; and
- the staffing levels and skill mix needed to manage those instruments.

12. Nevertheless, the development of such funds tends to be a complex and time consuming process, especially if contingent instruments are offered as the facility may need to build up institutional capacity. In the meantime, given that developing countries tend to be vulnerable to

[4] Nevertheless, at the same time, government may have implemented a set of policy reform that improves the overall regulatory environment and allow, among other things, for cost covering tariffs. This would in turn reduce governments' the need for the government to offer financial support to attract private resources into the sector.

shocks, economic conditions may change and may adversely affect the usefulness of the instruments if they cannot be adapted in structure to the new economic environment.[5]

13. *Develop Institutional Framework that is in Line with Objectives of Fund.* The facility needs adequate institutional capacity and an effective organizational structure, independence in its decision making process and technical support in the start up face to ensure that the facility builds up adequate technical capacity.

14. Experience with IFFs shows that financial engineering cannot substitute for the lack of sound policy, only open or disguised government subsidies can. The question then is which approach to project finance levers government funds with respect to reform efforts and not with respect to other funds. Country experience does indicate that good reform will eventually bring in those as well but there is not enough of a track record to confirm this empirically at this point in time.

[5] As the Argentine case study also illustrates, it is very difficult to restructure these instruments, as the instrument structure is rarely flexible enough, itself a reflection of the rigidity associated with donor funding in support of such initiative.

II. INTRODUCTION

15. Private Participation in infrastructure (PPI) has risen substantially over the last ten years and today, increasing from about US$16 billion in 1990 to U$S120 billion in 1997. For developing countries, PPI-financing averaged 15 to 20 percent a year. Private activity, however, has been concentrated in relatively few countries. Middle income countries have attracted most private activity; among low-income countries only China and India have attracted substantial private investment. In other regions, notably Sub-Saharan Africa, the number of countries with projects with private participation has been increasing, but private activity remains limited. In 1998, ten countries accounted for 74 percent of all investments in infrastructure projects (Argentina, Brazil, China, Hungary, India, Indonesia, Malaysia, Mexico and Thailand).[6]

16. *Why the move to Private Participation in Infrastructure (PPI).*[7] Physical infrastructure projects have been traditionally financed with public funds and operated by public entities. Driven by fiscal austerity and widespread disenchantment with the performance of state-owned utilities,[8] innovations in technology and policy,[9] many governments are turning to the private sector to build, operate, finance, own, and transfer telecommunication facilities, power plants, ports and airports as well as toll roads. In industrialized countries, the move to PPI is toward restructuring or unbundling integrated industry structures, introducing competition and choice (particularly in the electricity and telecommunications industry) and regulating those parts of the infrastructure sector where elements of natural monopolies exists. In the developing world the picture is more mixed and reflects the different levels of achievements in institutional, regulatory and policy developments.

17. *Barriers constraining effective private involvement in infrastructure.* Many developing countries are now in transition to private provision of infrastructure. Nevertheless, effective private involvement in emerging economies is still hampered to a varying degree by the following factors: an inadequate legal and regulatory framework,[10] poorly structured concession

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[6] Roger (1999).

[7] See for more detail: Klein, Roger (1994).

[8] According to the World Bank, developing countries currently spend about US$200 million a year on infrastructure development. The large investment needs in infrastructure place an enormous burden on public finances and is probably unsustainable over the long run, especially in Asia where infrastructure investment needs are estimated to be around $ 1.2-1.5 trillion over the next decade World Bank. However, due to the financial crises that the region is grappling with which will adversely affect GDP growth, these figures need to be adjusted downwards. Figures cited in World Bank (1994) and World Bank (1996), Infrastructure Development in East Asia and Pacific: Toward a New Public-Private Partnership.

[9] A rethinking of the traditional doctrine of publicly owned utility monopolies has led to innovations in the regulatory arena, notably the unbundling of natural monopolies into network facility and potentially competitive activities, the separation of ownership from service provision and new forms of service provision.

[10] This includes a need for more conducive sector policies, particularly regarding pricing, competition, and public monopolies. Moreover, in the area of tariff policy, an increase in tariffs to full economic cost is a precondition for ensuring the financeability of private infrastructure projects. This may, however, include the elimination of subsidy-induced distortions that involves major adjustment in the tariff structures. In developing countries, annual subsidies

and contractual arrangements, high transaction costs,[11] political risk, and a lack of an established reputation and track record from the part of the government. The financing of such projects is encumbered by weak domestic capital market that rarely, if ever, are willing and able to support the infrastructure investment needs facing most developing countries, an unstable macro-framework that increases interest rate risk, and a below-investment grade sovereign credit rating limiting access to international capital markets for infrastructure projects (as domestic companies and projects cannot receive a credit rating that is better than the sovereign rating.[12] Indeed, of the US$15 to 20 trillion available for funding from institutional investors, only around 300 million are slated for investment in non-investment grade securities which will be divided between purchasing sovereign or Brady bonds, other company and infrastructure bonds.[13]

18. Due to the large sunk costs, which can take from 10 to 30 years to recoup, associated with infrastructure projects and their various risks,[14] private investors have been hesitant to invest in emerging market economies with high country risk and unproven regulatory regimes unless supported by host governments through tax incentives and some sort of financial support intended to improve the cash flow or reduce risk.[15] Economic justification for government support to infrastructure projects mainly evolve around the following four sets of arguments:

- incomplete information or information asymmetries on the government's macro and regulatory- policy between public and private agents;
- the Government's ability to better pool and spread risks which would put it in a better position to fund infrastructure projects and lower its cost of capital;
- agency costs between equity- and debtholders and between equity holders and managers; and
- the Government may have inside (or superior) information compared to other market participants.

19. However, theory suggests that imperfections associated with capital markets in financing infrastructure provide only limited justifications for government intervention. While guarantees

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from underpricing water, power, and rail services are estimated to amount to US$120 billion annually which amounts to (very roughly) about one third of total annual overall investment in infrastructure services in developing countries or US$350 billion. World Bank.

[11] In the US, contraction and bidding cost amount typically up to two to three percent of total project cost, whereas these costs tend to range from ten to 15 percent in emerging markets. See also: Klein, So, Shin, 1996.

[12] While rating agencies have still to break with this tradition, investors in some Latin American countries are pricing corporate lower than the sovereign in the secondary market. See for detail: Swafford, 1997. In another development, credit rating agencies hope to expand their business into project finance and encourage project sponsors to obtain a rating on their project with which then will be used by commercial banks, multi-lateral and bilateral lenders, investment banks and institutional investors. See for more detail: Gopinath, 1997.

[13] In developed and developing economies, mutual funds, insurance companies and pension funds are often prohibited by regulation to invest in non-investment grade securities. Figures cited after Klein, 1997.

[14] These are expropriation risk, demand risk, payment risk, exchange and interest rate risk, and political and regulatory risk. See for a detailed discussion: Irwin, Klein, Perry, Thobani (1997).

[15] However, as Klein (1997) points out government guarantees or support is not required in jurisdictions with a well-developed policy framework and a stable macro economic environment. Klein, 1997.

may be used as instruments to complete imperfect contingency markets, they involve considerable disincentives on their own. For example, credit guarantees will provide disincentives to the private sector for performance, maintenance and further investment (Mody, Patro 1996). Furthermore, governments' true cost of capital may not be lower than that of the private sector if taxpayers were to be compensated adequately for the risks they assume. In addition, there seems to be no comparative advantage of the government in risk bearing and risk pooling. Finally, neither do appropriate mechanisms exist with which the government can credibly signal inside information nor are there adequate mechanisms of public intervention with which the government can correct failures in capital markets that are due to agency costs.[16]

20. While justifications for government support to infrastructure appear limited, a case could be made for transitional mechanisms to jumpstart private sector involvement in infrastructure by helping to bring a few benchmark transactions to closure to validate the untested policy framework—catalytic role of government support—and to mitigate specific risks of infrastructure projects which private investors can neither manage efficiently nor transfer.

21. Governments have mainly used one of three mechanisms to provide financial support to infrastructure projects via provision of (i) direct financial support through subsidized loans (senior subordinate), equity contributions or grants;[17] (ii) provision of contingent supports such as political risk, minimum revenue, construction cost overrun or debt refinancing guarantees,[18] and (iii) government sponsored infrastructure financing facilities.

22. In recent years, government sponsored infrastructure funds have enjoyed increasing popularity in emerging market economies and have been increasingly employed by Governments (see Table 1). On the surface they appear to be a good instrument for government intervention in the financing of infrastructure as they feature a number of advantages that appear to be in line with the core principles of providing government support. In general, funds may have advantages, as they:

- leverage Government and donor funding;
- reduce transaction costs by offering a wholesale approach for allocating donor support for smaller-scale infrastructure financings;

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[16] See for more detail: Hoffmann-Burchardi, Klein, Mas (1996).

[17] Note that subsidies may be structured as lower than market interest rates, longer repayment periods and average life not offered by private investors, subordinate claims on project security and collateral packages, etc.

[18] However, explicit government guarantees bring with them undesirable consequences as they reduce the incentives of firms to run projects efficiently, weaken market screening and while they relieve current government budgets, they also shift obligations to future periods and as many of these guarantees become effective during recessions they may trigger a new style of debt crisis. See for more detail: Engel, Fischer, Galetovic (1998) and Lewis, Mody, (1998).

- increase transparency and consistency to evaluating and allocating government support; and
- allow for portfolio diversification.[19]

23. The proliferation of government sponsored financing facilities raises the following questions: Have government-sponsored funds been successful in attracting private investment? What other objectives have government tried to achieve with infrastructure funds and have funds proven to be the appropriate tool? What are the advantages of an infrastructure fund compared to other form of government support? If this instrument is effective for achieving demonstration effects, what demonstration were actually sought versus those that were actually achieved? Are there any preconditions for the establishment of a fund? What are the important design parameters? Is a government sponsored infrastructure fund a more efficient way to provide government support to infrastructure financing? Is it an appropriate way of providing government support?

