

# Alternative Loan Guarantee Mechanisms and Project Finance for Infrastructure in Developing Countries

Stephany Griffith-Jones  
and  
Ana Teresa Fuzzo de Lima<sup>1</sup>

Institute of Development Studies, University of Sussex  
Brighton BN1 9RE, UK  
Tel: (01273) 678368 (Intl +44 1273)  
Fax: (01273) 621202/691647  
Email: [s.griffith-jones@ids.ac.uk](mailto:s.griffith-jones@ids.ac.uk) and [anateresa\\_lima@yahoo.com.br](mailto:anateresa_lima@yahoo.com.br)  
<http://www.ids.ac.uk/ids>

February 2004

## ***Summary:***

This paper is concerned with infrastructure investment in developing countries: it aims to demonstrate that since the late 1990s, such investment was characterized by a process of credit rationing and that Multilateral Development Banks and Export Credit Agencies have a role to play in addressing this rationing through the use of loan guarantee mechanisms. It seeks to highlight the need for alternative loan guarantee mechanisms as a means of helping to restore private capital flows to infrastructure projects in developing countries. Specific policy proposals are developed.

---

<sup>1</sup> We thank the Ford Foundation for valuable financial support for this research. We thank UNDP, especially Inge Kaul and Ronald Mendoza for very valuable comments. We are also grateful to four anonymous referees for their comments.

## Introduction

The 1997 Asian crisis discouraged capital flows to developing countries. Despite all the incentives provided during liberalization, privatisation and improvements of financial instruments for risk mitigation, since 1998 the decline of private participation in infrastructure has been sharp: in 2001 it returned to the levels of 1995 causing vital projects to be halted or not even started in developing countries. Currency devaluation has prevented governments in developing countries from fulfilling their contractual obligations with investors and sponsors of long-term infrastructure projects. This context highlighted the dangers of currency and regulatory risks. As a consequence, the importance of insuring infrastructure investment against currency volatility has grown considerably. This is particularly the case for those projects considered tariff sensitive, namely those whose revenue stream is in local currency and depends on individual consumers – examples include toll roads, power, water and sanitation; this is problematic for foreign investors who wish to remit profits, and possibly capital, in foreign currency.

This context has encouraged investors, multilateral organizations and governments to start looking for new and more flexible ways to mitigate currency and regulatory risks. Some defaults by host governments and the discontinuation of key infrastructure projects reinforced the idea that the protection afforded by official agencies' (multilateral development banks and export credit agencies) participation was weaker than was once believed. Therefore, examining the loan guarantee mechanisms available for infrastructure investment from multilateral development banks and export credit agencies in today's context is key to establishing viable alternatives in terms of mitigating the risks that cause the rationing of private investment.

This paper aims to contribute to the debate about ways to enhance flows to developing countries, focusing on private investment flows to infrastructure. Preferably this enhancement should have a counter-cyclical element. This study attempts to unveil strengths and weaknesses of the loan guarantee mechanisms currently in use for infrastructure investment, and suggests new mechanisms. The conclusions and recommendations that we present also draw on more than 20 interviews with key stakeholders in infrastructure investment<sup>2</sup>

## 1. The boom and the bust of private infrastructure provision in developing countries

### 1.1. The boom

The wave of liberalization of the early 1990s, followed by the "privatization rush" shifted the provision of public goods and infrastructure. The new paradigm encompassed a blend of public and private funding. As shown in figure 1, investments<sup>3</sup> in private infrastructure projects in developing countries jumped from \$18bn in 1990 to \$128bn in 1997.

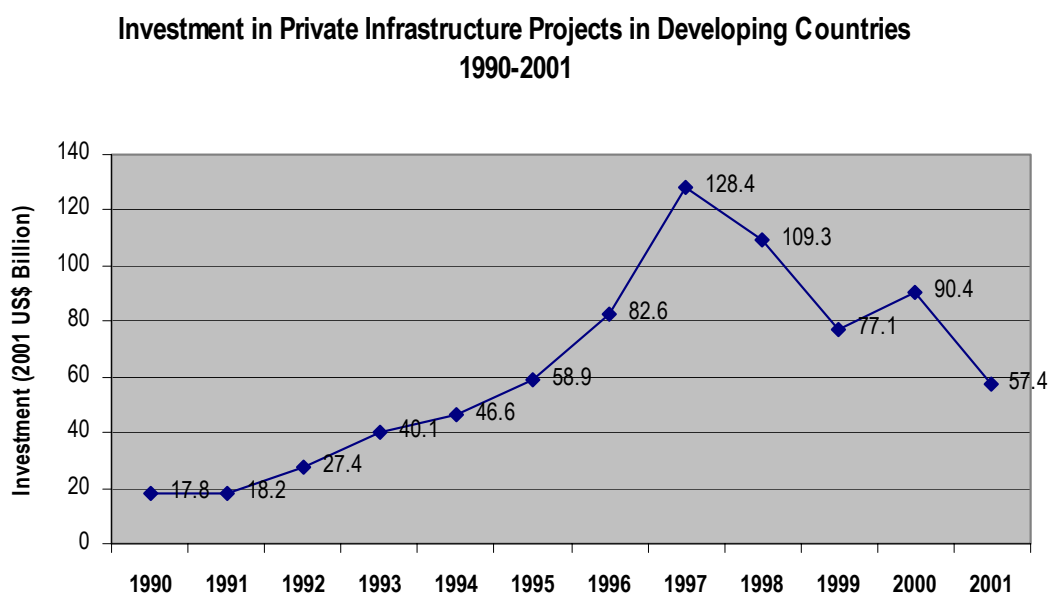
---

<sup>2</sup> These involved investment bankers, senior executives of multilateral development banks, members of the finance ministries in governments in the UK and in developing countries and academics concerned with innovative mechanisms for financing infrastructure.

