

# **Enhancing the Role of Regional Development Banks; the Time is Now**

**Prof. Stephany Griffith-Jones<sup>1,2</sup>**

**With David Griffith-Jones and Dagmar Hertova**

**Paper prepared for the G-24**

---

<sup>1</sup> [S.Griffith-Jones@ids.ac.uk](mailto:S.Griffith-Jones@ids.ac.uk)  
[www.stephanygj.net](http://www.stephanygj.net)

<sup>2</sup> The authors would like to thank Prof. Jomo and Dr. Bhattacharya for commissioning the paper and for excellent comments. They would also like to thank Keith Bezanson, Miguel Castilla, Alfred Steinherr and Carmen Seekatz for valuable discussions as well as Jose Antonio Ocampo from whom we have learned so much on this subject.

## I. Introduction

Clearly lending through multilateral development banks (MDBs) needs to continue playing an important role in the international development architecture. Amongst its important functions are: 1) providing concessional loans to low income countries 2) provide long-term financing to middle-income, especially small countries, who due to lack of credit worthiness or high fixed costs involved, do not have adequate access to private funds, 3) act as a counter-cyclical offset to fluctuations in private capital market financing for middle-income countries. This is crucial because as Gurria and Volcker (2001) point out and as history has repeatedly shown, access by emerging market countries to private capital markets can be “unreliable, limited and costly”, and 4) facilitate – by acting as market maker or guarantor – the creation of new, more development friendly, forms of development financing (Griffith-Jones and Ocampo 2002).

### a) Strengths of regional and sub-regional banks

However there are a number of important reasons why lending by regional or sub-regional banks can and should play an important and valuable complementary role to multilateral lending and institutions. The Monterrey Consensus nicely summarized several of the main roles that strengthened regional and sub-regional development banks need to play: “add flexible support to national and regional development efforts, enhancing ownership and overall efficiency. They also serve as a vital source of knowledge and expertise on growth and development for their developing member countries”.

More specifically, regional and sub-regional development banks;

- 1) Allow a far greater (or even in some cases practically an exclusive) voice to developing country borrowers, as well as a greater sense of regional ownership and control. This is particularly the case for institutions like the CAF, Corporacion Andina de Fomento<sup>3</sup>, where countries are both clients and shareholders.
- 2) Regional and sub-regional development banks are more able to rely on informal peer pressure rather than imposing conditionality. This further allows disbursements of resources in a far more timely and flexible manner. The special relationship between regional or sub-regional development banks and member countries encourage countries, even in difficult times to continue servicing their debt to their bank helping give it strong preferred-creditor status. This can reduce the risk for the institution, and thus enhance its credit rating well above that of its member countries. (We will illustrate these points below with the experience of the CAF whose member countries have continued servicing their debt to it, even when they stopped paying other creditors, due to serious macro-economic difficulties).
- 3) Regional or sub-regional development banks are particularly valuable for small and medium sized countries, unable to carry much influence in global institutions, and with very limited power to negotiate with large global institutions. Their voice can be far better heard and their needs better met by regional or sub-regional development banks. Furthermore, competition between two or more kinds of organizations, e.g. sub-regional, regional and global, for the provision of

---

<sup>3</sup> In English it is called the Andean Development Corporation (ADC); we will use CAF, which is widely utilized.

- development bank services seems to be the best modality, as it provides small and medium sized countries with alternatives to finance development (Ocampo 2006).
- 4) MDBs are owned by their government shareholders and need to respond to their political and economic agendas. Shareholder perceptions are influenced by a variety of domestic constituencies, especially in developed member countries, where many groups can exert pressure on their representatives or senior management. Indeed, by having to accommodate a growing variety of different and sometimes conflicting interests, e.g. those of NGOs and private sector interests, MDBs can find it difficult to find common ground between these groups and borrower governments. In contrast, in regional and sub-regional banks, relations between shareholders and their constituencies tend to be simpler, especially those owned entirely or almost entirely by borrowing countries, which is the case of the European Investment Bank (EIB) and the CAF. The fact that all shareholders of these banks are also its clients has positive effects. For example it reduces complexity of negotiations and reduces loan conditions, especially for smaller countries.
  - 5) Indeed, even in institutions like the Inter-American Development Bank (IADB) – though borrowers have just over 50% of the vote and choose the President – the non-borrowing countries tend to have a fairly dominant position (Sagasti and Prada 2006; Strand 2003). In the case of the Asian Development Bank (AsDB), borrowing countries have even a lower share of voting power, reaching under 43%; however, there are two large dominant non-borrowing countries, the US and Japan, each with 12.5% of the vote.
  - 6) Information asymmetries may be far smaller at the regional level, given proximity as well as close economic and other links. Regional institutions may better share the experience of institutional development. Indeed, regional development banks' ability to transmit and use region specific knowledge can make them particularly helpful to countries designing policies most appropriate to their economic needs and political constraints (Birdsall and Rojas-Suarez, 2004). However knowledge on extra-regional experiences can be more difficult to acquire than from a global institution.
  - 7) Regional institutions may be better placed to respond to regional needs and demands, as well as potentially be more effective in providing regional public goods, especially those requiring large initial investments and regional coordination mechanisms. Important examples are: a) financing regional cross-border infrastructure (where experience of the European Investment Bank, EIB, provides a very valuable precedent, see below) b) supporting development of regional capital markets as well as harmonizing their regulatory systems, and c) coordinating and helping finance regional efforts at technological innovation. However, as discussed below, RDBs and SRDBs support for regional projects has been insufficient, and well below their potential, except for the EIB. Nevertheless, it is encouraging that there is increasing attention from some RDBs and SRDBs to supporting finance of regional infrastructure, e.g. for the Integration of Regional Infrastructure in South America. In contrast, multilateral institutions, like the World Bank, may be more suitable for financing global public goods, such as financing investment in technology for reducing climate change.

It is therefore clear that RDBs and SRDBs need to play a very important complementary role in the existing international development finance architecture, by helping to fill gaps that currently exist, and providing competition in sources of public

finance. Indeed, as Sagasti and Prada (2006) argue regional institutions can play “specific and localized roles which are not always covered adequately by global institutions”.

b) MDBs also have some advantages

As we have also started to mention, multilateral or regional development banks do have certain advantages over sub-regional development banks with only or mainly developing country members. The first is cost. Indeed, even though the CAF has achieved a very good credit rating, - investment grade - (which is well above that granted to its developing country members, none of which have investment grade rating) the spread it charged over LIBOR for its credits were in December 2006 double that of the World Bank or the Inter-American Development Bank (see below especially Table 2). This is because the World Bank and the IADB have AAA rating. However, it should be emphasized that the higher spread charged by the CAF than for example the World Bank is compensated for by the lower transaction costs and greater policy autonomy arising from informal peer pressure of the CAF replacing often intricate conditionality of the World Bank or the IADB; furthermore CAF loans are approved on average very quickly. Another is the maturity of loans, for example the maturity of CAF loans is on average shorter than that of the World Bank or IADB loans, even though as discussed below, the maturity of CAF loans has been increasing, with some loans recently even having 18-20 years maturity.