24. The paper will take stock of cross country experience with infrastructure financing facilities and attempts to assess the preliminary success of this form of Government support to financing infrastructure. In particular, it will examine what country case studies can tell us about the different types of funds, their objectives, instruments and pricing, results of existing funds and lessons learned.

25. The remainder of the paper is organized as follows. Section 3 provides an overview of cross country experience with government sponsored financing facilities. Section 4 will analyze in greater detail specific case studies. The analysis will encompass design objectives and design parameter of the fund, present the results and finally the lessons from that country case.

[19] However, country funds will have only very limited possibilities of diversifying risks as infrastructure projects tend to be lumpy and thus the fund in effect may not finance more than 10 to 20 projects. In addition, empirical evidence shows that returns in infrastructure projects tend to be highly correlated and correlate with national income. For example, electric power, highways, waterways, airports and postal services are all positively correlated with national income. See for more detail: Bailey, Jensen, 1972.

III. CROSS-COUNTRY EXPERIENCE WITH INFRASTRUCTURE FUNDS/FACILITIES

26. The following tables present a survey of twelve government sponsored funds/facilities for which more detailed information was available, and an overview of their respective design parameters. Table 3 provides information on nine financing facilities that focus on promoting private participation in infrastructure. Table 2 entails information on three other government financing facilities of which two were designed to support export activities and one was aimed at promoting capital market development.

27. *Ownership/Management Structure of Facilities.* Regarding the ownership structure of the facilities contained in both tables, nine facilities are owned by the public sector while three have mixed, i. e. public and private ownership. While government funds may be justified to provide "transitional" and "catalytic" support to infrastructure, their intended limited life span was not reflected in their legal structure. Only two of the publicly owned funds were set up as shell companies that can easily be dismantled. The rest were established on a more permanent basis, i. e. either as non-bank financial institutions or as part of an existing government-owned bank.[20] The majority of facilities were also managed by the public sector, reflecting the fact that the decisions made by the fund have potential fiscal implications and can therefore not completely be handed over to the private sector.[21]

28. *Instruments offered by Facilities.* The variety of instruments offered by the facilities shows that they were targeted at different sectors and thus at projects that faced different impediments in attracting private capital. Nevertheless, half of the funds offered blunt direct funding instruments—including junior equity, and mezzanine financing—which suggests that government concluded the lack of long-term finance to be a major impediment to attracting private investment. Only half of the funds offered contingent instruments that can—if structured correctly—be more specifically targeted at commercial, financial and political risks that private investors may be unwilling to assume. For example, in one case, the facility offered refinancing commitments aimed at financial market interruption risk.

29. *Funding Base.* The World Bank supported the majority of the funds—nine out of twelve—and almost all of the funds relied on government financing which may be a reflection of their developmental focus. Out of twelve funds, only one intended to raise additional money from the capital markets.

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[20] As the Colombian case later will show, housing the facility in a government owned bank may give rise to a set of problems that is linked to the differing objectives of the institutions. While the facilities may have clearly defined developmental objectives, public banks, in general, overall pursue commercial objectives. The difference in objectives will have repercussions on the pricing of the instruments. While the facility may want to price access to the instruments at levels that encourage their usage, public banks may want to price the instruments at levels that not only insulates them as much as possible against commercial risk but also allow them to make a profit.

[21] As will be discussed in greater detail later, the public sector should rely on the technical expertise of the private sector by hiring consultants that provide support on technical issues. But it needs to reserve the right for itself to make the final decision to mitigate the risk of conflict of interests.

30. *Results/Track Record.* Out of nine IFFs in our sample, three were in operation at the point in time this study was written. Five facilities were already canceled indicating the complexity of policy issues facilities have to resolve to be successful and one facility was still in development (see Table 3).

Table 3: OVERVIEW OF GOVERNMENT SPONSORED INFRASTRUCTURE FUNDS

Country (Status)	**Sector**	**Ownership Structure/ Legal Structure**	**Management Structure**	**Instrument**	**Funding Base**
Bangladesh (operational in January 1998)	• Multi-Sectoral	• 100% public • Set up as non-bank financial institution	• Public, but exempted from public sector rules and regulations	• Mezzanine financing	• Proceeds of WB US$225 million loan
Colombia (under development since 1995)	• Initially toll roads, others on a as-needed basis	• 100% public • housed in two institutions: a state-owned bank and public sector agency	• Public	• Refinancing commitments • Liquidity Support	• Proceeds of WB US$100 million loan
India (operational in January 1998)	• Multi-Sectoral	• Mixed • set up as non-bank financial institutions	• Private	• Mezzanine financing • Senior loans • Contingent instruments • Junior loans and equity	• Shareholding capital of US$278 million. • Subordinated loans of US$168 million
Jamaica (canceled)	• Multi-Sectoral	• 100% public • Housed in a state-owned bank.	• Public	• Mezzanine financing	• Proceeds of WB and ADB loan of US$81 million loan
Mexico (canceled)	• Multi-Sectoral.	• 100% public • Housed in a state-owned bank.	• Public (Banobras)	• Junior equity	• Proceeds from privatization revenues of US$225 million
Pakistan (ongoing)	• Energy	• 100% public • Housed in a government-owned bank	• Public	• Mezzanine financing	• Proceeds of loans from bi- and multi-lateral donors of US$900 million
Philippines (canceled at concept stage)	• Telecom • Transportation • Water, Port, Rail	• 75% private & 25% public • Set up as a separate entity	• Private	• Equity • Mezzanine financing	• Over five year period expected to raise US$5 billion in local and foreign currency
Sri Lanka (recently canceled)	• Multi-Sectoral	• 100% public • Set up as a separate entity	• Public	• Mezzanine financing	• Proceeds from WB US$70 million loan and KfW loan of US$14 million;

Country (Status)	**Sector**	**Ownership Structure/ Legal Structure**	**Management Structure**	**Instrument**	**Funding Base**
Thailand (operational since 1994)	• Multi-Sectoral	• Public and private	• Private	• Loan guarantee bond insurance	• US $ 150 million from government; USAID, domestic and foreign financial institutions

Source: World Bank reports.

Table 4: OVERVIEW OF OTHER GOVERNMENT SPONSORED FINANCING FACILITIES

Country (Status)	**Sector**	**Ownership Structure/ Legal Structure**	**Management Structure**	**Instrument**	**Funding Base**
Argentina (canceled)	• Financial Sector	• 100% public. • Set up as a shell company	• Private	• Refinancing commitments	• Proceeds of WB US$500 million loan
Bosnia (operational since December 1996)	• Pre-export	• 100% public • Set up as a separate corporate entity	• Public	• Pre-export partial risk guarantee	• Proceeds of WB US$10 million loan; plus US$5 million from Switzerland
Moldova (canceled)	• Pre-Export	• 100% public • Set up as a shell company	• Public	• Pre-export political risk guarantee	• WB contingent line of credit of US$30 million

Source: World Bank reports.

IV. CASE STUDIES

31. Due to their potential advantages—lower transaction cost, leveraging of government funds—infrastructure facilities, at least on a theoretical level, appear to be a potentially more efficient way to provide government support during the transition to private provision of infrastructure. But how successful have these funds been in practice? Have they strengthened reform efforts by the government in the regulatory framework? Have they been able to attract private investment or have they indeed facilitated the transition to private provision of infrastructure? Have the facilities used the right instruments? Has the scarcity of long-term financing been an important impediment to private investment in infrastructure and have the facilities employed adequate instruments to mobilize more long-term financing resources? What lessons can we learn from recent experiences? The following analysis of case studies attempts to answer these questions.

32. Methodology of Paper. The analysis will extend to three infrastructure financing facilities and two entities targeted at other sectors of the economy as valuable lessons can be drawn from these experiences. For each case a systematic description of the facility including its objectives, instruments applied, pricing of instruments, institutional framework and operative arrangements is presented. This is followed by an assessment of the results. The analysis concludes with a brief review of lessons learned.

33. *Evaluating Outcomes*. As noted, government sponsored funds/facilities may allow for more efficient use of public resources. A more efficient use of public of public resources can be measured in terms of three performance indicators which center on the extent to which government assistance provided by the funds/facilities: (i) attract additional investment by serving as an enabler of commercially viable projects that otherwise may not have been financeable; (ii) reduce cost to project sponsors and to users of facilities or equipment that are financed in part from a financing facilities,[22] and/or (iii) bring beneficial projects to completion earlier than would have been the case with traditional financing.

34. *Evaluation Criteria*. Due to their recent inception and the long gestation period of the projects they are targeting, the following analysis focuses on assessing the success of the facility on the basis of qualitative criteria. Does the fund: (i) minimize and leverage government's involvement in the financing of infrastructure projects; (ii) increase the efficiency of sector development through the provision of a transparent and systematic review of eligible projects; (iii) allocate risks to those parties best able to manage them (i. e. distance the government from commercial risk); and (iv) provide a transitional mechanism to facilitate the closing of a number of benchmark transactions which helps to improve and affirm the working, legal and regulatory environment for the sector.

[22] However, the reduction in cost is brought about not by offering financing at below market rates. On the contrary, the financial viability of projects is improved through the enhancement of their security package and/or cash flow for the direct benefit of long-term debt providers (without exposing the government to commercial risk). This should result in a direct improvement in the financing terms (tenor, pricing timing) available to the project.

35. *Lessons Learned.* The analysis concludes with a review of what lessons can be drawn from the case study to determine necessary preconditions, if any, for establishing infrastructure financing facilities and to learn what factors in the design of the facility are crucial to ensure the success of a financing facility.