<sup>3</sup> According the World Bank Private Participation in Infrastructure Database, investments in infrastructure projects are:

- Investments in expanding and modernizing facilities and

Figure 1:



Source: World Bank (2001)

This boom in investment was largely led by the privatisation and development of telecommunication and power utilities. Latin America was the favoured bet. According to the World Bank PPI Project Database, between 1990 and 2001, 132 low- and middle-income countries introduced private participation in infrastructure sectors. In the same period the private sector took over the operating or construction risk, or both, for almost 2,500 infrastructure projects in developing countries, attracting investment commitments of more than US\$750 billion. Middle-income economies accounted for most of the investment flows to infrastructure projects with private participation in developing countries. Projects have been implemented under schemes ranging from management contracts (with or without investment commitments) to divestitures to build-operate-own or build-operate-transfer contracts for greenfield projects (World Bank 2001).

## 1.2. The bust

After 1998, the fall in private investment was very large, even if considering that privatization is a one-off event: by 2001, private investment flows were at only 44% of their peak 1997 levels. Many contracts had been renegotiated<sup>4</sup>, others had been cancelled or re-nationalized, exposing governments to severe compensation claims. Between 1997 and 2001, 74% of transport concessions and 55% of water concessions were renegotiated. During contractual negotiations, investors wanted to limit regulatory discretion and avoid exposing themselves to the politicised nature of pricing. In the early nineties 1990s, most of the contracts allowed space for annual renegotiations without risking the contracts themselves. This proved appropriate.

- 
- Expenditures on acquiring government assets such as state-owned enterprises or rights to provide services in a specific area or to use radio spectrum.

<sup>4</sup> See Gualsch (2003). It is worth mentioning that renegotiation of concessions is not necessarily a bad sign, in fact it could lead to stronger deals insofar as it adjusts for the initial information asymmetry between governments and companies.

The “bust” phase was filled with disappointment. Not only for the investors, but for governments and for end users. There was increased risk aversion and extra caution in the calculation of revenues streams by investors. Additionally, there were signs of public discontent towards private provision of infrastructure; particularly those that were tariff sensitive such as electricity and water.

The causes of the fall in flows were intimately linked with loss of confidence on the part of the investors due to frequent crises in emerging markets and fear that governments would not fulfil their contractual obligations in relation to tariff readjustments. This was particularly so when large devaluations occurred.

Without proper loan guarantee mechanisms to counteract this rationing, the situation of infrastructure investment in developing countries is critical given rapidly growing unmet infrastructure needs. According to the World Bank, the need for infrastructure in developing countries is enormous: Latin American countries need \$50 billion of infrastructure investment per year over the next decade<sup>5</sup>.

The liberalization of many emerging market economies, occurring in the context of relatively underdeveloped financial markets, has meant reliance on foreign capital to finance growing needs, with the concomitant risk for the economies of sudden reversals of those flows. Recent crises reduced willingness of investors to provide capital for emerging markets<sup>6</sup>.

Infrastructure finance subjects private investors to major risks because investments are often large and their costs can be recouped only over long periods. Also, investments are largely sunk; the assets cannot be used elsewhere except at great cost. Furthermore, infrastructure projects often provide services considered essential and provided by monopolists. As a result, services are highly politicised. This makes investors vulnerable to government actions (Irwin et al, 1999).

Based on the experience of the 1990s in developing countries, it is possible to pin down four main reasons why infrastructure finance is not attractive to foreign private capital flows. Firstly, the exposure to currency risk since project revenues are mostly generated in local currencies while servicing of foreign capital, whether debt or equity, involves payment in foreign currency. Secondly, these investments imply a high degree of specificity, which make investor hesitant without a proper contractual protection<sup>7</sup>. Thirdly, the possibility of divesting equity holdings in infrastructure projects is limited in developing countries, which implies that project promoters are committed to a project, a country and a sponsor for several years. Lastly, infrastructure finance follows a pattern according to which project risks are resolved over time<sup>8</sup>. The high concentration of project risks in the early phase of project life cycle gives substantial value to early information and transparency about government strategies and policies (Dailalami and Leipziger, 1997).

Governments along with MDBs and ECAs, have a key role in terms of providing guarantees to

---

<sup>5</sup> “Latin Report: Project Trends”, *Project Finance* (June 2000)

<sup>6</sup> For an in depth discussion about infrastructure flows, see Vives (1999). For a discussion of flows in general see Griffith-Jones (2003)

<sup>7</sup> All the phases (construction and operation) are highly risky. The construction phase encompasses the major risks; it incurs high technical and political risks while the project is not even generating revenues. See also Dasgupta, S. and K Sengupta. 1993.

<sup>8</sup> Wilson, R. (1982)

make infrastructure investment viable. The cooperation between MDBs, ECAs and host governments is vital to cover policy risks (e.g. currency transfer, breach of contract by government entities, etc) or introduce the appropriate reforms when necessary. Additionally, governments are the only entity able to provide insurance against lack of commitment by public sector institutions that in an adverse environment could be tempted to renege tariff undertakings, for example.

Although this paper is concerned with improving guarantees to address the credit rationing for infrastructure projects, we acknowledge that policy reforms to reduce risks are the best alternative. It is clear that stable macroeconomic policy and a well-functioning international financial system reduce likelihood of large changes in exchange and interest rates and credit rationing internationally.

## **2. The risks of financing an infrastructure project.**

The risks of financing an infrastructure project refers to all the “possibilities” of delays or differences in returns to that which investors would receive if everything went according to plan. The distinctive nature of large infrastructure projects implies that investors face risks that differ from those of typical productive investment (Griffith-Jones, 1997):

- a combination of high capital costs and low operating costs implies that financing costs are a very large proportion of the total;
- long construction periods are most often combined with slow build up of revenue
- the project’s cash flow is the crucial element in the return to equity investors and in the security of the lenders (in the absence of public guarantees)

Most of the risks related to an infrastructure project can be found in any country. However, the financial risk of exchange rate fluctuations as well as regulatory risks with the host government are particularly large in developing countries. Those two risks were identified in our research as of most concern. Currency devaluation still leads as the main obstacle to attract long term investment, although recently local currency bonds and liquidity facilities offer some relief.