A global institution such as the World Bank could also potentially better provide services linked to its global nature. As already hinted at, it could spread and transmit international knowledge on development best practice, as it has presence and detailed experience in most countries. It could be argued however, that in several areas (such as the liberalization of the capital account) the lessons accumulated in one region (e.g. Latin America) were not effectively transmitted by institutions like the World Bank to other regions (e.g. Asia or Central and Eastern Europe). Indeed, it could be argued that RDBs or SRDBs in practice may in some instances be better at adapting international experience for their region, as they are closer to country members, as well as their needs.

Another area where a global institution has greater potential advantages is in providing benefits of international diversification. This is clear in general terms in the reduced risk of its loan portfolio, given its exposure to many developing countries in different regions. It would be particularly valuable if an institution like the World Bank combined innovative loans it made to a variety of countries (e.g. in domestic currency or GDP linked bonds) into a basket of such loans, which it could then securitize and sell to private financial markets. Clearly regional development banks could do a similar exercise of market-making, but by being more regional, the benefits of international diversification would be somewhat limited.

c) Expanding and creating new regional banks; the time is now

It can be concluded that multilateral, regional and sub-regional banks all have specific strengths. Furthermore, given the heterogeneity of developing countries' needs, the best arrangement is one where MDBs are increasingly complemented by a network of strong RDBs and SRDBs. RDBs and SRDBs have many important advantages for borrowing developing countries.

A final important point needs to be made relating to new circumstances which seem likely to persist. In the past, a key advantage of including developed country members in development banks was their ability to provide a large and growing pool of savings and foreign exchange that allowed increases in those banks' capital and access to world financial markets. However the world economy has changed and now very large pools of savings and foreign exchange reserves originate in developing countries. This is of course particularly true in much of Asia; however, even in Latin America many countries are accumulating quite high levels of foreign exchange reserves, though domestic savings are much lower than in Asia. Therefore the potential for a significant expansion of regional or sub-regional development banks, with only or mainly developing country members has grown significantly as these countries could rely on their own resources for capital. The considerable advantages of such institutions for their developing country members – as discussed above – would seem to show now is the time for expanding such institutions where they exist and are successful, as well as creating new ones where they do not exist at all and/or where there are unmet needs.

In what follows, we will first elaborate on the need for expanding and creating new institutions (Section II.). We will first draw in more detail on the experiences of the EIB and CAF. We will then examine infrastructure financing gaps in Asia, Latin America and Africa, as an example of an area of major unmet needs where RDBs and SRDBs can play a valuable role. Section III. discusses priorities for new RDBs or the expansion of existing ones. Section IV. examines the extent to which private financial markets or existing development banks fund developmentally necessary projects. Section V. analyzes in some detail the best modalities (e.g. loans and guarantees) through which financing should be made available, to maximize its developmental impact. Emphasis is placed on innovative instruments, such as local currency lending, GDP-linked bonds and innovative guarantees. Section VI. discusses the structure of RDBs so they can reduce their cost of lending and increase poorer countries' access. Section VII. concludes by summarizing the need for new RDBs and SRDBs as well as expanding existing ones. The availability of large foreign exchange reserves make both feasible. Different institutional avenues are explored, as well as their relative advantages.

## **II The need for expanding regional institutions and creating new ones.**

### **a) Broad needs; lessons from the EIB**

As outlined in the Introduction, RDBs and SRDBs have very valuable features for developing countries. These are particularly clear for provision of regional and public goods, which are currently heavily under-financed. According to Birdsall (2006) there is very little financing of “regional public goods” in most of the institutions lending to developing economies, with one per cent or less of the total lending by the Asian Development Bank, African Development Bank and Inter-American Development Bank going to these initiatives; however some institutions like the CAF have increasingly begun to focus on lending for regional infrastructure (see for example CAF Annual Report, 2006).

The current process of global integration is also one of open regionalism. Regional trade and investment flows have deepened significantly, as a result both of policy and market-driven processes of regional integration (Ocampo 2006). Policy led integration relates to the large scale of regional, sub-regional, and bilateral trade agreements that have built up in the last decade. Market-driven integration, especially in East Asia, was led by investment and trade in manufactures in increasingly integrated value chains. The growing importance of trade integration and regional trade flows makes the provision of complementary regional public goods – especially regional infrastructure – very necessary. Given the important imperfections of private international capital markets, especially in the provision of long-term funding – such as is required for infrastructure - RDBs and SRDBs need to play an ever increasing role.

In this aspect, European integration offers very valuable precedents and lessons. Naturally, the European integration had several somewhat unique factors. These include geographical proximity, an initial core of six founding members with a relatively similar degree of development. There was also a very strong political vision driving the European integration process: the wish was that war would never again take place in Europe, given the horrors of World War II. In the context of this study, it is important that since its beginning, European integration has been accompanied by the creation of major financial mechanisms. Such mechanisms and the resulting financial transfers were seen as both an economic and political condition for making economic integration effective and equitable. These mechanisms included loans (mainly through the European Investment Bank) and most recently guarantees (European Investment Fund), as well as grants through structural funds.<sup>4</sup>

These financial mechanisms had two major aims: (1) reducing income differentials within the European Community (and later Union), between countries and regions, particularly those resulting from trade liberalization, and (2) allocating major financial resources to facilitate the functioning of an increasingly integrated market, for example by financing inter connection of national networks in transport and telecommunications. Whilst other aims have later been added, such as financing health and education, these two have remained central.

It is important to stress that very large - and overall rapidly growing - resources have been allocated in Europe consistently for these aims. To an important extent this dynamic has been driven by the relatively poorer countries, which during the negotiations for their joining the Community have put as a pre-condition the creation, or sharp increase of, grants and loans. The first such case was when Italy – before joining the EEC– pressed in the mid 50's for the creation of the European Investment Bank, largely to help fund infrastructure in the poorer Southern Italy. Strong institutions, like the European Commission and the European Investment Bank have contributed also to the sustained dynamic of financial transfers. They also contribute to providing the political and economic “glue” that pushes integration forward.

---

<sup>4</sup> It should be stressed that in Europe the richer countries – and specifically Germany – were willing to transfer major grants to the poorer countries on a significant scale, given their commitment to a broader project of European integration (for more details see Griffith-Jones, Steinherr and Fuzzo de Lima, 2006)

Each regional integration process differs, but it seems clear that the broadly very successful European experience of financial mechanisms to support trade (and increasingly broader) integration has interesting and important lessons for other regional integration processes, particularly those involving developing countries. The central lesson from the EIB experience is the importance of a large and dynamic public regional bank to support integration and convergence.

More specific lessons will be discussed in following sections below. It seems interesting to highlight here that for more developing countries – especially less creditworthy ones – where market imperfections prevail, the role of regional public banks is probably more similar to the EIB in its early stages; their needs are focussing more on loans. However, greater emphasis on mechanisms such as guarantees and other risk-bearing instruments where the EIB can offer more recent lessons, will have increasing future relevance for developing countries.