36. *Sources for the Analysis.* Only published sources (i. e. World Bank reports) or interviews with experts familiar with individual facilities were employed. In the future, as greater attention is focused on providing efficient government support to infrastructure, there is hope that quantitative data will be available.

37. *Selection of Cases for Detailed Analysis.* We selected three IFFs for a more detailed analysis that were at a different stage in the development of the facility to exemplify various types of policy issues that may arise in the design of the facility and may adversely affect its success. The three IFFs are (i) Colombia, (ii) India, and (iii) Pakistan. As there is limited experience with the use of contingent instruments by infrastructure financing facilities, two government sponsored facilities targeted at non-infrastructure sectors which had a track record with contingent instruments were included in the analysis. These are (iv) Argentina, and (v) Moldova.

A. Colombia: "Infrastructure Facility"[23]

38. *Rationale and Objectives.* During the last several years, the Colombian government, as part of its "Economic Modernization Program", has attempted to improve resource allocation by attracting private sector investment in infrastructure while focusing public resources in social sub-sectors. In support of this policy a number of laws were passed in the transport, energy, telecommunications, and water sanitation sub-sectors during 1993 and 1995. Moreover, the government has been working on setting up an infrastructure facility to (i) increase private capital flows to the infrastructure sectors, (ii) improve the conditions of debt financing, and (iii) better allocate risk between public and private enmities.

39. *Sectors Targeted and Instruments offered.* At the time of the drafting of the paper, it was envisioned that the facility would start on a pilot basis in the transport sector. It was envisioned to extend the reach of the facility to other projects once the regulatory and policy environment of other sector was considered adequate.[24] The facility would offer three instruments to be provided by two separate entities: (i) local and international market refinancing commitments, and (ii) a put options for local investors, and (iii) a liquidity support facility (available in US$ and local currency).

40. Local and international market refinancing commitments are call options targeted at financial market interruption risk and jump starting the development of the (local) debt market

[23] For more detail see: The World Bank, Report No. 17154-Co, January 1998.

[24] At that stage, any projects that are tendered by the Colombian Government through a competitive bidding project are eligible for subscription to the facility's instruments.

for limited recourse financing. They provide a commitment from the facility to project sponsors to refinance their debt if the project raises debt from the market that is of shorter maturity than its contract. It would benefit the equity holder as the commitment implies a default guarantee.[25] To insulate the facility from commercial risk, project sponsors can exercise the option if the project is in compliance with a set of performance indicators.[26]

41. The put option is aimed at jump-starting the primary market in securities by offering investors the chance to sell the securities at a steep discount to the facility. Under a put option, the facility provides to investors of infrastructure projects a "liquidity of last resort" facility. The project sponsor or borrower is unaffected as the terms and conditions of his loans remain unchanged. To avoid muting investors' incentives to monitor the project and insulate the facility against commercial risk, investors can only exercise the put option if the project satisfies specific performance criteria.

42. The liquidity support facility offers coverage under the project's concessional and contractual arrangements against payments delays or defaults by public sector entities and would only be callable if the public sector entity failed to meet its payment obligation and such failure would result in debt service default of the project company. This bridge financing is intended to be offered during 12 to 18 months while the budgetary request is being processed and funded by the government.

43. *Pricing.* The fees—up-front, commitment, and annual fee—of the two instruments will be set to encourage access to these instruments and recover costs. The interest rates of the instruments will be set at lender of last resort levels so as to ensure that they are only exercised as a last resort.

44. *Institutional Set Up.* The instruments were to be provided by two facilities housed in two different public sector institutions.[27] The refinancing commitments and the put option will be offered by a facility housed in Bancoldex, a government owned export bank which will be responsible for the administration including the bidding process, the marketing and servicing of existing instruments and liability management. The international refinancing commitments will be backstopped by the World Bank. The liquidity support facility will be housed in Invias, the public sector transport agency, and managed by Invias personnel.

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[25] Upon exercise of the instrument, Bancoldex would extend bridge financing directly to the project company that would then apply the proceeds to pay down outstanding debt with its lenders. The term of the refinancing proceeds would be determined in relationship to the project's cash flow generation and debt servicing capacity. The repayment schedule could not extend the term of the concession agreement.

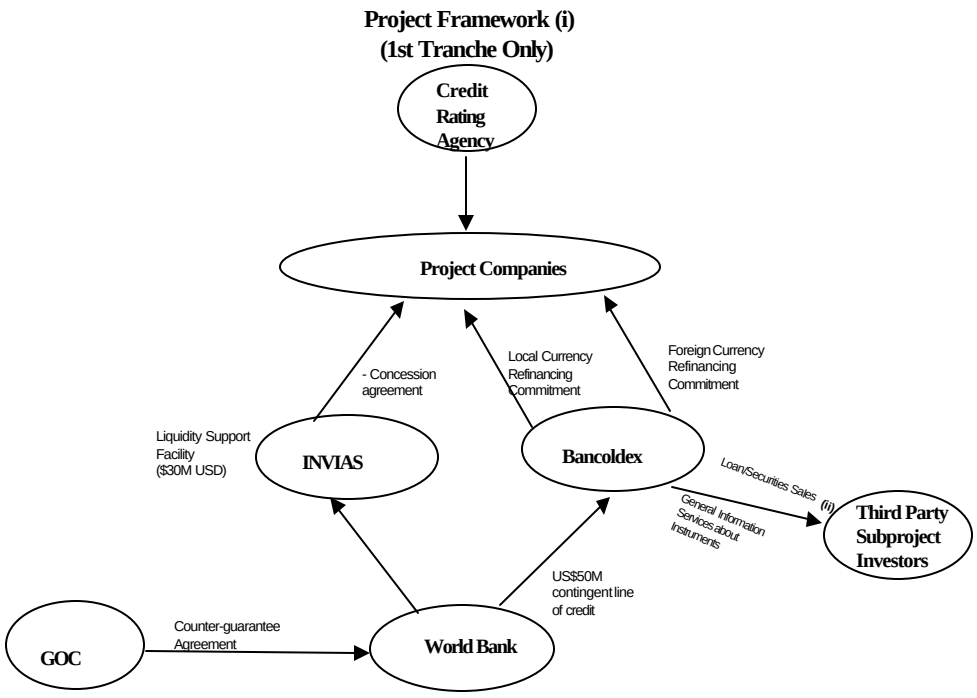
[26] For example, the project must maintain a minimum specified investment grade credit rating (e. g. BBB- or its equivalent local currency rating) with no published negative outlook for at least 12 months prior to the drawing of the refinance commitment. The project must also maintain a minimum debt service coverage ratio.

[27] At first, it was intended that both instruments be offered through a facility housed in Bancoldex. However, Bancoldex did not want to be exposed to the government non-payment risk. Thus, it was decided to provide the liquidity support facility through Invias.

45. *Funding Base*. Initially, the international refinancing commitment and the liquidity support instrument would be backstopped by a World Bank contingent line of credit of about US$80 million.

Figure 1:

Columbia
Infrastructure Financing Facility – Operational Arrangements



(i) For the same subproject multiple instruments could be offered (i.e. Refinancing Commitment with the Standby Liquidity Support Facility).

(ii) Such loans/securities could be sold to Third Party Investors pursuant to exercise of the Refinancing Commitment.

46. *Results.* The design phase of the facility has been a long drawn out process due to a lack of government coordination, the long lead time between the demand survey and the final implementation of the facilities and inconsistencies between developmental objectives being pursued by the government and commercial objectives being pursued by Bancoldex, the public banks in which the facility was to be housed.

47. *Lessons Learned.* The Colombian case study offers best practice in three important aspects: (i) employment of a detailed demand analysis that identifies impediments to private investment in infrastructure, (ii) provision of a limited number of instruments that are well targeted at specific non-commercial risks, and (iii) leverage of government funds. Nevertheless, it also highlights some of the problems governments face when setting up these facilities.

48. The concept of the facility and the design of the instruments were based on a detailed demand analysis, which helped to initially identify obstacles to private investment in infrastructure. However, the survey was not of sufficient detail to provide specific information as to the underlying factors that are constraining private capital flows to that sector. For example construction risk which was identified as a key impediment for private investment in toll roads. Yet the information gathered in the survey was of insufficient detail to identify specifically what part of the construction risk was the constraining factor. And the facilities was to offer a limited number of instruments targeted at specific risks—financial market interruption—and aimed at achieving a better risk allocation between the private and public sector and allowing the project company to insure itself against those aspects of the refinancing risks it has little control over. By the same token, as the exercise of the refinancing option is linked to good performance, the facility is insulated against such risk over which they have limited control, commercial risks. The limited number of instruments in combination with the limited number of sectors targeted also mitigate demands on the organizational structure and on internal technical capacity and make the management of the facilities more manageable from the government's point of view.

49. Nevertheless, the Colombian case also exemplifies some of problems that arise in the design phase of a government infrastructure sponsored financing facility and may adversely affect the effectiveness of this form of government assistance to infrastructure. A large amount of government and donor resources have been spent during the design phase and have yet to yield concrete results. The high implementation and design costs can partly be attributed to a lack of government coordination. The different government agencies involved in the endeavor failed to establish good channels of communication early on in the process and decide which of the government agencies is to take the lead in designing and setting up the facility. The lack of ownership on the part of the government agencies and ministries involved and the lack of a champion for the project advancing the project through the different bureaucratic processes let the project languish.

50. In addition, long gestation periods of financing facilities entail the risk that the results of the demand survey (which is aimed at identifying impediments to private participation in

infrastructure) on which the concept of the facility is based are no longer valid. In the interim period, economic or (political) conditions may have changed rendering the instruments offered by the facilities less useful to private sponsors (see Argentine example).