In an infrastructure project there are two main categories of risk: commercial and political risk. Commercial risks are risks that may affect the commercial operation of the project, including construction delays and cost overruns, increases in operating and maintenance expenses, changes in prices of inputs and outputs, availability and quality of supplies, and contractor insolvency. Additionally, commercial risks are all risks relating to: (i) construction of the facility; (ii) markets; (iii) operating phase; and (iv) finance. The commercial risks are generally within control or management of the project sponsors. This is in contrast to the political risks, mostly under the control or influence of the Government.

Political risk arises from the fact that some unforeseen event may change the project’s prospects for profitability. Political risks might be caused by actions (such as changes of laws that adversely affect project economics) or inaction (i.e. not approve an expected tariff increase or approval delays) by the government. Each phase has a different risk profile and financing requirements. Because of the varying characteristics of these phases both equity investors and lenders can be expected to seek different rewards and require different guarantees, depending upon which of these different phases they are required to participate in (Griffith-Jones, 1993:16).

Projects, which have cash flows generated in foreign currency, such as oil, gas and power utilities<sup>9</sup>, are less troublesome since currency risks of the foreign investors are partially mitigated<sup>10</sup>. Most large project finance transactions are restricted to schemes that can generate revenues in hard currency or are linked to hard currency.

Guarantees are very suitable instruments for long term infrastructure projects. As regards to hedging and derivatives as alternative ways to mitigate currency risk, there are several constraints:

- Derivatives markets do not exist for many currencies
- Long-dated forward exchange rates exists only for a few non-OECD countries that have investment ratings
- It is therefore unlikely in most cases that forward foreign exchange transactions could be arranged at an affordable cost with sufficient tenor to serve as basis for financing infrastructure projects.<sup>11</sup>

The instruments to mitigate economic risks are numerous. The ones that involve loan guarantee mechanisms and are relevant to this study include:

1. Mix local currency and foreign currency loans – Cover as much of the project as possible with local currency finance, to avoid excessive reliance on foreign funds. This reduces currency risks, since both assets and liabilities will be in local currency.
2. Index output prices to exchange rate.
3. Swap currency – If possible local currency should be readily swapped with a major foreign currency to remove project's currency risks. This is applicable especially during the initial phase of mobilizing funds for the project.
4. Contingency sponsor support – Foreign sponsors can pledge contingency foreign currency support in various ways.
5. Escrow account – When a project earns convertible hard currency, its foreign earnings can be deposited in a special escrow account.

### **3. Available loan guarantee mechanisms**

The financial market has developed sophisticated structures to mitigate risks of long-term investment such as infrastructure projects in developing countries. Nonetheless, there is an eminent need for effective loan guarantee mechanisms to deal with currency and regulatory risks. Although government in developing countries offer guarantees and protection to foreign investors, their financial capacity to deliver on such commitments is in doubt.

Project finance plays a crucial role in infrastructure financing. To the greatest extent possible, project sponsors absorb commercial risks. Some financial risks can be shared with creditors under project financing. But creditors usually devise security packages to protect themselves. Only when such packages fail to yield sufficient value does the risk of an actual loss materialise for a creditor (Mistry, 2003:29).

---

<sup>9</sup> When power utilities revenues are in local currencies, these faced serious financial difficulties in Indonesia, following the Asian financial crisis. There are foreign exchange indexation components in some of the power tariff setting formula. However, even with indexation to foreign exchange movement by an off taker, there is still an inherent risk from currency mismatch of power utilities.

<sup>10</sup> Interview material

<sup>11</sup> For a more detailed discussion see Sheppard 2003

### **3. 1. Multilateral Development Banks**

Multilateral Development Banks have a special role in assisting private enterprises undertake financially viable projects with significant economic and social merit, and therefore achieve positive development impact. Multilaterals are in a unique position to assist in mobilizing international private capital.

The direct participation of multilaterals in private sector activities provides an additional attraction to long-term investors, by providing comfort to them. Innovative financial solutions involving a mixture of private and official funding sources may be needed for commercial lenders and equity investors to manage the risks associated with investing in developing countries.

It is now common practice that multilaterals directly support private enterprises, private equity funds, and financial institutions. Their traditional modes of financing are equity investments and hard currency loans. There are several credit enhancement products to facilitate co-financing<sup>12</sup>.

The projects may involve various forms of risk-sharing and ownership arrangements including build-own-operate (BOO) and build-operate-transfer (BOT) structures. For example, ADB recently executed a bond issue in the Indian domestic capital market and raised Indian Rp 5,000 million (10 years fixed rate) for ADB's private sector infrastructure investments in India. An example of cooperation among multilaterals in terms of providing more comprehensive and effective financial structures to finance infrastructure is the Public-Private Infrastructure Advisory Facility (PPIAF)<sup>13</sup>, a multi-donor facility, which assists Governments to promote private sector involvement in infrastructure.

### **3.2. Export Credit Agencies**

Export Credit Agencies (ECAs) are supported or owned by a government, and exist to support and encourage the sale of capital goods. ECAs and investment insurance agencies often work in partnership with multilateral development banks (MDBs) to finance capital and infrastructure projects in developing countries. ECAs employ many of the same risk reducing instruments that the World Bank Group relies on, such as investment insurance and, political and commercial risk guarantees.

While multilateral banks accounted for roughly 17 percent of developing country debt during the 1990s, ECAs accounted for 31 percent (Esty, 2003). From 1994 to 1999, ECAs provided some form of support for just under half of all financing for energy intensive projects. ECA financing is most heavily concentrated in oil and gas development and fossil-fuelled power generation. The overwhelming share of ECA financing was provided by the world's seven leading industrialized economies (World Resources Institute, 2002).

ECA guarantees are especially important for BOT projects, since those were meant to relieve the government of the burden of carrying in its budget capital intensive projects that can be done by private investors. These projects generate employment and increase domestic

---

<sup>12</sup> For a more detailed explanation see the longer version of this paper on <http://www.ids.ac.uk/ids/global/Finance/ifpubs.html>.