The EIB was central to the process of European integration since the beginning. Indeed, the 1957 Treaty of Rome that created the European Economic Community also created the EIB. The EIB, the most powerful instrument in the Treaty, was established in order “to contribute to the balanced and smooth development of the Common Market in the interest of the Community” (Treaty of Rome, Article 130). The EIB was intended as a source of relatively cheap interest loans and guarantees which would facilitate the financing of:

“(a) projects for developing less developed regions; (b) projects for modernizing or converting undertakings or for developing fresh activities called for by the progressive establishment of the common market; (c) projects of common interest to several member states, which are of such size or nature that they cannot be entirely financed by the various means available in the individual member states” (Treaty of Rome, Article 130).

The EIB was therefore created especially as a Bank to support the European integration process. Its three objectives, outlined in the paragraph above, reflected three major concerns expressed during the negotiation of the Treaty of Rome. The first was to help reduce the gulf between relatively prosperous and relatively poorer regions. The second major concern was to help “senile industries”, and/or areas where such industries were dominant, which could not, on their own, face competition, but required support for modernization, conversion or development of new activities. Given major changes in the world structure of production, especially linked to the emergence of China as a major source of demand, as well as competitor in many sectors, this type of financing to help new activities may be again very relevant for developing countries, either nationally or at a regional level. The third concern was for the need to finance investment which helped integrate the European economies, and which related to several member states or to the Community as a whole. This refers in particular to the area of cross frontier communications (and especially transport), which was related to the fact that much of existing infrastructure at the time was geared to meeting domestic needs; the creation of the EEC lead to new cross-border needs. It is noteworthy that these three aspects (possibly in somewhat different proportions) could also be central as supportive measures to integration processes between developing countries.

To summarize, the common goal of economic success spread over the entire Community was defined as a prime political objective. As currencies in the mid-fifties were still not fully convertible and capital markets were underdeveloped there was a strong case, both theoretically and politically, to deal with these market imperfections through the creation of a public bank. The main mission of the EIB was to assist in channelling savings from the more developed parts of the Community to the less developed parts. At the same time it was recognized that a customs union needed to complete and transform its essentially national infrastructure into an integrated European infrastructure and that was an essential part of European integration.

A final point to be made here is the very large scale of EIB lending. Indeed by 2006 the EIB was lending around €50 billion annually, which means that it lent more than all other MDBs and RDBs together. However, EIB lending had a somewhat slow start. The latter seems to be linked to the need to build up operations slowly, gain experience, and focus on economically promising projects within a narrow range. As a new bank, the EIB had to first establish a solid reputation. The underdeveloped and divided European capital market put constraints on its refinancing capacities. However, lending by the EIB has increased extremely rapidly, as the EC was successively enlarged from the initial six members to the current twenty seven; furthermore, new sectors such as health and education were incorporated into its portfolio. There has been also a vast expansion of global loans – made to private banks – for on-lending to SMEs, as well as equity participation and portfolio guarantees. Thus, the EIB has evolved from a Bank lending in its first 10 years almost exclusively to infrastructure (48% of the total) and industry (39% of the total), to one where infrastructure plays a leading role (with 44% of total loans in 1999-2003), but one in which there is a greater diversification of lending to other sectors, - global loans (31%), energy (9%), and industry (8%) and health, education (5%) (based on data from Griffith-Jones, Steinherr and Fuzzo de Lima, 2006)

It should be stressed that the EIB maintains its redistributive regional role, with an important part of its individual loans going to assist regions lagging behind in their economic development or grappling with structural difficulties. One of the success stories of large EIB loans and of significant European Community grants is in Ireland, there those resources together with very effective policies helped to transform this very poor country into one of the richest in the EU.

Additionally, the EIB has started lending outside EU borders. It therefore lends to ACP, Latin American and Asian, as well as Mediterranean countries. This represents approximately 10% of total EIB lending. An interesting question is whether such EIB lending to developing countries could not be expanded more, and whether the EIB could not work more closely with existing RDBs and SRDBs to help promote, or even co-finance, expansion of their lending for priority sectors.

b) Another successful experience: the CAF

Latin America and the Caribbean offer a good example of a well developed network of sub-regional financial institutions. Of particular interest for our analysis is the CAF, Corporacion Andina de Fomento, known in English as Andean Development Corporation (CAF).



The CAF is unique in being almost exclusively owned by developing countries. Spain who has now joined is the only exception, having only 8.6% of total capital; all the rest of the capital is owned by Latin American countries. Initially the CAF was created to support sustainable development and integration of the Andean Community countries (Bolivia, Columbia, Ecuador, Peru and Venezuela). However CAF membership has grown to include most Latin American and even some Caribbean countries, as well – as already mentioned – Spain.

A noteworthy feature of the CAF is the exponential growth of its loans. Especially since 2000, the CAF has become the main source of multilateral financing for the Andean countries, (over 55%) thus surpassing lending to those countries by the IADB and World Bank combined (see Table 1).

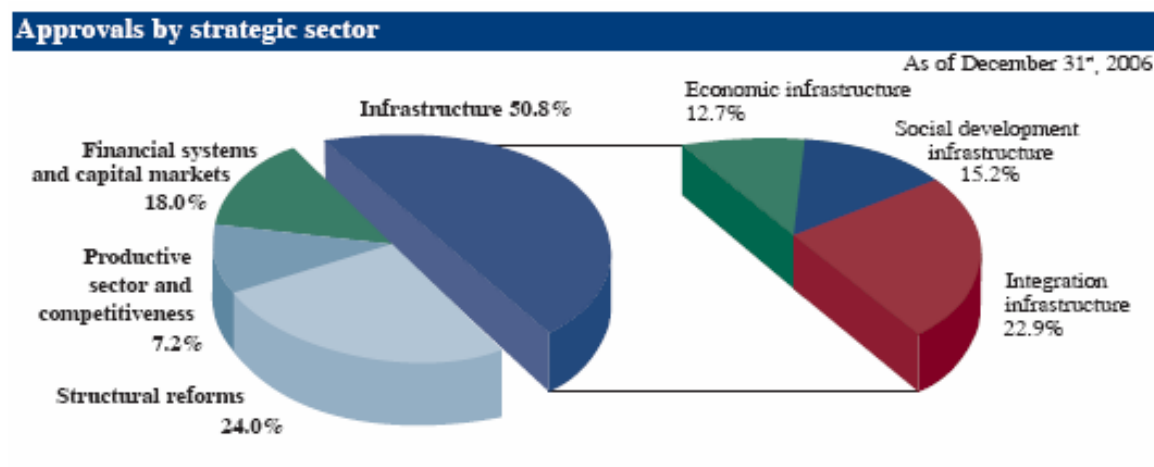
Table 1: Loans to Andean countries 1995-2004 (millions of US\$)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>IADB and World Bank</b>	2,133	1,924	1,392	2,996	2,558	2,152	1,917	1,559	4,124	2,329
<b>CAF</b>	2,258	2,314	2,900	2,673	2,182	2,323	3,198	3,290	3304	3503

Source: Titelman 2006

As regards the distribution of the loans, we can see in Figure 1 that the CAF lends to a variety of activities. In 2006, over 50% of its lending went to infrastructure broadly defined, of which integration infrastructure represented over 22% of the total. It is also interesting that over 7% went to the productive sector, a proportion that has been higher in the past.