51. Moreover, the Colombian experience also highlights a more subtle point. All government entities involved in the initiative should have a consistent set of objectives. The government's longer-term developmental objectives, i.e. local capital market development, carried direct pricing and risk allocation implications for the instruments offered. However, the government decided to house the facility in a government-owned bank, which was pursuing short-term commercial objectives and was apprehensive of assuming projects with longer-term time horizon. Problems arising from government entities pursuing different policy objectives are difficult to resolve (i. e. liquidity support facility).

B. India: "Infrastructure Development Finance Company Limited (IDFC)"[28]

52. *Rationale/Objectives.* The expansion and efficient use of infrastructure is fast becoming one of India's key development issues. Implementation of public sector infrastructure projects have generally been slow, with frequent cost overruns and inadequate construction quality. Moreover, public resources are limited and will not be able to finance necessary investments. Against this background, the Government has introduced some reforms in the policy, legal and administrative framework to attract private investment. The government has also sponsored the establishment of the Infrastructure Development Finance Corporation (IDFC) that broadly speaking seeks to stimulate private and long-term local funding for infrastructure projects. According to its developmental objectives, IDFC seeks to create new financial instruments and project implementation structures to increase capital flows and enhance the terms and conditions of funding for infrastructure projects. At the same time, IDFC is pursuing commercial objectives seeking a market return on its investments.

53. *Sectors Targeted/Instruments.* At the time of writing this report, IDFC was intended to have a cross-sectoral orientation, targeting the power, telecommunications, ports, toll roads and municipal services sector. Yet during its first two years of existence IDFC was to concentrate on the power and telecommunications sectors. Likewise, IDFC instruments were to focus principally on the provision of direct funding instrument in the form of: co-financing via long-term debt, preferred and common equity for greenfield projects, as well as refinancing of existing local currency debt.[29] Then IDFC was to gradually move into the water, transport and urban finance sectors, offering instruments aimed at improving the terms and conditions of third party debt offerings like take out financing, contingent refinancing commitments, put options and bond insurance. According to its commercial objectives, IDFC was to price its instrument to

[28] See for more detail: Infrastructure Development Finance Company Limited, Draft - Business Plan, May 3rd 1997.

[29] Direct funding and refinancing is projected to amount to 64 and 19 percent of total assets, respectively, during the first two years.

ensure a market return and may thus run the risk of pricing its instruments (that are more developmental in nature) so as to discourage their utilization by third-party financiers.

54. *Institutional Set Up*. IDFC is set up as a non-banking financial company[30] with mixed, but mainly public sector ownership.[31] It is managed by a Board of Directors consisting of three professional and eight part-time directors—representing different shareholders—as well as one full time- non-executive director who will assume the role of chairman. The chairman also chairs the IDFC Infrastructure Policy Advisory Group. The day-to-day responsibility for the management of the IDFC rests with the managing director who will have responsibility for implementing the policies established by Board of Directors and for the hiring and managing of staff. As remuneration packages are market based, IDFC should be able to compete with the private sector and attract high-caliber people.

55. *Funding Base*. IDFC has three major sources of funding: (i) equity; provided by government, multilateral and private entities, (ii) a subordinated loan extended by the Government of India and the Reserve Bank of India, and (iii) debt financing (which will mainly be focused on the local domestic market) with emphasis on wholesale funding. Its injected equity and mezzanine debt financing amounts to around US$400 million. In order to allow institutional investors to invest in IDFC bonds or increase their attractiveness, the following regulatory changes needed to be made: (i) list infrastructure sector as priority sector for banks; as a result IDFC bonds would also qualify within the quality sector target of bank, (ii) notification of new categorization of investment for Provident Funds, Superannuation and Gratuity Funds wherein they would be required to invest in notified AAA rated infrastructure bonds with maturity of over ten years and more, and (iii) modification of insurance regulation to specifically enable and earmark utilization of insurance deposits for investment in infrastructure related equity/debt instrument of IDFC.

56. *Activities*. At the time of the drafting of this report, IDFC was still in the start-up phase as it only recently had opened for business officially (December of 1997). However, it appeared that it very soon may come under pressure to support private projects with its resources in ways that may not be in line with its developmental objective and provide an efficient way of using public resources. For example, IDFC provided contingent, revolving and subordinated lines of credit to cover cost overruns and traffic shortfalls for one toll road during the first seven years during which the project was to generate insufficient cash to service its senior debt service payment obligations (making it junior to subordinated debt).

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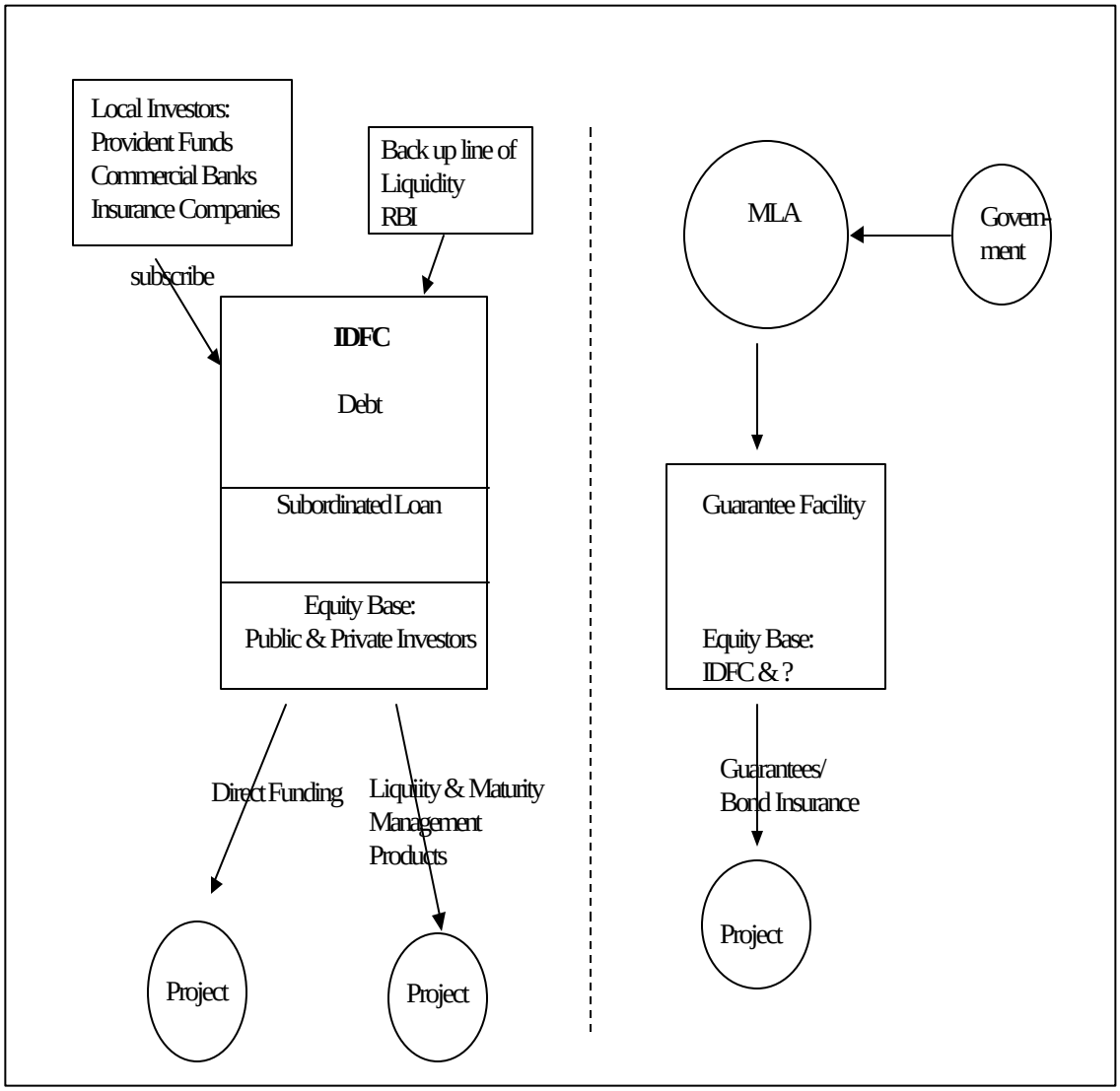
[30] As such its needs to be registered in a separate category and in view of the nature of its business would necessitate separate standard for income recognition, asset classification and provisioning. IFDC is envisioned to follow more stringent accounting rules close to international standards.

[31] Government of India and Reserve Bank of India holds 35 percent of total capital; 5 percent are held by the Industrial Development Bank of India; 25 percent are held by other domestic financial institutions; and the remaining 35 percent are held by overseas institutions and multi-lateral agencies.

Figure 2:

India – "Infrastructure Development Finance Company Limited" – Operational Arrangements -



57. *Lessons Learned*. In its future operation IDFC is facing the following three challenges that may adversely affect its success: (i) balance its countervailing catalytic and commercial objectives, (ii) target its services on limited sectors and a limited number of instruments, and (iii) resolve the potential conflict of interest in its policy advisory role.

58. As noted, IDFC's conflicting developmental and commercial objectives may hamper its ability to price instruments that are more developmental in nature so as to encourage their usage by third-party financiers. Conversely, it may shy away from contingent and specifically targeted instruments, at would be of value added and are not provided by the marketplace, and instead concentrate on higher-yield and relatively more available traditional debt and equity investments. Direct lending products also do not tend to allow the government, which has an equity participation in the fund, to minimize and leverage its involvement and insulate itself against risks over which it has no control (commercial risks).

59. The development and design of IDFC's financial products has yet to be based on a thorough demand side analysis. Such an analysis could help to clearly identify gaps in the legal and regulatory framework that jeopardize the commercial viability of projects, risks that the private sector is not willing to take on, the type of instruments that would mitigate those risks, and the demand for products and instruments. This would help IDFC to target and leverage its support and maximize its impact while at the same time keep its own internal technical capacity and organizational needs at a manageable level. The large number of sectors IDFC intends to service in combination with the large number and diverse types of instruments will impose a high burden on its management and necessitate staff with a diverse mix of skills that is relatively scarce in India.