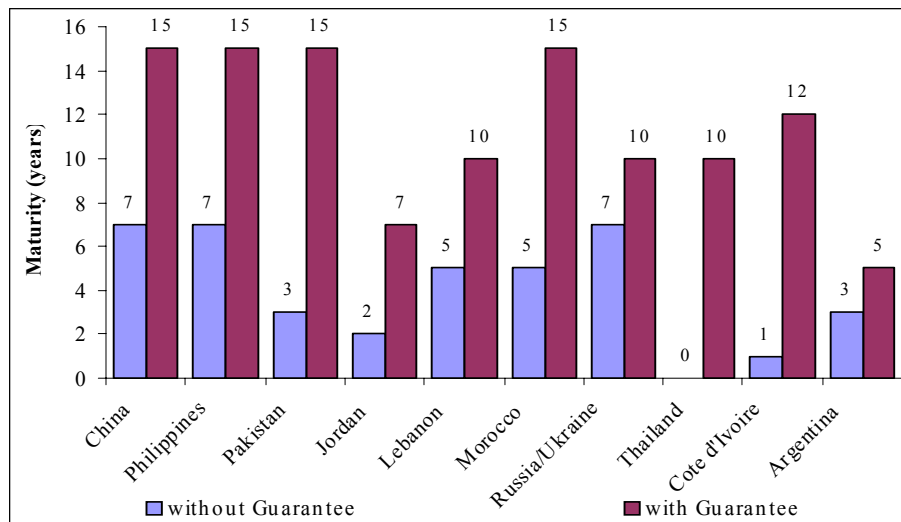
<sup>13</sup> <http://www.ppiaf.org/>

demand on account of their linkages to other industries. The stimulus for growth and employment is particularly valuable in recessions.

### 3.3. Advantages of current loan guarantee mechanisms

One of the main features of guarantees is that they extend maturities of debt instruments in developing countries. According to the World Bank, this is up to twelve times what would have been without guarantees (figure 2). Nonetheless, this does not imply that the guarantees can lengthen the duration of private credits not covered by the guarantee.

**Figure 2: Difference in maturities in infrastructure projects in developing countries**

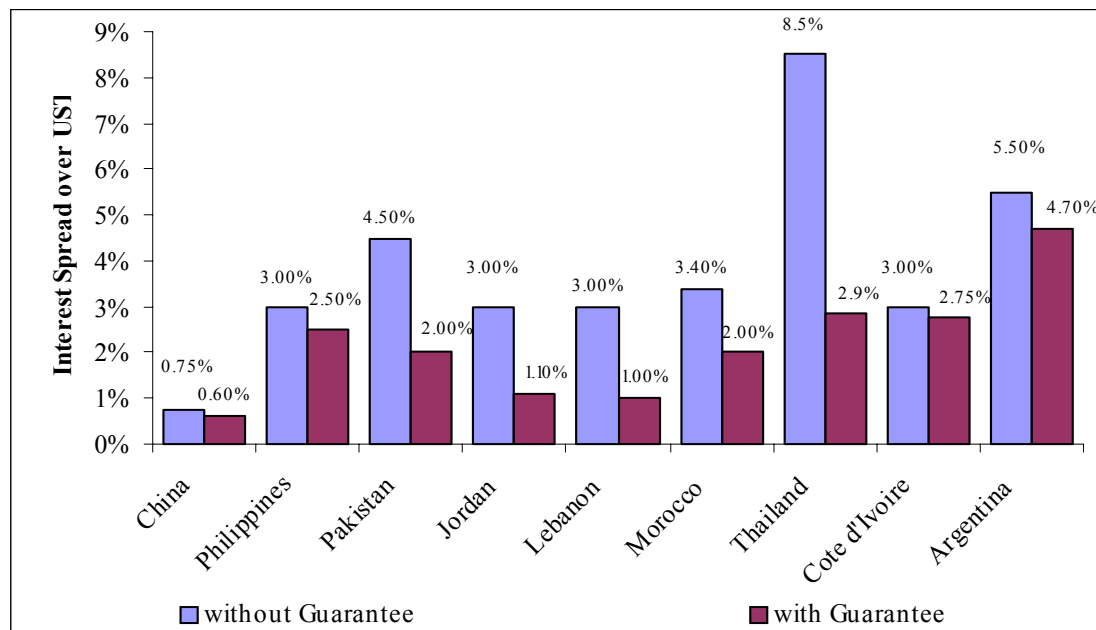


Source: World Bank (2001)

Another positive feature of guarantees is its ability to reduce spreads. Loan guarantees may also affect the interest rate pertaining to the non-guaranteed private credits. For example, in Thailand the interest spread over US Treasury for infrastructure finance was calculated as 8.5% without guarantees and 2.9% with guarantees (see figure 3).



**Figure 3: Difference in interest spread over US Treasury for long term loans for infrastructure projects in developing countries<sup>14</sup>**



Source: World Bank (2001)

Most of all guarantees have an important catalytic impact on private investment and based on the projects guaranteed by the World Bank (2001) each dollar of guarantee mobilized financing for \$11 of project cost, and catalysed \$4.7 of private finance. The credit enhancement that results from the use of guarantees has been instrumental in providing access for developing countries to capital markets under reasonable terms.

Also through making projects viable, guarantees provide countries with experience in dealing with international private capital providers and in using extremely complex financial structures. This experience speeds up financial market development and enables the borrowing country to build a track record.

### **3.4. Disadvantages and flaws of the current loan guarantee mechanisms**

Despite all the advantages of the current loan guarantee mechanisms, in terms of infrastructure financing, there are still important challenges to be overcome. The two most urgent risks to be mitigated according to the market perception reflected in interviews are currency and regulatory risks. Although there are initiatives such as the local currency partial credit guarantee offered by the IFC, it is not widely used and is available to very few countries, mostly upper middle income ones. Currency risks have always been a concern to lenders that pursue long term investment in developing countries, particularly with regards to infrastructure projects that mostly have revenue stream in local currency. Furthermore, one of the consequences of the currency mismatch in infrastructure projects is the considerable worsening of regulatory risks; in an event of currency devaluation the government in developing countries finds itself impelled to default its contractual obligations, especially the off-take agreements<sup>15</sup>.