Figure 1. Approvals by strategic sector



A very special feature of the CAF is the great average speed at which their loans are approved, with an average period of around 3-4 months.<sup>5</sup> This is similar to the reported average period of approval for the EIB, which is also around 3-4 months.

The speed of approval of loans is linked firstly to the fact that formal conditionality does not exist in the CAF. The modality basically used is rigorous economic evaluation of projects. Then, matrices of agreed actions are designed; reportedly, not meeting these agreed actions does not stop disbursement of loans, but may trigger additional technical assistance by the CAF to help these conditions being met.<sup>6</sup> Another interesting feature is that in the matrix of agreed actions, there tends to be emphasis on those that can be implemented by a country's Executive Branch or where it is easy to get Congressional approval. This policy is called by CAF officials one of "responsible pragmatism" (for more discussion of this see below).

A second feature of the CAF which helps accelerate approval of its loans is that, unlike the IADB or the World Bank, it has no permanent Board resident in CAF headquarters. As a result, loans – and technical assistance (up to fairly large limits) - are approved by senior management of the CAF, which increases agility of the approval process.

The fact that loans are approved so quickly and conditions are so flexible seems to explain why Andean member countries have increasingly borrowed from the CAF, even though its loans are somewhat more expensive than those of the IADB and the World Bank (see Table 2).

---

<sup>5</sup> Interview material

<sup>6</sup> Interview material

**Table 2: Comparative sovereign MDB loan charges**  
LIBOR-based US\$ loans as of December 1, 2006 (basis points)<sup>1</sup>

	IBRD		IADB	AfDB	AsDB	EBRD	CAF <sup>8</sup>
	VSLs*	FSLs**					
<b>Interest Spread:</b>							
Contractual spread	75	75	30	40	60 <sup>2</sup>	100	-
Risk Premium	-	5	49 <sup>4</sup>	-	-	-	-
Benefit of Sub LIBOR <sup>3</sup>	-35	-30	-29	-	-31	-	-
Funding Cost							
Waivers	-25	-25	-15	-	-20 <sup>7</sup>	-	-
<b>Net Spread over LIBOR (I)</b>	<b>14</b>	<b>25</b>	<b>35</b>	<b>40</b>	<b>9</b>	<b>100</b>	<b>50</b>
<b>Charges:</b>							
Commitment Charge	75	75	25	-	75 <sup>5</sup>	50	-
Waiver	-50	-50	-15	-	-	-	-
Net Commitment Fee	25	25	10	-	75	50	-
Spread Equivalent of Commitment Fee <sup>6</sup> (II)	17	17	7	0	29	35	25
<b>Net Front-end Fee:</b>							
Contractual Front-end Fee	100	100	0	0	100	100	-
Waiver	100	100	-	-	100		-
Net Front-end Fee	0	0	0	0	0	100	-
Spread Equivalent of Front-end Fee <sup>6</sup> (III)	0	0	0	0	0	21	15
<b>Total Spread-Equivalent over LIBOR (I+II+III)</b>	<b>31</b>	<b>42</b>	<b>42</b>	<b>40</b>	<b>38</b>	<b>156</b>	<b>90</b>

Source: World Bank

<http://treasury.worldbank.org/Services/Financial=Products/Lending+Rates+and+Loan +Charges/index/html>;  
for information about CAF, see <http://www.caf.com/attach/11/default/SandPMayo2007.pdf>

\*Variable Spread Loan,

\*\* Fixed Spread Loan:

<sup>1</sup> Numbers may not add up due to rounding

<sup>2</sup> This is a variable spread

<sup>3</sup> The IBRD cost margin (sub-LIBOR spread) shown for the VSL is for rate settings from July 15, 2006 through January 14 2007. Sub-LIBOR spread for IADB is for 2006 Q4. Sub-LIBOR spread for AfDB is the current sub LIBOR.

<sup>4</sup> Premium for risk mitigation net of risk mitigation benefit.

<sup>5</sup> The commitment charge is applicable to the following proportion of loan amount less the cumulative disbursements: 15% in the first year, 45% in the second year, 85% in the third year and 100% in the fourth year and beyond.

<sup>6</sup> (Not in the case of CAF) Spread-equivalent computations for commitment charge and front-end fee use average project disbursement profile of 8 years. Repayment terms are used as follows: Final Maturity: 17 years; Grace Period: 5 Years; Level repayment of principal. Disbursement profiles and payment terms vary across MDBs and hence spread equivalent

As pointed out in the Introduction, the main reason why CAF resources are more expensive than those of the IADB or the World Bank is its somewhat lower rating, due to the fact that it has a very small proportion of its capital owned by a developed country member.

However, the CAF does have investment grade, and it has a much higher rating than all its Latin American member countries, which is a very important achievement.<sup>7</sup> In the terminology of economics, this is an important coordination gain. It is also impressive that the CAF has a higher rating than any other Latin American issuer.

As the rating agencies evaluating the CAF themselves point out (Fitch Ratings 2006), one of the key reasons for the CAF's high rating (which allows it to lend at spreads below those that the Andean countries could borrow themselves) is the excellent repayment record on its loans giving it de-facto preferred creditor status. Indeed between 1999 and 2003, some of which were difficult years for the Andean countries, the CAF had practically no delinquency in its loan portfolio. Indeed, when Ecuador faced a financial crisis in the late 1990s, it continued servicing its debt to the CAF, even though it was not doing so to other creditors; similarly when President Garcia of Peru, during the 1980s debt crisis limited debt service payments to 10% of all creditors, the CAF debt continued to be serviced in full.

Furthermore, Fitch Ratings, op cit, emphasizes that "projects financed by the CAF tend to involve the provision of essential infrastructure, where demand has proved to be high. More speculative projects are not favoured. All projects must be viable on a stand alone basis." Indeed these factors combined with its judicious management further explain the success and the high rating of the CAF.

Finally the higher credit rating of the CAF than that of its member countries is also helped by the high ratio of paid-in to subscribed capital. This is an efficient use of countries' reserves, as it allows the CAF to borrow at terms lower than their own.

### c) Infrastructure financing gaps

In 2003, the world's infrastructure stock was about US\$ 15 trillion. Of this total, about 60% was in high-income countries, 28% in middle-income countries and 13% in low-income countries. In contrast, the population shares were 16%, 45%, and 39% respectively. This is a first, very broad indicator for the under provision of infrastructure in middle income and, even more, in low income countries (Fay and Yepes 2003).

Fay and Yepes (2003) empirically estimate the demand for infrastructure between 2000 and 2010 based on expected income growth and structural change; the latter include rapid urbanization and environmental problems. Based on those estimates they calculate the expected annual new investment and maintenance expenditures to satisfy firm and consumer demand. These estimates do not refer to any socially optimal measure of need for infrastructure or the investment necessary to satisfy the MDGs, but they merely reflect the investment needed to satisfy the demand for infrastructure in the respective regions, given projected growth rates.