60. But IDFC is facing another challenge. The viability of its project pipeline is jeopardized by gaps in the legal and regulatory framework. For example, the financial closure of IPPs in the power sector is hampered by a number of factors including (i) a lack of creditworthiness of the State Electricity Boards, (ii) vague and politicized tariff setting and adjustment procedures, (iii) unclear dispatch criteria, and (iv) inadequate fuel supply and transportation agreements. Before these legal and regulatory issues have not been resolved, there may be little demand for IDFC's instruments. By the same token, IDFC may face some pressure to provide financing instruments or broad guarantees that compensate the project sponsors for the inadequacies with the regulatory framework so that these projects can be brought to financial closure.

61. Finally, IDFC faces potential conflicts of interests in its policy advisory role to the government vis-a-vis required legal and regulatory reform in the targeted sectors. The trade-off between structuring bankable transactions and promoting economic efficiency could be blurred as IDFC attempts to balance the divergent interests of the private and public sector counterparts.

C. Pakistan: "Private Sector Energy Development Fund (PSEDF)"[32]

62. *Rationale and Objectives.* Beginning in the late 1980s, the Government of Pakistan has attempted to encourage private sector participation in infrastructure to shift the burden of infrastructure investment from the public to the private sector. To that effect, the Government started to gradual reforms in the energy sector. As its ability to attract foreign investment in the sector was hampered by the country's poor credit rating it set up the Private Sector Energy Development Fund. The fund was to pursue the main following developmental objectives: It was aimed at (i) mobilizing resources for the co-financing of private sector investments in energy development by providing a catalytic function for private equity and loan financing, and (ii) setting an institutional framework to sustain private investment and operation in the energy sector.

63. *Sector Targeted/Instruments/Pricing of Instruments.* The fund provided subordinated loans for projects in the energy sector. Between 1989 and 1994, the funding furnished by the facility was subsidized in two ways: (i) the (fixed) nominal interest rate was below market levels but positive in real term, and (ii) the loans carried an eight year grace period[33] plus a very favorable exchange rate insurance offered by the State Bank of Pakistan transferring the exchange rate risk to State Bank.[34] While the long grace period remained in place after the program was restructured in 1994, interest rates were more closely aligned with markets rates and sub-projects covered foreign exchange and interest rate risk. Nevertheless, the pricing structure was so complex and World Bank specific that projects encountered difficulties if they attempted to hedge their interest rate exposure.[35] When this difficulty was noticed, the World Bank and the Government of Pakistan agreed to provide a market based fixed interest rate option (i. e. which is equivalent to an interest rate swap). To maximize leverage and encourage the mobilization of commercial bank loans, the fund financed a maximum of 30 percent of project costs. Following established practices in limited recourse finance, the Fund required that the borrowers establish service escrow accounts to be held at levels sufficient to meet six months debt service requirements.

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[32] The World Bank, Report No. P-6347-PAK, 7226-PAK, P4807-PAK.

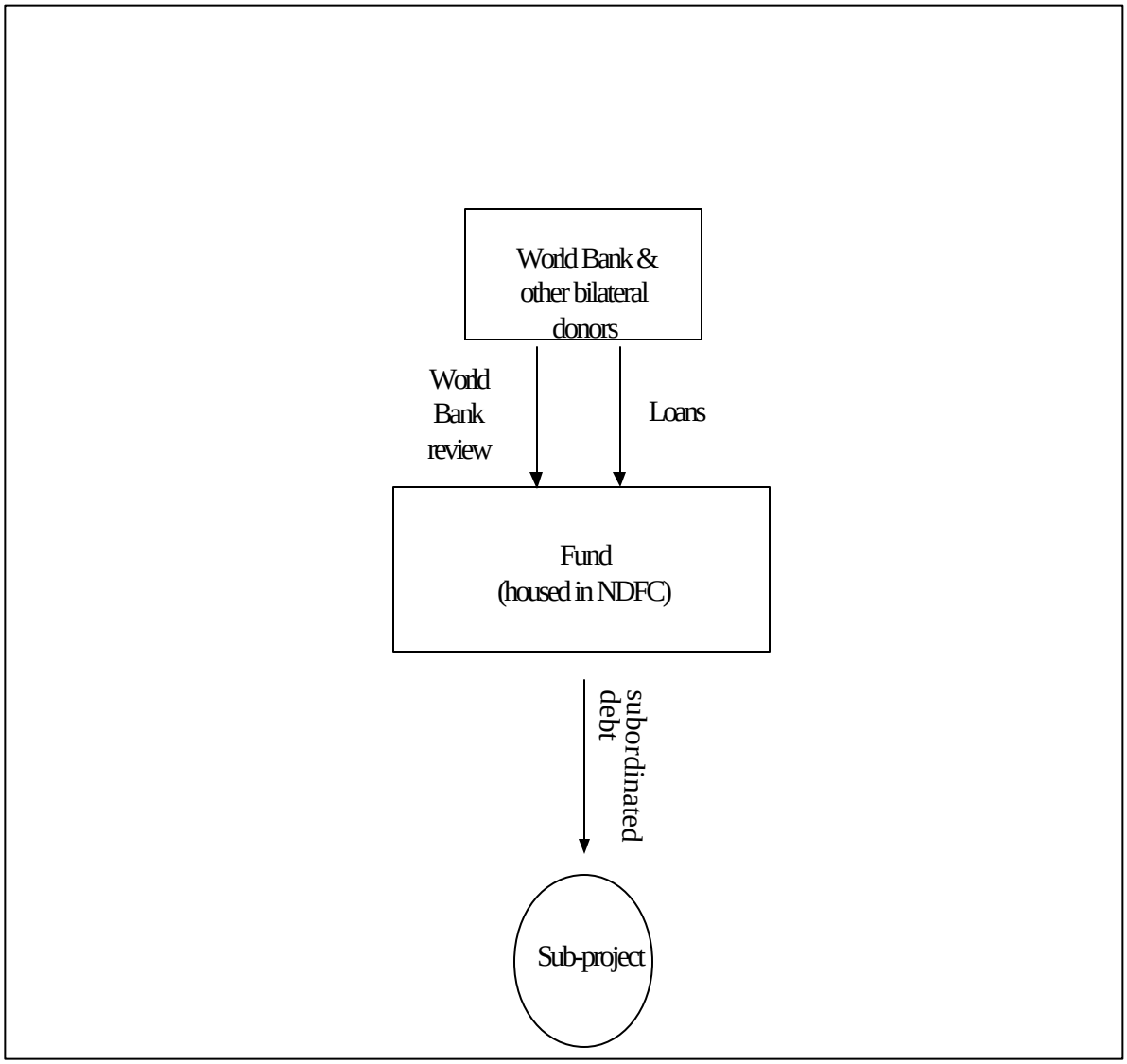
[33] Typically, the grace period covers the construction period, which range between three to four years. An eight-year grace period allows equity holders to receive returns on their investment before creditors are serviced. In the Pakistan case, the eight year grace period was designed to flatten the overall amortization profile of debt and to prevent the front loading of the tariff allowing the government to negotiate a power tariff which was "flatter" and, thus imposed less of a payment shock to the power consumers.

[34] The exchange rate insurance was not linked to the PSEDF but was in existence in Pakistan before the foundation of PSEDF.

[35] The complex pricing structure made it difficult to find a counterpart for the hedge. When this difficulty was noticed, the World Bank and the Government agreed to provide a market-based fixed interest rate option (i. e. which is equivalent to a commercial interest rate swap).

Figure 3:

Pakistan
"Private Sector Energy Development Fund" –Operational Arrangenments-



64. *Institutional Set-Up.* The fund is administered by the Private Energy Division (PED), an autonomous unit set up within the government-owned "National Development Finance Corporation".[36] PED's administrative responsibilities included the administration and operation of the fund, the valuation of projects and negotiation of loan terms and extension of loans for approved projects, monitor projects and management of the risk exposure of the fund. As such PED did not have stand alone decision making capacity but final project approval was subject to prior review and approval by the World Bank.

65. Originally, Government support to the fund was to be transitional as the fund was to be used to allow the government to build up a track record and gradually implement the necessary reforms in the tariff pricing structure. To ensure the temporary nature of government support, a sunset clause determined that the fund be spun off from NDFC and privatized after 1995 which up to today has not taken place.

66. *Funding Base.* Total fund volume amounted to US$1 billion and was provided by donors agencies in two tranches (1989 and 1994). The largest contributors to the fund were the World Bank (US$400 million) and JEXIM (US$400 million). Other contributers included USAID, US Eximbank, the Governments of Italy and France, and the Bank of China.

67. *Technical Assistance.* The World Bank, as well as the USAID, provided technical assistance to the private power and infrastructure board (PPIB), which was aimed at improving the institutional capacity of regulatory authority. PPIB was set up as a one-stop shop and was to coordinate government agencies' activities with the private sector. Technical assistance under a different project was also provided to NEPRA, the regulatory authority in the power sector.

68. *Activities.* The Pakistan fund is one of the few government sponsored financing facilities that has been able to support projects through financial closure. After years of relatively low activity, the fund has provided US $ 840 million to five projects with a total project size of US$2.9 billion in its nine years of existence. The largest projects financed were HUB (US$1.5 billion total project size) and Uch (US$600 million total project size) power projects. These projects received funds in the amount of US$433 million and 187.5 million or 62 percent of the fund's resources.[37]

69. *Lessons learned.* The Pakistan experience illustrates the following two main points: (i) an adequate policy framework as well as a satisfactory country credit rating are crucial to attract private financing on a commercial basis, and (ii) direct funding exposed the facility (and thus the government) to commercial risks.