<sup>14</sup> The financial cost of the guarantee has not been incorporated in presenting this information. Thus, the difference in the (gross) interest rate spreads appear slightly more significant than it would otherwise.

<sup>15</sup> This problem has occurred in India, China and Brazil, all of them after 1998.

The recent heightening of currency risk aggravated the perception of regulatory risk. Regulatory risks, mainly contract breach, are also not new, and have been included in most guarantee mechanisms; however investors have incurred in serious losses over the past five years<sup>16</sup>.

Project sponsors do not control volatility in currency value. The volatility of these parameters could be borne by the host government. However, these are not in position to bear such risks given their fiscal constraints. Given the credit standing of developing countries it is not possible to make these government guarantees credible without a more creditworthy source, such as ECAs or MDBs. The most troublesome projects are tariff sensitive ones, when the infrastructure project generates revenues mostly in local currency. Currency risk can be mitigated by using local currency funding for projects that earns revenue in local currency. In many cases this may be difficult because of the lack of fixed rate long-term local currency funds in the domestic capital market. Another factor that encourages the perpetuation of currency mismatch is because foreign banks in the past lent in hard foreign currencies.

There are also operational disadvantages. The main operational problem of loan guarantee mechanisms was that it was extremely time consuming. Also loan guarantees carry a large transactions cost relative to straightforward loans. The guarantee deals are fairly complex and require a great amount of learning by the private markets participant and by the borrower governments.

#### **4. Alternative Guarantee Mechanism to Overcome the Currency and Regulatory Risks**

Crises in recent years dramatically reduced the total and foreign investment in infrastructure in developing countries. It is urgent that these countries give a step forward in terms of rebuilding investors' confidence. The natural path to address the regulatory and currency risks is to become less dependent on foreign sources of finance and therefore establish a strategy for local financial market development.

Guarantees are a vital mechanism for enhancing flows to infrastructure project finance particularly in developing countries that are going through a credit rationing process. Guarantee mechanisms from source countries or international financial institutions can catalyse private finance when other instruments do not suffice. These mechanisms should ensure that particular projects obtain the necessary financing where otherwise this would not be feasible.

In these circumstances, it is imperative that guarantees should be tailor made *pari passu* with market imperfections, otherwise they might undermine the initiatives to enhance private capital flows to developing countries for two reasons. First, they can discourage the private investors' incentives to choose only good projects – a clear sign of adverse selection - and also to run them efficiently. If the government bears the risk of the project's failing, the private investor will invest in projects that are potentially more profitable but more likely to fail; having invested in a project, the private investor has little interest in maximizing its chance of success. Second, guarantees can impose excessive costs on the host and source countries' taxpayers or consumers and expose them to too much risk. Because guarantees rarely show up in the government's accounts or budgets, governments may not know the extent of their exposure. In

---

<sup>16</sup> Interview material

this sense, it is crucial that contingent liabilities of guarantees are carefully monitored and their risks assessed. This would become particularly important if guarantees become more widely used, as suggested below.

The financial structure used for these projects tie the output prices to an “estimated” dollar exchange rate and revenues are contractually committed to increase with the host country’s foreign exchange rate. This structure imposes a considerable burden on the project performance. In the event of devaluation it becomes very unlikely that the end-user in a developing country will be able to absorb its impact on prices, also governments may deny output purchasers sufficient tariff increases or purchasers may default regardless of the consequences (e.g. Argentina and Indonesia).

As said before one of the main concerns when structuring new mechanisms to enhance private flows to developing countries is the way risk is perceived. Currently, there are fewer investment-grade developing countries than in the mid-1990s. This problem is worsened by the fact that after all the crises, fixed-income investors are increasingly reluctant to incorporate in their portfolio low investment-grade debt that could be issued by infrastructure projects.

We will propose four guarantee mechanisms to address these constraints and help restore private flows to infrastructure finance in times of drought: liquidity facilities, local currency bonds, counter-cyclical guarantees and sovereign guarantee pool. Liquidity facilities were already used in one project; as they represent an important step forward, they deserve to be applied more generally. Regarding local currency bonds, we suggest the structure of this instrument using multilateral guarantees in order to not only develop local market but also expand it to foreign investors. We also suggest guarantees have a more explicit counter-cyclical element. And lastly, with the sovereign guarantee pool, we propose the creation of a multi-governmental risk assessment and guarantee provider agency that works based on neighbour countries’ cooperation and risk sharing.

#### **4.1. Liquidity Facilities**

The conceptual operationalization of foreign exchange liquidity facility (FELF) is relatively simple. It aims to separate currency from operational risk. The parties involved firstly should agree upon a “floor value” as the minimum cash generation by the project that converted in US dollars, allow the payment of the scheduled debt service. When establishing a floor value it is important that there is sufficient margin for deviations in the operational performance from the initially projected performance levels. The calculation to determine the possibility of cash shortfall is based on actual inflation and current exchange rates. In the event of a currency devaluation that results in the inability of the project to repay its debts, that is the cash generation becomes insufficient to reach the floor value, the liquidity facility is temporarily drawn upon. A loan is made to the project’s senior lenders to be paid back when the project’s cash flow allows. This is presumed will happen when prices rise as devaluation will lead to increases in prices and tariffs<sup>17</sup>.

Price, availability and size of a liquidity facility depend on the historical fluctuations of the real exchange rate of the host country. There is only one project until now implemented. It is in

---

<sup>17</sup> However after recent devaluations pass-through has been less than 100% implying prices have increased less than the devaluation. This could be a weakness of such liquidity facilities. Once there is a 100% pass-through, there would be no need for the liquidity facility. The purpose of the liquidity facility is to cover the period during which there is a substantially less than 100% pass-through.