---

<sup>7</sup> It is noteworthy that both the other two SRDBs in the region, the Caribbean Development Bank and the Central American Bank for Economic Integration also have much higher investment ratings than their member countries.

For illustration and comparison between regions, Table 3 shows the annual needs for new infrastructure investment and maintenance for the period 2005-2010 by income group and region, using estimated annual world growth rate of 2.7% of GDP.

Table 3: Expected annual infrastructure investment needs, 2005-2010

	New		Maintenance		Total	
	US\$Mn	%GDP	US\$Mn	%GDP	US\$Mn	%GDP
<i>By income group</i>						
Low Income	49,988	3.18%	58,619	3.73%	108,607	6.92%
Middle Income	183,151	2.64%	173,035	2.50%	356,187	5.14%
High income	135,956	0.42%	247,970	0.76%	383,926	1.18%
<i>Developing countries by region</i>						
East Asia & Pacific	99,906	3.67%	78,986	2.90%	178,892	6.57%
South Asia	28,069	3.06%	35,033	3.82%	63,101	6.87%
Europe & Central Asia	39,069	2.76%	58,849	4.16%	97,918	6.92%
Middle East & N. Africa	14,884	2.37%	13,264	2.11%	28,148	4.48%
Sub-Saharan Africa	13,268	2.84%	12,644	2.71%	25,912	5.55%
Latin America & Caribb.	37,944	1.62%	32,878	1.40%	70,822	3.02%
<i>All developing countries</i>	233,139	2.74%	231,654	2.73%	464,793	5.47%
<i>World</i>	369,095	0.90%	479,624	1.17%	848,719	2.07%

GDP deflator used is an average of the 2005-10 projections.

Source: Fay and Yepes (2003)

Within developing countries themselves, there is substantial regional variation for total investment from a low of 3% of GDP in Latin America to a high of 6.9% in South Asia.

#### East Asia and Pacific

Table 4 shows that estimated expenditure needs for the East Asia and Pacific region are approximately US\$ 165 billion annually between 2006 and 2010, or equivalently 6.2% of the region's GDP. This would help East Asia and the Pacific to achieve their expected growth rates. As seen in Figure 2, China's relative financing needs are larger than the needs of all other developing countries in that region combined.

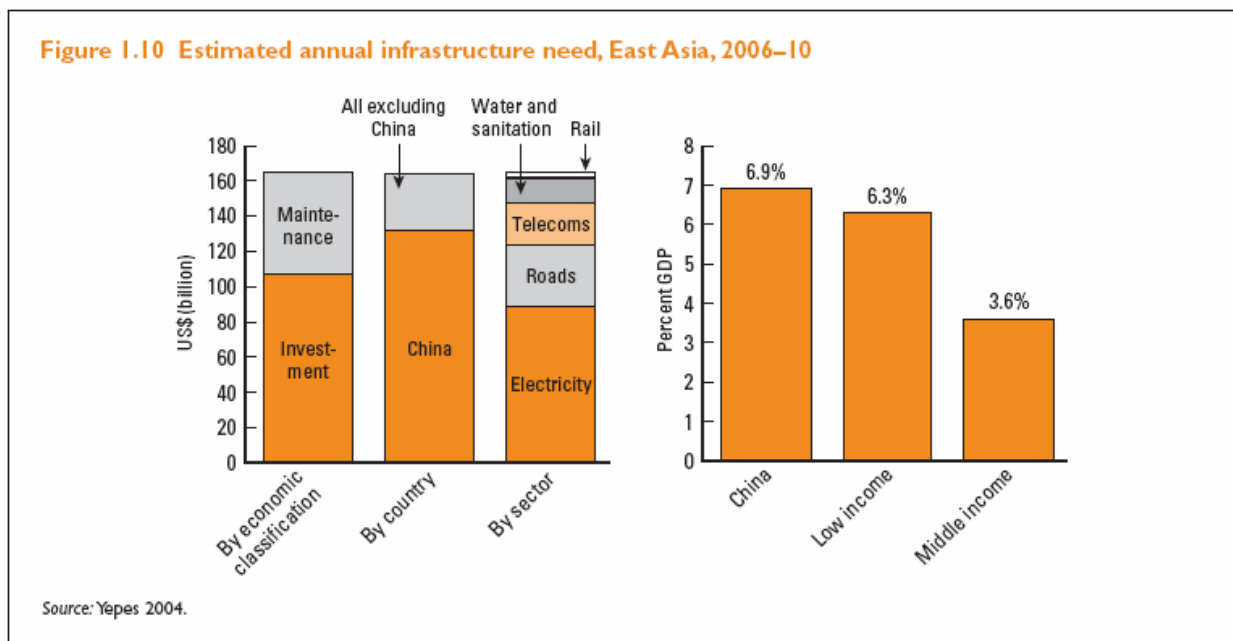
Table 4: Expected Annual Expenditure Needs for East Asia and Pacific in US\$ MN, 2006-2010

Countries	US\$ MN			% of GDP		
	Investment	Maintenance	Total	Investment	Maintenance	Total
China	87,637	44,387	132,025	4.6%	2.3%	6.9%
Low Income	10,293	6,550	16,843	3.8%	2.4%	6.3%
Middle Income*	9,118	7,062	16,180	2.0%	1.6%	3.6%
Total	107,048	57,999	165,048	4.0%	2.2%	6.2%

\* without China

Source: Yepes (2004)

Figure 2: The composition of infrastructure needs in East Asia



In South Asia there are also very large unmet needs in infrastructure; there is much consensus that extending access to infrastructure services will be critical to sustaining the region’s high growth, and ensuring its benefits are shared with the region’s large number of poor. If the above estimates for East Asia and the Pacific are combined with **investment requirements for South Asia** as given in Fay and Yepes (2003), the total infrastructure needs for the Asia and Pacific region for the period 2006-2010 are as shown in Table 5 below.

Table 5: Infrastructure investment needs in Asia and Pacific region

	Investment	Maintenance	Total (millions of United States dollars)
Energy	74 570	32 730	107 300
Telecommunications	20 425	15 590	36 015
Transportation	31 046	29 649	60 695
Water and sanitation	9 077	15 062	24 139
<b>Total</b>	<b>135 118</b>	<b>93 031</b>	<b>228 149</b>

Source: UNESCAP (2006). Annex VIII.I The methodology is based on the joint ADB, JBIC, World Bank 2005 study Connecting East Asia: A New Framework for Infrastructure (CEA)<sup>8</sup>

The shares of estimated investment needed in the energy, telecommunications, transportation and water and sanitation sectors are 47.1%, 15.8%, 26.6% and 10.6% respectively.

It is estimated that about \$228 billion is needed by the whole of Asia and Pacific countries annually to meet infrastructure demand in the region (WB/ADB/JBIC 2005). This is likely to be the lower bound estimate and therefore \$228 billion is likely to significantly underestimate the region's infrastructure investment needs<sup>9</sup>. Other studies give even higher estimates.