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[36] While NDFC was solvent at the time of the establishment of the Fund, its financial standing deteriorated over the course of the ten years since the inception of the Fund. Its financial distress has adverse repercussion on the fund.

[37] Both projects were also backed by World Bank partial risk guarantees: US$240 million commercial loan to and a US$75 million to Uch. While the original loan to Hub from PESEDF was US$615 million, including US$110 million in standby financing, only US$433 was drawn down as Hub was completed under budget.

70. The concept of the fund was based on the assumption that the lack of long-term financing was the binding constraint to increasing private investment in the power sector.[38] While Pakistan's domestic financial markets did indeed lack long term capital resources, it is unclear whether the lack of long-term finance was the main obstacle to attracting private investment (on a commercial basis).[39] The 1994 private power policy program was very successful in bringing IPP to financial closure (19 IPPs were brought to financial closure), although this was achieved at a cost. The Government was only able to bring projects to financial closure by offering subsidized financing or other types of government guarantees and other financial and non-financial advantages to project sponsors such as tax exemptions, an advantageous tariff structure, and noncompetitive bidding process. Subsequent to the initial drafting of the report, the government asked for renegotiations of the deals indicating that significant deficiencies in the regulatory and policy framework exists that hamper the efficient use of private and government resources in this area.[40]

71. While the facility attracted on average four additional dollar in equity and loans in funding, the direct funding instruments offered by the fund expose the government (fund/facility) to commercial risk without having control over the management of that risk.[41] Similarly, while the government shares in the downside risks of a project, it is unable to take advantage of any upside potential. Moreover, direct funding instruments may be successful in attracting equity investment, but they may reduce project sponsors' incentives to manage risk adequately, if it is provided on an unconditional basis as they are somewhat protected. They may even tempt project sponsors to misbehave and pursue riskier projects.[42] Finally, while the fund was supposed to act as a catalyst for initiating private sector investment in infrastructure with a limited time horizon, it appeared that it created a situation where private sector investment may have become dependent on government backed finance as the existence of the fund may have taken the pressure off the government to improve the regulatory framework to such a degree that government backing was needed to a lesser degree to attract private financing.

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[38] It should also be noted here that the provision of long-term financing resources was hampered by an unstable macro-environment.

[39] In this context, a demand survey may have helped the government to identify obstacles to private participation and may have given important input in the designing the financing facility.

[40] This policy was meant to be transitional. The bulk tariff structure under the policy was intended to be transitional and GOP was to reform its policy creating a competitive bidding structure and adjusting tax exemptions and incentives provided. Nevertheless the Government did not undertake these sector reforms (which it had agreed to in a parallel project with the World Bank. The current problems are a result of a number of factors including the stalled reforms in the sector, a sharp economic downturn that substantially reduced the demand for power and the government had overestimated power needs which resulted in an oversupply.

[41] Commercial lenders use loan convenants to exert control over management or require them to behave in a fashion that is in line with the borrowers interest of repayment of the loan. NDFC has tried to mitigate this risks by being presented on the boards of all projects it finances.

[42] See for a detailed discussion: Klein (1997).

D. Argentina: "Capital Market Development Backstop Facility"[43]

72. *Rationale*. In the early 1990s, Argentina's capital markets suffered from a scarcity of long-term resources that was mostly attributed to: (i) caution by investors about the sustainability of more recent stabilization efforts against the legacy of macroeconomic instability, (ii) an inadequate regulatory and supervisory framework, and (iii) a lack of institutional investors.[44] The development of private securities markets was considered to be important to help muster the large amount of medium and long-term financing needed to finance investment[45] especially for medium size and small companies. In contrast to large corporations, small and medium size enterprises have not had access to international capital markets. They also have not had access to long-term lending by commercial banks as domestic commercial banks, due to the lack of matching funding (they finance themselves mostly via deposits), do not offer long-term loan products.

73. *Objective*. The principal objective of the project was to encourage the holding of medium and long term securities by investors and longer term lending by prime-rated commercial banks. This was to be achieved by ensuring liquidity to creditworthy banks in the event of market developments that cause spikes in interest rates or financial market interruption. To that effect, the facility offered call options, i. e. the commitment to purchase such bonds for prime-rated (best and most creditworthy) banks' medium term bonds, which were issued to fund long-term lending for productive investments.[46] Thus, the backstop facility was to provide a refinancing guarantee for banks that were willing to lend at longer terms while having to fund themselves at shorter maturities. Banks could only exercise the call options in the case of a market-wide event.

74. *Instruments offered by Facility*. Initially, the backstop fund was to offer a contingent backstop option to eligible commercial banks for a bond issue that financed eligible loans.[47] Loans eligible for a backstop commitment had a maximum size of US$50 million and a minimum

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43 Habeck, 1994. The World Bank, Report No. P-6193-AR, P-6161-AR, 12328-AR, 12963-AR.

44 Pension security reform and mutual fund laws did help to establish the prerequisites for the creation of an institutional investor base.

45 A study in 1994 estimated that the then newly privatized entities alone would need over US$ three billion in long-term funds if their investment requirements are to be met.

46 The BF was also expected to help strengthen local market institutions, such as national credit rating agencies, bring about the development of standardized debt securities, and develop institutional skills and capacities within the capital market. See for more details: Implementation Completion Report, Washington, 1998.

47 Under the backstop facility, a participating bank would make long-term US$ investment loans (TEL) funded by its deposit base, its equity, and shorter term US$ denominated debentures. The debentures could be bullet bonds or extendable bonds. To match the maturities of its assets and liabilities, the participating bank could purchase a backstop option from the Fund. If the participating bank purchased a back-stop contract and remained financially sound but the bonds were not refinanced in the market in part or whole, the participating bank could issue to the Fund within a specified period bonds to replace those bonds that were not refinanced. The principal amount of the bonds to be bought by the Fund would be capped at the lowest of (i) the amount of the backstop commitment; (ii) the principal amount of the bonds originated during a specified period after the backstop commitment date and maturing at such time; and (iii) the principal amount of the term adjustment loans originated during the origination period.

maturity of one year. To limit the facility's exposure to financial risk and to mitigate adverse selection,[48] banks had to be in compliance with certain financial performance indicators and their obligations had to have been rated as high quality by two domestic rating agencies in order to have access to the backstop facilities.[49] Furthermore, while the call option was to guarantee that the facility would refinance these bonds in case of financial market interruption when the bank could not refinance the backstopped bonds in the market in part or in whole, the institution would only be able to exercise the option if it continued to comply with a number of financial performance criteria and if its credit rating did not deteriorate considerably as certified by two local credit agencies. Only commercial bank debentures were to be backstopped; corporate issues were to be insured by the private market.

75. The original concept of the facility had been developed over several years and was implemented during the third quarter of 1994. However, at that point the Mexico "tequilla crisis" occurred and the Argentine financial markets were not insulated from the contagion effect bringing financial market activity, or the issuance of new bonds to a halt and rendering the facility's instruments useless. To generate business for the facility the concept of the facility was altered. Institutions now no longer had to issue "new" paper to be eligible for backstop commitments but could also use the facility to refinance existing loans. Banks would get financing of up to a year if they exercised this "new type of call option".[50]

76. *Pricing.* The original intention was to allocate backstop commitments at prices that reflect market demand (subject to certain concentration and exposure limits). It was envisioned that the Fund would develop auction procedures, modified option pricing models and other procedures and methodologies as appropriate, to price backstop commitments in a market based fashion. In the end, however, prices were determined more by market demand rather than by reference to the theoretical model.

77. *Institutional Framework.* The Backstop fund was set up as a temporary single purpose entity with public ownership.[51] Day-to-day management including the determination of commitment fees and interest rates on the instrument, the sale of backstop bonds, collection of funds or other amounts due to the Fund, and the investment of non-committed funds was bestowed on Banco de Inversion y Commercio Exterior