Brazil: AES Tiete. In the context of infrastructure financing there are two liquidity facilities crucial for the mitigation of currency devaluation risks: (i) Foreign Exchange Liquidity Facility (FELF) and (ii) Contingent Partial Credit Guarantee (CPCG) provided by IFC.

Contingent Partial Credit Guarantees are liquidity facilities provided by the International Financial Corporation (IFC) for US dollars and local currency financing. The trigger for this facility is a major devaluation in the project's host country whereby the project will not be allowed to raise prices satisfactorily in the short term. This guarantee is usually provided for two years that is the period IFC estimates as sufficient for the project to recover from an economic downturn and raise the tariff or prices sufficiently.

The liquidity facility provided to AES Tiete (Hydroelectric Power Plant in Brazil) involved two liquidity facilities covering country risk and inconvertibility. The country risk was mitigated through an OPIC Capital Markets Inconvertibility combined with a FELF to mitigate risks of devaluation. The FELF was provided as a revolving credit facility and insured that the devaluation of Brazil's currency will not cause the issuer to be unable to meet its debt service obligations. This transaction achieved the longest tenor ever by corporate issues and was priced 237 basis points less than Brazilian sovereign debt.

High coverage ratio and long tenor make liquidity facilities particularly suitable for infrastructure project financing. At the same time the long useful life of assets in infrastructure projects are a solid basis for the repayments of debts and allow more innovative instruments. The reasons for the different parties to use a FELF vary. The size of a FELF facility is normally 10 to 25% of the principal amount of the capital market's issue. The liquidity facility has an element of counter cyclical, as the project continues without a problem in the face of a large devaluation.

#### **4.2. Guarantee for Local Currency Bonds**

The objective of this instrument is to create and direct credit enhancement of domestic long-term debt issues for infrastructure projects to foreign investors. The guarantees for local currency bonds should be a blend of the guarantees available for domestic investors plus a focus on avoiding currency shocks. As previously said, the lack of available coverage for currency volatility represents an important market failure to be addressed. The development of more efficient local markets avoids currency mismatch.

It is important to stress that local currency bonds are different to inflation-indexed bonds. They have different objectives. Inflation indexed bonds are concerned mostly with inflation and aim to provide reasonable certainty about the price level over the sorts of horizons relevant for most wage and price-setting decisions. While likely inflation is to be considered when structuring a finance package for an infrastructure project, currency risk is the key variable of interest to foreign investors mainly interested in returns in foreign exchange.

As part of our recommendation of alternative guarantee schemes, we advise the creation of guarantee mechanisms that insure and encourage the international investor to buy local currency bonds. Existing guarantee mechanisms for local currency bonds, such as the ones structured by IADB, are valuable but are available only to the domestic investor. We have consulted multilateral development banks, which confirmed their interest in making these instruments available, however further research, is required to determine further details.

A pre-condition for guaranteeing or structuring local a currency funding mechanism is the existence of a reasonably solid capital market in the region, which is not often the case. However, even when a developed capital market is in place, to create local currency funding instruments present a number of challenges. Of those challenges two should be stressed: how to gain investors confidence (nationally and internationally) and how to ensure a political and economic environment that allows a fair credit rating for the bonds.

The extent of the guarantee will depend on the assessment of the risks entailed in the project as well as the capacity of the guarantor. Since one of the aims of this paper is to push forward initiatives that consider the infrastructure project with a perception of risk dissociated from the host government, these bonds will be issues on behalf of the project itself, as a special purpose company. The premium would vary according to the phase of the project. Naturally in the construction phase the risks of delays and cost overrun would be higher than in the operation phase. We are aware that there are a lot of mechanisms to ensure project performance, but in this case the project performance can be translated in a greater amount (the transaction costs of overruns and delays) of currency mismatch to be covered in the event of devaluation, which is the ultimate risk to be covered. As a safeguard feature for both investors and sponsors the repayments of bonds could be income-linked in the operation phase. The guarantor (e.g. a multilateral development bank) could bear the risks of currency devaluation, but up to a certain limit, (e.g. 30% of devaluation, to prevent open-ended contingent liabilities. The guarantor should pay the lender or investor to that limit. Like in the liquidity facility described in 4.1, the guarantee could also cover for a limited time period, e.g. two years.

Initially we foresee as guarantors, multilateral development banks. Naturally there will be space for counter-guarantees from the sponsor of the projects and from the local/regional/national host government. However multilateral development banks are the most familiarized with this kind of financing. Currently, the IADB already offers a series of guarantee mechanisms available only to domestic investors. There is a need to create guarantee schemes so that foreign investors also can participate in, and contribute to the development of local capital markets and therefore enhance flows to infrastructure investment.

### ***4.3. Counter-cyclical guarantee facilities***

It is widely accepted that international financial and banking markets tend to overestimate risk in difficult times and underestimate it in good times. As a result, private lenders are prone to boom-bust patterns that are often more determined by changing global preferences for risk aversion and/or contagion between developing countries, and not so much determined by country fundamentals. This provides a strong case for public institutions to play an explicit counter-cyclical role to help compensate for the inherent tendency of private flows to be pro-cyclical, for example in long-term trade credit for infrastructure investment.

There could be two paths for increasing the counter-cyclical role of national or international bodies. One would be for public international bodies like the multilateral development banks to provide more counter-cyclical lending than already occurs e.g. in infrastructure. Another path, that if successful could provide more leverage of public resources, would be for multilateral development banks (MDBs) and export credit agencies (ECAs) to introduce an explicit counter-cyclical element in all the risk evaluations they make for issuing guarantees for lending to developing countries. This requires MDBs and ECAs to assess risk for issuing guarantees with a more long-term perspective than is typically done by commercial banks; this would imply that when banks or other lenders lowered their exposure to a country, MDBs or ECAs would increase their level of guarantees, if they considered that the country's long-term fundamentals

were basically sound. When matters were seen by private banks to improve, and their willingness to lend increased, MDBs or ECAs could decrease their exposure, for example by selling export credit guarantees in the secondary market. Imperfections in the secondary market for such debt could limit the scale of such selling; however, this market could be further developed. This would avoid greater counter-cyclical of guarantees, resulting in an increase in the long-term level of guarantees.