UN ESCAP (2006) estimates that actual spending has been much lower. Indeed, public funding of infrastructure has averaged at \$27.2 billion annually from 2000 to 2003 and the private sector in the region has invested \$20.6 billion per year from 2000 to 2003. They argue that public investment in infrastructure is not likely to increase significantly and under normal circumstances neither is private investment. Multilateral institutions have invested an average of \$7.4 billion per year (including WB, ADB and JBIC), most of which was used by governments to fund public infrastructure projects.

Thus, the infrastructure financing gap between what is invested in the Asia and Pacific region (around \$48 billion) and what is needed (\$228 billion) is around \$180 billion every year. While this figure is only indicative, and there are other higher estimates, it is clear that the infrastructure financing gap in the region is enormous.

Within this financing gap there is a large demand and need for regional initiatives to take place. As pointed out by Agarwala and Kumar (2007), for example the region has

<sup>8</sup> The required needs for new investment and maintenance within telecommunications sector is \$30.8 billion for main lines and \$5.2 billion for mobile, within transport \$56.4 billion is needed for paved roads and \$4.3 billion for railroads and the required investment for water is \$13 billion and \$11 billion for sanitation.

<sup>9</sup> These estimates do not include resources for rehabilitation (making up for deferred past maintenance) or upgrading. Furthermore only limited number of areas is included and some infrastructure sectors that have grown significantly in recent years are omitted, such as oil, city and urban infrastructure and ICT.

excellent opportunities for cross-border energy infrastructure and surface transport developments. With regard to energy, the Asian region has several resource rich economies that tend to have low demand, while adjacent resource poor countries have high demand, suggesting interconnection projects would improve efficiency in the region. Further improvements could also result from capitalizing on the sectoral and seasonal complementarities that exist for power trading, such as between central and south Asia and between Eastern Russia and Northeast Asia. With regard to surface transport, there is likely to be an increase in demand for this method of transport as sea lanes will struggle to cope with the increasing flows of trade in Asia (set to more than quadruple over the next 20 years)<sup>10</sup>. Asia's surface transport density is far less than continental Europe and the U.S., and may prove to be a large bottleneck to the region's development if left unchecked.

### Latin America

In recent years, infrastructure investment has fallen sharply in most of Latin America. While public investment has fallen significantly between 1996-2001, the increase in private investment failed to make up for this drop and overall investment fell to only 2.2% in 1996-2001 from an average of 3.7% of GDP in 1980-85. Infrastructure in Latin America has considerably fallen behind the East Asian developing countries that it once trailed and the gap has widened over the past 20 years. Current spending on infrastructure in the region is less than 2% of GDP<sup>11</sup>. The state of infrastructure in the region is seen as problematic, for example about 55% of private sector companies in Latin America say infrastructure is a problem, compared with only about 18% in East Asia.

Fay and Morrison (2005) and Fay and Yepes (2003) conclude that annual spending of 3% of the region's GDP, around \$71 billion, is needed towards new infrastructure investment and maintenance, as compared with infrastructure spending of 2% of GDP, around \$47 billion, in 2005. These figures are again likely to be lower bound estimates as they do not include the cost of rehabilitation and do not cover some areas such as urban transport, ports and airports and ICT.

Furthermore, for the region to reach infrastructure coverage levels similar to that of China or Korea, an annual spending of 4% to 6% of GDP would be required for the next 20 years, which means almost tripling the current spending. This level of spending on infrastructure could lead to additional per capita annual growth rates of 1.4% to 1.8% of GDP and decreases in inequality by 10% to 20% (Fay and Morrison 2005).

Looking at the data for *total* investment needs for Latin America (and not just infrastructure) as estimated by CAF (2007) and shown in Table 6, there is a large financing gap resulting from a lack of external finance. Given current levels of domestic saving, CAF estimates that \$120-180 billion of external finance will be necessary to achieve optimum growth, with the high variance of the estimate being derived from different scenarios of future savings and investment. If the region was able to attract this

---

<sup>10</sup> Naturally, additional finance is a necessary, but not a sufficient condition for achieving growth. A number of other conditions need to be met, as development is a complex process.

<sup>11</sup> The only exceptions are Colombia (4%) and Chile (6%) who have experienced significant increase in their investment since 1996 (Fay and Morrison 2005).



money it is estimated to be able to achieve a growth level of 5%, and a doubling of GDP over 20 years. Over the 2001-2006 period average levels of external finance were negative at \$-25 billion, suggesting an annual finance gap between \$145-205 billion will exist if business carries on as usual.

Table 6: Investment needs

		<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>	<b>Emerging Asia</b>
<b>GDP Growth</b>	%	3.2%	5.0%	5.0%	7.6%
<b>Productivity Growth</b>	%	1.75%	2%	2%	3%
<b>Investment</b>	% GDP	19.27%	24.5%	24.5%	33.2%
	US\$ Billions	536.54	682.16	682.16	1553.62
<b>Savings</b>	% GDP	20.2%	20.2%	18.0%	33.9%
	US\$ Billions	562.44	562.44	501.18	1586.38
<b>External Finance</b>	% GDP	-0.93%	4.3%	6.5%	-0.7%
	US\$ Billions	-25.89	119.73	180.98	-32.76

*Source CAF (2007)*

Scenario 1: Predicted outcome if levels of savings and investment are kept the same as the 2001-2006 average. This implies that GDP per capita increases by 50% in 20 years.

Scenario 2: Predicted outcome if investment is increased and savings are kept at 2001-2006 level. This implies GDP per capita doubles in 20 years.

Scenario 3: Predicted outcome if investment is increased and savings are reduced below 2001-2006 level. This implies GDP doubles in 20 years