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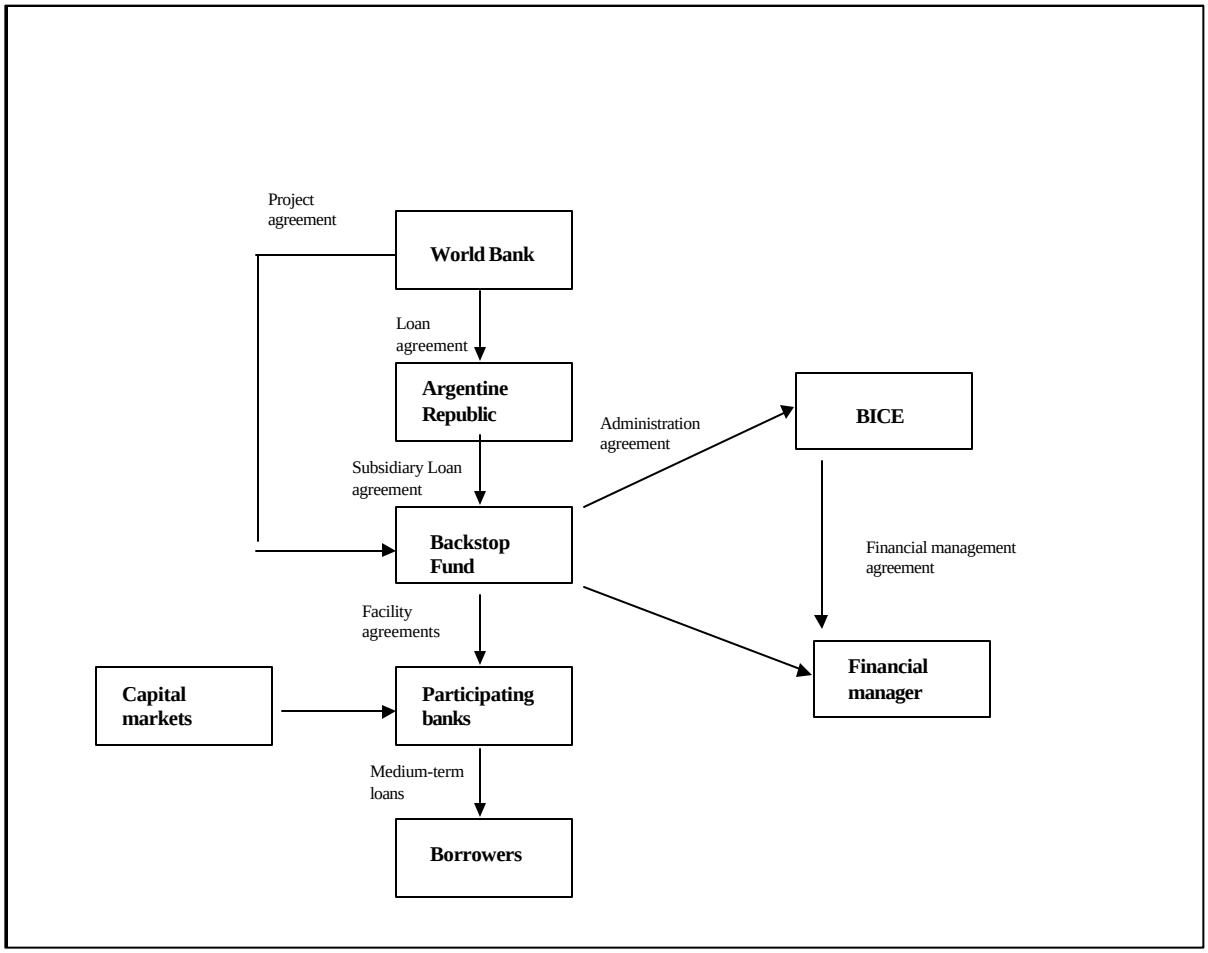
[48] As will be discussed below, the backstop commitments were supposed to be auctioned off. In order to avoid adverse selection in the auction process (risky banks willing to bid up prices), eligibility criteria needed to be established that ensured that banks participating in the auction were sound.

[49] Nevertheless, domestic rating agencies were not very credible. Fourteen institutions were competing against each other in a marketplace where rating was mandatory and international rating agencies stated that some inflation of rating did exist.

[50] The instrument was restructured further. While the original project concept envisioned European options (under which the option can only be exercised at a pre-specific date), the options offered by the facility were switched to American options which altered the design of the instrument quite considerably and made it more of a liquidity than a refinance instrument.

Figure 4:

Argentina
"Capital Market Backstop Facility" – Operational Arrangements



[51] Under the World Bank loan agreement, the closing date would be in year 12.

(BICE).[52] Moreover, BICE was also responsible for screening and certifying financial institutions' access to the facility.

78. *Funding Base and Leverage of Facility*. At the outset, the Fund's sole funding base was to be proceeds of a World Bank US$500 million loan to the Government.[53] Furthermore, at least initially, the Fund's backstop commitments at any one time were not to exceed the sum of cash and cash equivalents owned freely by the fund and the size of the World Bank loan.[54]

79. *Activities/Results*. The Fund was officially launched on August 9, 1995. However, demand for the instrument was limited. Only US$200 million were committed within a year, a relatively small sum in Argentina.[55] The limited demand was mainly dues to the spillover effects of the "tequilla crisis" which changed the economic situation dramatically and bond issuance by financial institutions came to a virtual standstill. Even after the change in instrument structure that allowed banks to use the facility to backstop the refinancing of their existing loans,[56] demand remained subdued. On a more general level, stronger banks seemed reluctant to use the backstop facility because they were concerned that that would signal to market participants that they were in a financially weak position. Hence, the facility was canceled in March 1997.

80. *Lessons Learned*. The Argentine case study exemplifies, among others, four issues policymakers will have to take into consideration when setting up infrastructure financing facilities. These are the: (i) risk inherent in rigid and narrowly defined products in a rapidly moving and volatile developing economy, (ii) risk of inadequate management of facility, (iii) risk of weak government ownership, and (iv) risk of perverse signaling effects.

81. First, the backstop instrument was designed in a way that limited its potential demand thus its potential market impact.[57] This specialized, narrowly targeted and rigidly defined product was ill suited for a rapidly changing and volatile market environment. As a case in point, by the time the facility opened its door, for a number of different reasons – new type of

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[52] BICE could also make recommendations to change the design of the backstop facility (including expanding the nature, term or type of permissible bonds under the backstop commitment) or to introduce new instruments aimed at promoting the development of a liquid bond market.

[53] However, only US$200 million were made available. The World Bank provided a complimentary TA loan that had three objectives: (i) to finance improvements in capital market supervision and regulation including enforcement; (ii) to assist in the training of commercial banks to undertake project financing; and (iii) assist in the implementation of the new, recently approved pension system

[54] If the Fund were to be leverage at a later point in time (e. g. if the sovereign debt issue continue to improve in quality and if the project works well), there was consideration given to asking private foreign commercial banks if they were prepared to make a contingent letter of credit available for the obligations incurred by the Fund.

[55] Worldbank disbursement amounted to US$106.4 million or about 21% of the Loan. See Implementation Report, 1998.

[56] The original idea of backstopping intervention to encourage longer maturities was partly surrendered with the american option, weakening its insurance coverage on longer term lending and bond issuance.

[57] As mentioned, tenures, amount and eligibility were specified in detail. The cap of US$50 million (which was in line with the objective of targeting small borrowers) made it less interesting for the larger and stronger banks. Moreover, to mitigate moral hazard and adverse selection, only highly rated commercial banks (as it turned out one out of five) were eligible limiting the demand of the instrument.

instrument, lack of government ownership – the development of the facility had taken four years, the Mexican peso crisis had occurred and banks' bond issuance, the raw material for the facility, had come to a virtual standstill rendering the instrument almost useless.[58]

82. Notwithstanding the fact that the change in macro-conditions was the main factor in the cancellation of the facility, inadequate implementation capacity, insufficient government ownership and the risk of adverse signaling also hampered the efficient operation of the facility. The fund management may have lacked the required skills to handle and market the facility's products and the management of the facility remained unsatisfactory especially with regards to process and controls.

83. Many government officials tended to be skeptical about the value of public support to back-stop prime rate commercial banks and the stated long-term beneficial capital markets effects, as well as the actual functioning of the fund. All this translated into a slow progress in developing the facility. Finally, there was a powerful, though unintended constraint on participation by strong banks: accessing BF, a public market institution, was feared by strong banks to provide a perverse market signal.[59] They were concerned that their making use of facility's instruments would have a negative signaling effect, indicating to market participants that they were in a financially vulnerable position.

E. Moldova: "Pre-Export Guarantee Facility (PEGF)"[60]

84. *Rationale and Objectives.* In the mid 1990s, Moldovan exporting firms faced severe financing constraints as neither the local banking system nor export credit agencies offered them working capital financing.[61] Many foreign traders and input suppliers had indicated that they would be willing to cover the commercial risk of supplying inputs on credits if the Government could credibly guarantee that it would not change regulations and rules retro-actively, regulations and rules which may adversely affect the repayment capacity of their borrowers. Against this background, the PEGF had a developmental objective and was established to provide a credible guarantee against country and political risk to enable viable local firms to attract foreign private financing for pre-export financing.

85. *Sectors Targeted/Instrument/Risk Targeted.* The guarantee was targeted at import supply companies, commercial lenders, and trading companies and provided coverage against

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[58] The development of the instrument was also not based on a thorough capital market and demand analysis that could have provided some guidance for the design of the instrument and the actual demand. See Implementation Completion Report (1998).

[59] A survey carried of potential clients carried out by Salomon Brothers found a "poor perception of banks that do participate". Implementation Completion Report.

[60] See for more detail: Onno Ruhl, Alfred Watkins, "A Pre-Export Guarantee Facility in Moldova - Mitigating Political Risk in Transition", The World Bank, Public Policy fir the Private Sector, Note No.64, December 1995. The World Bank, Report No. P-6502 MD, 1995.

[61] If export credit agencies provide cover they require a full government counterguarantee covering both commercial and political risk.

political risk. It was to cover damages caused by government actions or inaction specified in the contract including: (i) inconvertibility or inability to transfer, (ii) cancellation of licenses and restrictions of import and exports; and imposition or increase of import or export taxes, (iii) seizure of goods or prevention of sale, (iv) political force majeure, and (v) diversion of voyage.[62]

86. The private sector participants were to bear the full commercial risk of the transaction. This on the one hand insulated the facility against commercial risk and on the other hand maintained the incentives for banks to appraise and manage commercial risks. The guarantee was to be available on a first come first serve basis.

87. Prospective guarantee holders would file an application that contains a detailed description of the transaction with the facility. The staff would then verify that the (i) transaction is not on the World Bank negative list of prohibited activities, (ii) the transaction complies with environmental standards, (iii) the inputs will be used for investments or to produce exports, (iv) the maturity of the proposed transaction is consistent with the production cycle or repayment capacity of the enterprise, and (v) the World Bank has issued a non-objection. If the transactions fulfill all requirement and sufficient capacity exists under pre-export facility, the staff would recommend that the General Manager issue the Guarantee. The decision to issue the guarantee would be rendered within thirty days of the time of application. If a guarantee is issued, an agent bank employed by the guarantee administration unit issues standby letters of credit to accompany each guarantee contract sold by the unit. If a claim must be paid and the government does not remit funds to the agent bank by the payment deadline, the agent bank can draw funds from the World Bank loan facility, to which it has irrevocably access. Funds used to pay guarantees would be permanently deducted from the facility, reducing the amount of future government guarantees that could be issued with World Bank support. To prevent one or two guarantee holders from monopolizing the available coverage under the FGC, the maximum amount of guarantees that could be outstanding at any time was US$4 million; to provide access to smaller firms the minimum guarantee size was US$25,000.