To the extent that MDBs and ECAs increasingly use models to assess risks (as is the case of the UK ECGD), taking a more long-term view would require the use of more long-term models than those used by private lenders; these would be models that are presumably better at “seeing through the cycle”, as they would use more measures of risk focused on long-term fundamentals, less affected by short-term variations than market-sensitive measures typically are<sup>18</sup>.

Alternatively there could be special stand-alone guarantee mechanisms for long-term trade credit, for example within multilateral or regional development banks, or even bilaterally, that had a strong explicit counter-cyclical element; this could be activated in periods of pre-crises, during crises or for countries facing a sharp decline and/or dramatic increase in cost of capital inflows as it or other developing countries emerge from crises; its aim would be to try to catalyze long-term trade credit, especially linked to infrastructure broadly defined.

Indeed, once the need and positive role that explicitly counter-cyclical guarantees could play to catalyze private long-term credit to developing countries is accepted, it is important to define where institutionally such guarantees should be placed. ECAs have traditionally played quite an important role in providing such guarantees; however, for a number of reasons, including the emphasis in several ECAs towards a shift to a purely commercial basis<sup>19</sup>, the role of several developed countries ECAs in granting guarantees for lending and investing in developing countries is declining. If this trend were to remain, it becomes imperative both: a) to expand and b) to make explicit counter-cyclical guarantees in multilateral and regional development banks, either by introducing counter-cyclical as a general criteria for all guarantees or by creating a stand-alone facility for this purpose.

To ensure that there is an effective expansion of the level of guarantees issued by multilateral and regional development banks, existing guarantee mechanisms may need to be improved or enhanced and/or new mechanisms may need to be created. Existing problems –such as excessive restrictiveness of criteria for granting guarantees, approval processes of guarantees that may be too cumbersome and excessive costs– may need to be overcome. Furthermore, mechanisms for increased leverage of development banks resources in providing guarantees need to be further explored and implemented, for example by guarantees being provided only for later maturities of long-term projects. Studies and – above all – actions are essential to ensure that multilateral and regional development banks increase the level of their guarantees, so the introduction of explicit counter-cyclical elements in such guarantees becomes meaningful.

---

<sup>18</sup> Reportedly, ECAs are already somewhat less pro-cyclical than private lenders, because 1) they tend to guarantee more long-term projects, which implies that their average time horizons are longer than those of banks and bondholders 2) they reschedule collectively via the Paris Club, apparently giving them more leverage to recover unpaid debts and 3) they have somewhat higher risk tolerance. However, the differences between ECAs assessment of risk and that of rating agencies seems to be narrowing (Griffith-Jones and Spratt 2001), thus diminishing the counter-cyclical role of ECA guarantees. If the need for an explicit counter-cyclical role for ECAs is accepted, these recent trends would need to be reversed.

<sup>19</sup> Interview material

If properly designed and implemented, counter-cyclical guarantees could provide an important policy instrument to help deal with a genuine market failure, the boom-bust pattern of private lending; the desired policy outcome would be to help smooth private lending.

#### **4.4. Sovereign Guarantee Pool (SGP)**

An alternative to mitigate currency and regulatory risks is to push forward regional<sup>20</sup> efforts to create guarantee agencies that enable currency and regulatory risk sharing among countries that have common interests and projects and could benefit from the multiplier effect of infrastructure development in the neighbouring economies. These agencies could enhance the credit worthiness of single country members and therefore of their government guarantees. The guarantee agencies could provide pooling (on behalf of all member states) guarantees that will back the counter guarantees provided by host governments to MDBs and ECAs in the mechanisms described above. If carefully structured, an effective risk management system can achieve a better credit standing status. The cumulative effect of these combined bodies should prove to be credit worthier than the several different governments working separately. Initially, however, the mechanism would benefit primarily common projects between two countries. More specifically, a pilot plan would select infrastructure projects close to borders.

This structure could count on technical assistance of regional or sub-regional development banks in the development phase for risk management and assessment. The guarantee agencies would play an intermediary role of risk mitigation between the governments and MDBs and ECAs in order to enhance the attractiveness of infrastructure project finance to private investors and gradually regain the confidence through hands-on-experience. The risk assessors and guarantee providers in this agency could be a team of executives from the finance and planning ministries of the countries involved. The idea is to create in the long run expertise among the governments and therefore credibility and awareness.

The concept we propose as sovereign guarantee pool is a contractual mechanism for risk sharing among governments. This instrument has as its main objective to create a multigovernmental guarantee mechanism to mitigate currency and regulatory risk of large infrastructure projects. It would apply to governments that benefit from the same infrastructure project and have complementary ratings. Complementary rating is when there is a difference in the sovereign rating of the two countries but the project could bring sufficient economic advantages to balance the difference in risk perception. After economic and political assessment of a certain project, a country with higher rating finds it economically advantageous to do risk sharing because the marginal social cost is lower than the marginal social benefit generated.

The country with the higher credit rating has interest to have the project funded via this mechanism. Firstly, because governments usually have budget constraints. Secondly, infrastructure projects have a great multiplier effect in terms of social and economic development. Finally, this type of agreement has important benefits in terms of regional integration and credit enhancement in the long term.

---

<sup>20</sup> In a series of informal meetings held with senior economists of the Peruvian government with key policymakers and academics from the Rio Group about innovative financial mechanisms for infrastructure development, we introduced an idea of risk mitigation and enhancement of current guarantee schemes based on regional cooperation that was largely welcomed.

The lower rated country can compensate the guarantee coverage provided by its higher rated partner in different phases of the project. The scheme for payment should be agreed beforehand. There are a few alternatives for this compensation:

- (i) The coverage for the currency risks on the lower rated country could be charged to the sponsor of the infrastructure project;
- (ii) The coverage for the currency risks on the lower rated country could be charged to the lower rated country;
- (iii) The country with the higher rating that undertakes the coverage for the whole project, once the project start to generate revenues, should benefit proportionally more that what it has invested to off-set the cost of its guarantees.