## Africa

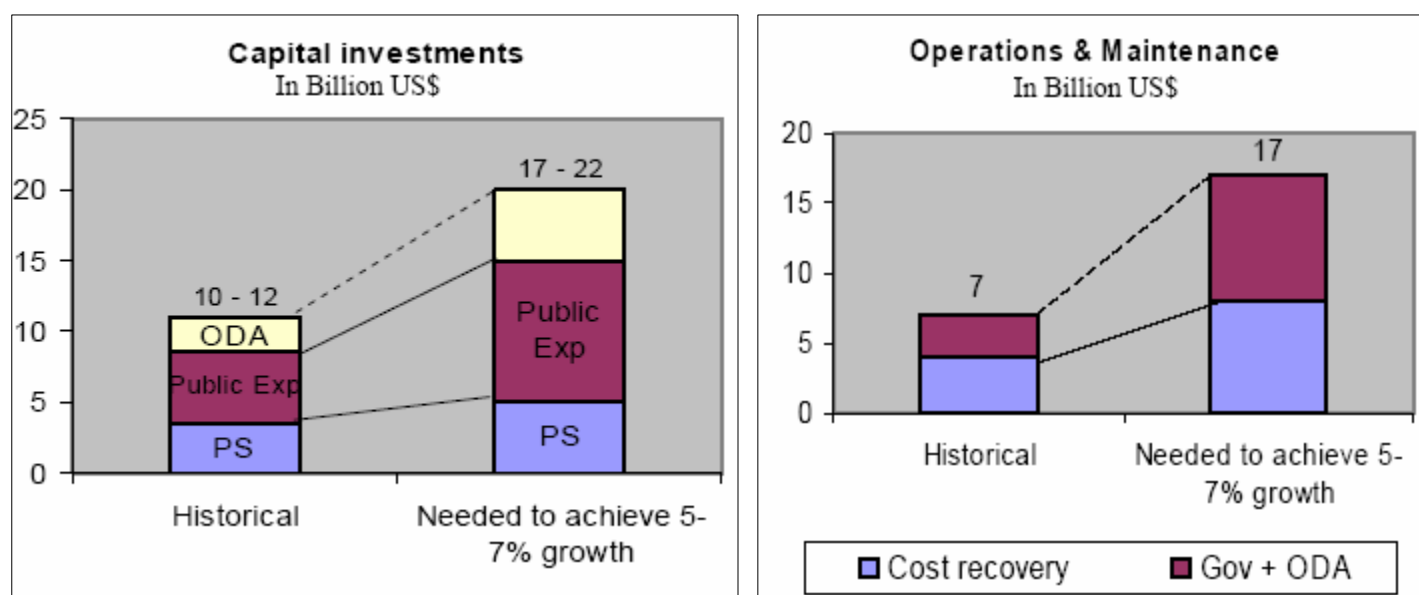
Infrastructure challenges in Africa are massive. Access to infrastructure services is crucial to facilitate economic growth and poverty alleviation, since many African states are poor low-income countries. Poor infrastructure affects health, education, access to

markets and investment. Efficient infrastructure and services are a key to Africa's integration and development. The under provision of infrastructure is critical in low-income countries; indeed, only 13% of the world's infrastructure stock in 2003 was allocated to these countries, even though their population share in the world is 39%.

As seen in Table 3 above, low-income countries are the ones with largest infrastructure investment needs, around 7% of their GDP annually from 2005-2010. The expected annual needs for new infrastructure and maintenance in Sub-Saharan Africa region are around 5.5% of the region's GDP. Over the next 10 years, total Africa's infrastructure investment needs are thus estimated at over US \$250 billion.

Furthermore, if Africa is to reach the MDGs by 2015, it needs average growth rates of over 7% for the next 10 years or so which corresponds to annual estimated new infrastructure and maintenance requirements of about 9% of GDP, or equivalently US \$40 billion between 2005 and 2015 (Estache 2006). Figure 3 shows how infrastructure investment would need to be scaled up in order to achieve growth of 5-7% of GDP.

Figure 3: Expected infrastructure investment and maintenance needs



Source: World Bank (2005)

The infrastructure investment needs in Africa far exceed present investment levels. Public sector finance for infrastructure is severely constrained and has been declining over the last 30 years. The low amount of private domestic and foreign investment is influenced by domestic difficulties, high cost of transport and unreliable utilities.

The importance of both private and public sector participation in Africa's infrastructure has been emphasized, and alternative financing mechanisms have been suggested to deal with the inadequate financing. These include establishing regional infrastructure banks (UNECA 2006).

### **III Priorities for new regional institutions or for expansion of existing ones**

#### a. The sectors

##### 1. *Infrastructure*

Clearly a very important priority for new regional institutions or for expansion of existing ones needs to be infrastructure. As analysed immediately above, in Asia and Latin America and Africa there are currently vast financing gaps for necessary infrastructure; as pointed out, infrastructure is a crucial constraint for growth, particularly but not only that related to trade – especially regional. The very valuable role that RDBs can play, especially in regional infrastructure, can be illustrated by the positive European experience of the EIB which channelled vast loans into this sector, and gave increasing attention to interconnections of infrastructure between countries to support regional trade and development. Though on a far more limited scale, RDBs and SRDBs have started supporting the planning and financing of regional infrastructure both in Latin America (via the Initiative for the Integration of Regional Infrastructure, IRSA, and the Plan Puebla-Panama) and in Asia (where a particularly successful regional experience is the Greater Mekong Sub-region).

These needs – and the role that RDBs and SRDBs should play - are reinforced by the fact that the high hopes for the private sector to meet infrastructure needs have largely not been fulfilled. There have been some successes of major private investment – e.g. in telecommunications – but these have often been sector and country specific. Secondly, it may be important to highlight that part of the new demand for infrastructure arises from structural changes in demand. Two important examples are those related to rapid urbanisation in most developing countries and environmental problems. Where environmental issues have a regional or sub-regional character, the role of the RDB or SRDBs in planning and financing investment could be particularly appropriate and valuable. Thirdly, there is strong and increasing international evidence that infrastructure investment is not only clearly central for accelerating growth, but also reducing inequality and poverty, thus for making growth patterns more pro-poor (for a review of evidence, see Estache, 2004 and Jones, 2006.) This is particularly the case when special efforts are made to make the pattern of growth more inclusive, for example by larger investments in poorer regions; here the European experience – via the EIB, also offers a valuable precedent, as so much emphasis was placed on lending for infrastructure projects in the poorer areas, and specifically initially in the Italian Mezzogiorno, then the poorest area in the European Community. Similarly as new countries joined the EU, e.g. Portugal, Greece, Spain, again the EIB lent for infrastructure investment on a large scale.

Specifically in the case of Asia, there is very strong empirical evidence that infrastructure investment in poorer, and specifically rural areas, as well as feeder roads and improved water and sanitation services have the greatest positive direct impact on improving incomes of the poor (Fan and Zhang, 2004). More specifically, studies in several countries found that the poverty impact of growth was very much higher in provinces with high levels of road provision compared to those with low provision.

## *2. The social sectors*

It is also important to stress that several of the above referred studies found that often the effectiveness of investment in infrastructure was complemented by investment in education, agricultural research etc. This would seem to imply that investment financed by RDBs and SRDBs should not be exclusively focussed on infrastructure, but on a broader set of sectors. However, infrastructure – given huge financing gaps and its proven impact on growth – should be given an important priority.

It would therefore seem to be relevant that new or expanded RDBs and SRDBs should, where important financing gaps exist, lend for activities such as health and education where there are major needs and whose favourable effects on growth and income distribution are proven. However, it should be emphasised that existing RDBs have significantly increased the share of their loans going to these sectors, as have many governments; therefore, a more detailed exercise would be required to establish by country and by region, where the higher priority unmet needs are.

## *3. The productive sector*

As regards RDB lending to the productive sectors, it has been falling as a percentage of the total RDB portfolio, with the sharpest reduction occurring for the Asian Development Bank (AsDB) and for IADB. This occurred as the public sector in many developing countries progressively reduced its direct participation in productive activities. However, this reduction of support by RDBs to the productive sector through state-owned financial intermediaries has partially been compensated by new financial instruments supporting private sector investment (Sagasti and Prada op cit). An example of the latter has been global loans made by RDBs to private banks, which on-lent for example to SMEs. Also, those institutions have supported the development of private capital markets. It is interesting that in Latin America, SRDBs have lent more to infrastructure and the productive sector. If this reflects a certain comparative advantage as well as growing priority attached by governments in their region to those sectors, this may imply that for new SRDBs or existing ones, such sectors could continue to have important priority.