88. *Pricing*. The fee for the guarantee was to be set at level aimed at minimizing input suppliers' reliance on the guarantee facility and was to be set at 300 basis points per year or any part thereof of the covered amount of the transaction. The level was comparable with fees for political risk coverage charged by MIGA and by private insurers that provided political risk coverage.[63]

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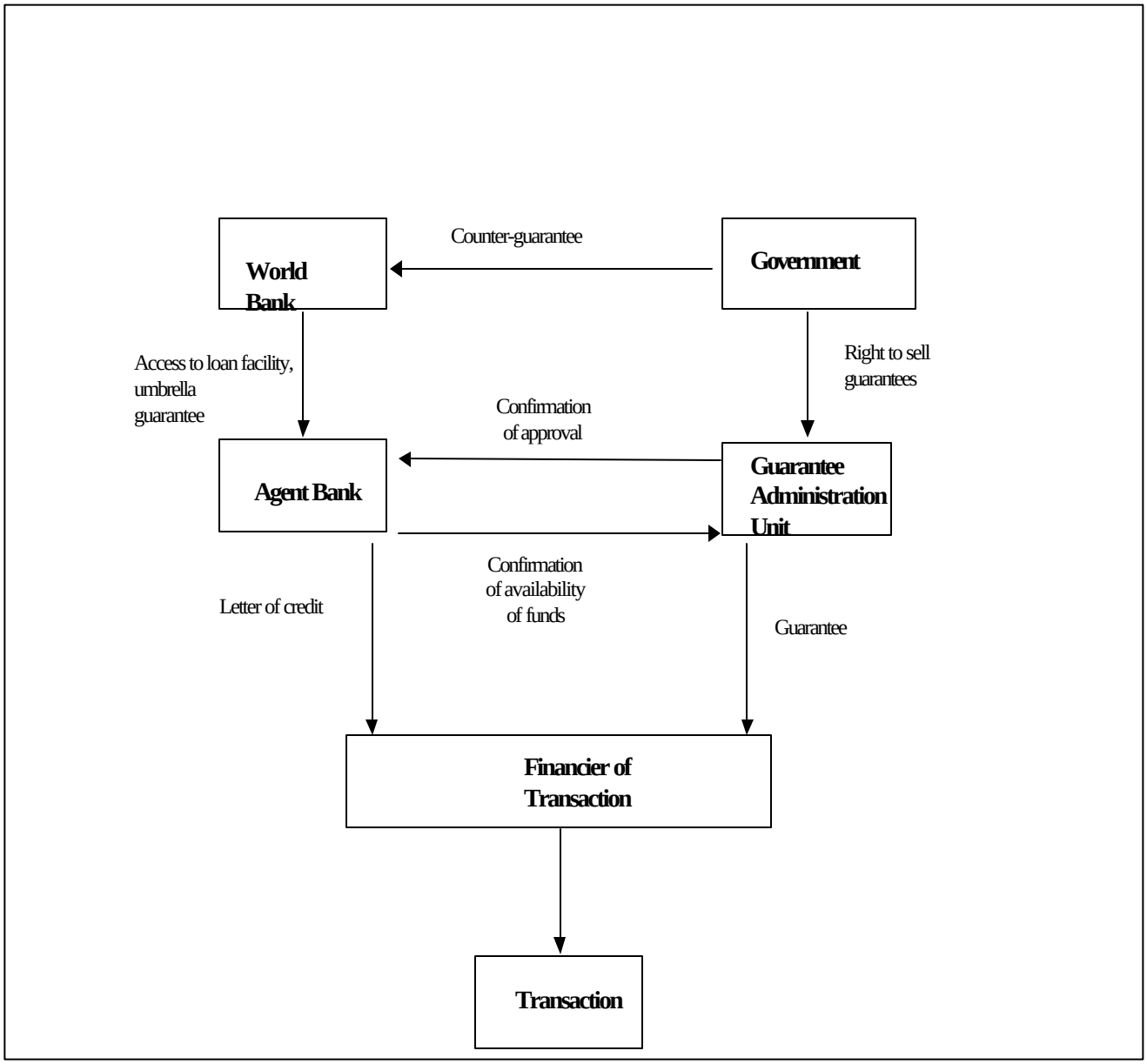
[62] Under the framework of the guarantee, the guarantee holder would be required to notify the guarantee administration unit thirty days before filing a claim. During the 30 days "cure" period, the government would have an opportunity to correct the actions that triggered the potential claim. If the problem is corrected no payment would be made.

[63] The fees were to be paid in US$.

89. *Institutional Set Up/Funding Base*. To operate the facility, the Government established the Guarantee Administration Unit (GAU),[64] a government owned entity, as

[64] The GAU was designed not to be attached to any Government agency as wide representations of agencies were envisioned to be represented on the board. This was meant to ensure active involvement of all the agencies in the project which would in turn lead to an effective marketing campaign from all Government officials who are in regular contact with business people. However, in effect the GAU was effectively operated as part of the Department of Foreign Economic Relations with only marginal involvement of representatives of other government agencies. Consequently, valuable business contacts were lost. Moreover, it appears that business contacts heard contradictory stories from different Government officials on the availability of guarantees.

Figure 5:
Moldova –
"Pre-Export Guarantee Facility"
- Operational Arrangements -



the executive body to issue political risk insurance. The GAU was backstopped by a World Bank loan facility to enhance the credibility of the risk coverage. The withdrawal authority for the World Bank loan was delegated to an international bank (ING Bank of the Netherlands). ING was to issue a letter of credit to each individual guarantee holder.[65] The World Bank loan facility that backstopped the GAU amounted to about US$30 million. It was expected that this credit line would backstop guarantees of up to a total of US$150 million.[66]

90. *Activities.* There was little demand for political risk insurance after the PEGF was established in October 1995. To assess future demand, a demand survey was conducted in March 1997. The survey indicated that demand would remain very sluggish in the future and consequently the facility was canceled in May 1997.

91. With hindsight, there are mainly four reasons why the facility generated little demand. First, the PGF faced demand from the Moldovan Government unconditional (broader) and heavily subsidized guarantees in the areas expected to be its principle market, namely foreign supply of agricultural inputs in return for part of the following season's supply; and machinery and equipment sales to the agro processing industry. The situation was compounded by the fact that structural reforms slowed down, especially in the agrosector the sector that the instrument primarily targeted.[67]

92. Secondly, there was very little borrowing activity from commercial sources by private Moldovan enterprises as most of the financing was provided by multilateral agencies ineligible for accessing political risk coverage. Thirdly, the pricing of the instruments appears to have been too high to generate demand because the reference price that was used to determine the price of the guarantee was based on risk premia for long-term projects and thus provided an inadequate point of comparison.[68] Fourthly, the Moldovan economy may have been too small to generate adequate demand for the facility.

93. *Lessons Learned.* Three main lessons can be drawn from the Moldovan experience: For a fund/facility to be successful it is crucial for the government (i) to adequately and

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[65] Moreover, during the start up phase of the facility, ING worked with the staff of the GAU to devise procedures for issuing letters of guarantees, paying claims, and sharing information about pending claims and pending guarantee applications.

[66] The live of the World Bank facility was limited to five years which to a certain extent ensured that the facility be of a transitional nature.

[67] The marketing of the facility's instrument appears to have been hampered by confusion created among different government agencies. The GAU was designed not to be attached to any specific Government agency and thus a wide representation of agencies was to be represented on the board of the facility. This was meant to ensure that all agencies represented on the board would be actively involved in the marketing of the facility from all Government officials who are in regular contact with business people. Despite these intentions, the GAU was effectively operated as part of the Department of Foreign Economic Relations with only marginal involvement of representatives of other government agencies. Consequently, valuable business contacts were lost. Moreover, it appears that business contacts heard contradictory stories from different Government officials on the availability of guarantees.

[68] The price for political risk coverage may have also appeared high to market participants as they perceived political risk of less of a problem than commercial risk.

accurately assess reasons for market failure, design instruments that address and mitigate market failure and ensure that there is demand for such an instrument, (ii) to pursue overall consistent government policies, and (iii) to get the pricing parameters of the instruments right.

94. As the Pakistan and India case already illustrated, the government should conduct a thorough demand analysis that is aimed at:

- Assessing impediments to private participation (in the Moldovan case: why are foreign banks not providing working capital to Moldovan enterprises; and is there a lack of foreign capital);
- Providing guidance on the design of the instrument that could possibly mitigate the market failure (in the Moldovan case: would foreign banks be offering working capital to Moldovan firms? Or are foreign banks reluctant to offer financing because of commercial risks or other factors? What institutions are currently providing working capital and at what prices (market based; non-market based?)
- Identifying demand (in the Moldovan case: if political risk insurance were to be offered would there be demand for it? Is there any other entity (be it private or public) that offers similar instrument? If so, does the government have any comparative advantage to offer this instrument?)
- Evaluating the overall consistency and adequacy of government policy (in the Moldovan case: is there any other government program that offers guarantees to this sector of the economy? At what prices? Is the success of the instrument contingent on the implementation of structural changes?).

95. In Moldova, a demand survey would have revealed that most of the working capital financing was being provided by multi-lateral institutions (thus demand for political risk insurance would be limited), that the facility would be crowded out by the Government's own guarantee program if the government did not discontinue the program, and that demand would be sluggish to begin with because the Government had stalled on structural reforms.

96. Finally, the Moldovan case study highlights the importance of an adequate pricing policy for the facilities' instruments. This is, however, not an easy undertaking especially in the case of contingent instruments, the prices of which basically have to be derived from complex option price models. If reference prices are used, the Moldovan case illustrates that it is important to ensure that the employed reference price matches the main features of the instruments offered in terms of maturity and types of risk covered.

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