Involving higher credit rated countries would provide access to financing instruments to key infrastructure projects in countries that otherwise would not enjoy this access and/or lower their cost, SGP is a mean of leverage whereby a project risk assessment is favoured by the sponsorship of a neighbouring country. The entrance of a party, (better rated than the one that hosts the project) to share the risks mitigates the currency and regulatory dangers. With regards specifically to regulatory risks, governments have an informational advantage in terms of future policies and use of policy instruments that can somehow mitigate these risks.

Arguably since 1998 investments products and guarantee mechanisms<sup>21</sup> offered by IFIs allowed higher ratings to transactions than those of the countries they were hosted in. The feasibility of a certain project to achieve an investment grade in foreign currency ratings depends on its ability to achieve investment grade in local currency, which has so far proven very difficult, particularly infrastructure projects<sup>22</sup>.

In terms of *de facto* efforts regarding sovereign guarantees, so far they are provided exclusively by governments as counter guarantees for multilateral development banks and other financial institutions. The SGP entails the possibility of creating a virtual secondary market for neighbour countries to trade initially regulatory risks and eventually currency risks as well.

As one would expect it is unlikely that investors will disregard recent turmoil in emerging markets and become keen on risks of long term projects in countries below investment grading. Therefore, the SGP is an alternative structure to breach sovereign ceiling, which would impose no burden (or significant costs) on IFI or development banks besides the initial knowledge transfer in terms of risk management and pricing.

There is an imminent need for further research to detail how such a structure would work legally and in terms of financial incentives. However there is not a necessity for standardization in a first instance. Initially it should work as a joint responsibility agreement for a specific project. Therefore, if one government defaults the other government immediately assumes the responsibility for those payments. Suppose that two neighbouring countries such as Chile and Peru, which have disparities in economic and political terms, decide to build a road that cross borders of both countries but also link two important productive poles. Although the perceived risk for Peru is higher than the one to Chile, the latter would be the parameter for investors. As a precondition for the risk sharing, the higher rated country would need to get higher benefits from the project.

---

<sup>21</sup> A loan/ B loan, partial credit guarantees, political risk insurance

<sup>22</sup> As mentioned in the text in the previous sections and as well summarized by Sheppard (2003) these characteristics are: (i) financing needs exceeding local markets' capacity, (ii) long pay back periods; (iii) dollar denominated inputs, (iv) assets difficult to re-deploy; non-tradable output and (v) regulated prices



There are clear benefits from the use of this mechanism. Firstly, the reduction of the risk perceived in the project would make the investment cheaper. Furthermore in the long run, an extended good track record of the use of this guarantee within a region should increase the credit rating of the region as a whole. Thirdly, this mechanism can promote regional integration.

Therefore this instrument would achieve three main objectives: (i) encourage more long term flows, (ii) counteract the increased risk aversion due to the recent contract breach by some host governments (iii) create a more solid practice within the developing countries governments to access infrastructure project risks and strengthen their financial expertise.

## **Bibliography**

Dailami, M., and D. Leipziger, 1997, *Infrastructure Finance and Capital Flows: A new perspective*. World Bank: Washington.

Dasgupta, S. and K Sengupta. 1993. "Sunk investment, Bargaining and Choice of Capital Structure". *International Economic Review*. No1. February.pp. 203-220

Esty, B.C., 2003, *An Overview of Project Finance - 2002 Update*, mimeo, Harvard Business School.

Griffith-Jones, S., 1993, *Loan Guarantees for large infrastructure projects: the issues and possible lessons for a European facility*. Office for Official Publications of the European Communities: Luxembourg.

Griffith-Jones, S., 1998, *The European Investment Fund; Its Relevanace for Infrastructure Private Investment in Brazil*. Report prepared for IPEA and presented at BNDES, Rio, October 1998.

Griffith-Jones, S., 2003, *Capital Flows to Developing Countries: Does the Emperor have clothes?*, mimeo, IDS: Brighton.

Griffith-Jones, S. and R. Gottschalk, 2002, *Enhancing Private Capital Flows to Developing Countries in the New International Context*, report on a major Commonwealth Secretariat, World Bank and Commonwealth Business Council Conference.

Griffith-Jones, S., and S. Spratt, 2002, *The New Basle Capital Accord and Developing Countries*, WIDER Discussion Paper No. 2002/ 36.

Guash, J., 2003. Renegotiation of concession contracts in Latin America. *World Bank Working Paper*. The World Bank. Washington DC.

Irwin, T, M. Klein, G. Perry, and M. Thobani, 1999, 'Managing Government Exposure to Private Infrastructure Risks', *World Bank Research Observer*, vol. 14, No. 2, pp. 229-245.

Mistry, P., and N. Olesen, 2003, *Mitigating Risks for Foreign Investments in Least Developed Countries*, Ministry for Foreign Affairs, Sweden: Stockholm.

Sheppard, R., Wright, J. and T. Matsukawa, 2003 "Foreign Exchange Risk Mitigation for Power and Water Projects in Developing Countries", Discussion Paper No. 9, The World Bank, December 2003

Public-Private Infrastructure Advisory Facility (PPIAF) website [<http://www.ppiaf.org/>]

Vives, A., 1999, *Pension Funds in Infrastructure Project Finance. Regulations and Instrument Design*, Inter American Development Bank: Washington.

Wilson, R. "Risk Management of Public Projects", in R.C. Lind (1982), *Discounting for Times and Risk in Energy Policy*, Resources for the future.

World Bank 2000, "Latin Report: Project Trends", *Project Finance*, June 2000.

World Bank 2001, *Private Participation in Infrastructure Database* [<http://rru.worldbank.org/ppi/>]

World Resources Institute, 2002, *Export Credit Agencies and the World Bank: A Need for Common Standards*