For the productive sector, new opportunities and challenges are arising from major structural changes in the world economy, linked to the rise and dynamism of China and India, as well as other parts of Asia. Thus for Latin America and the Caribbean, as well as Africa and parts of Asia itself, there seems to be a need to encourage and finance investment and technological development that:

- i. Helps countries benefit fully from opportunities that Asian drivers' dynamism provides, by investing in inputs, goods and services that these countries do and will demand
- ii. Support increased competitiveness in products, where countries have lost it due to competition from countries like China, and
- iii. Support investment and technological development in new economic activities, to replace those that are unable to compete with Asian drivers.

## *4. Climate change*

Another new challenge is climate change. Though limiting climate change is a global public good, and therefore encouraging or financing investment in low carbon technologies may be best done by a global institution like the World Bank, important tasks remain for RDBs and SRDBs. These relate to supporting investment to mitigate climate change, where it will have national or regional negative impacts. Also, crucially RDBs and SRDBs need to be active in helping countries and regions invest to adapt to climate change.

#### 5. *The need for initial focus*

Though we have outlined quite a large number of sectors with developmentally important unmet needs, there may be a strong case, in terms of efficiency, for RDBs and SRDBs to focus, especially initially, on those sectors where the region they serve has highest needs. If borrowing governments will have a dominant position as in the CAF, this should facilitate the establishment of such initial priorities, according to national and regional needs.

### **IV To what extent can private financial markets or existing development banks fund developmentally necessary projects?**

#### a. Existing development banks

We have already discussed above the important role that existing regional and sub-regional development banks play in funding developmentally necessary projects. We examined in some detail the large financing gaps in infrastructure, and outlined some new challenges for funding the productive sector to adapt to and benefit from, major structural challenges.

It is also interesting to emphasize that there are very large regional differences in the existence of regional and sub-regional development banks. For example, in Latin America and the Caribbean, there already is quite a well developed network of sub-regional financial institutions, including three important banks which play a significant role in the countries they lend to – the already discussed CAF, the Central American Bank for Economic Integration (CABEI), and the Caribbean Development Bank (CDB). The region also has a large regional bank, the IADB, whose lending is significantly higher than that of the World Bank. Nevertheless important financing gaps exist for infrastructure – where investment is very low compared to Asia, for the social sectors, and also to meet new challenges in the productive sector. Therefore, there is a clear need to expand existing sub-regional development banks; there is also space for creating new ones.

One clear gap for example in Latin America is that Mercosur does not have its own SRBD. The existence of several SRDBs in Latin America is in sharp contrast with Asia, where there are no sub-regional development bank, and where a large sub-regional financing gap exists, for example in infrastructure (see above). There would therefore seem to be a very strong case for establishing one or more SRDB in Asia, the option of establishing an Asian Investment Bank, partly drawing on the EIB experience seems an

attractive option. One cost effective option that UNESCAP op cit. suggests could be to start with a pan-Asian Investment Bank but initially limiting its membership. As it gains expertise and overcomes initial problems – such as links and boundaries with the World Bank and Asian Development Bank, it could expand both its membership and scope of its activities. This is the model followed de facto by the CAF, which started as an Andean bank, but is increasingly becoming a Latin American bank.

b. The limitations of private finance; market imperfections

As regards international private finance, it can and does play an important role in financing investment in developing countries. However, it has a number of important problematic features and gaps, a first major one is the volatility and reversibility of private capital flows, which imply that RDBs and SRDBs need to play an important role in:

1. Providing counter-cyclical finance when private flows dry up and
2. Help develop innovative market instruments that better share risks through time between developing country borrowers with foreign creditors and investors.

It is noteworthy that senior policy-makers from developing countries have highlighted the importance of multilateral and regional support in these two roles (interview material and World Bank survey of MICs). Clearly RDBs and SRDBs, as well as MDBs have central roles beyond the two outlined above: 1) financing much investment in low income countries, 2) helping fund sectors, even in middle-income countries, for which private financing is not sufficiently available for good projects (e.g. in infrastructure) and 3) supporting the provision of global and regional public goods.

The catalytic and innovative role by RDBs and SRDBs could significantly increase the developmental benefits, and sharply reduce the development costs of private flows initially for middle-income countries but in the future hopefully also for low income countries. We will discuss several of these instruments (especially guarantees, local currency bonds and GDP-linked bonds) in some depth below. It is important, however, to stress here that financial innovation which is developmentally desirable does not necessarily lead to its spontaneous adoption by private markets. This is due to problems such as initial lack of critical mass and product uncertainty, large externalities as well as coordination problems and competition in financial markets; this implies that the private individual incentive to develop such an instrument can be far lower than the social benefits, both for creditors and for debtors (Borenztein and Mauro, 2004). Thus the role which RDBs and SRDBs can play as “market makers” for such developmentally desirable instruments can be especially crucial.

The combination of counter-cyclical financing by MDBs, the encouragement by MDBs of market instruments that better distribute the risk faced by developing countries throughout the business cycle (GDP-indexed bonds and local currency bonds), as well as instruments used by MDBs, such as guarantees, that can encourage more stable flows could significantly reduce the risk of future debt and currency crises. Indeed, one of the key aims of RDBs and SRDBs should be to help mitigate the pro-cyclicality of private flows, as well as complement their flows.

Several of the problems of international private finance arise from financial market imperfections that are an obstacle for delivering essential finance critical for development and for financing “regional public goods”. These include:

*i. Asymmetries of Information*

The intertemporal nature of lending leaves it open to moral hazard and adverse selection, which suggests that too much risk may be undertaken by the recipient ex-post the receipt of the loan and that lending may be given to riskier borrowers than desired. In developed countries this is largely dealt with by a high level of monitoring and screening, often in combination with a high proportion of the lending being insured by collateral from the borrower (even in developed countries, major problems can occur with faulty monitoring and screening, as the cases of current financial turbulence show). In the less developed countries the lenders - particularly private lenders from the developed countries - are short on information for monitoring, whilst the borrowers are short on collateral, creating large information asymmetries and poor incentives to prevent the borrowers from reneging on their loan. This may lead to credit rationing, or under- supply of credit for good loans to creditworthy borrowers.

The experience, regional knowledge, credibility, credit rating, and localized monitoring capabilities of an RDB or SRDB can play an important role in overcoming this market imperfection. For example, when entering a project with other private banks, the RDB or SRDB can undertake the majority of screening, evaluation and monitoring, rather than have the separate banks undertake their own individual evaluations. The RDB or SRDB can carry out a very detailed evaluation, going beyond the typical analysis of a commercial bank, as well as particularly careful monitoring. This saves costs for the private banks involved, and acts as a signalling device to attract private investment, which is made particularly credible if the RDB assumes some of the risks, either via providing a guarantee or by lending its own money, via co-financing. If the RDB or the SRDB has established a very high reputation as a careful evaluator and lender, as for example the EIB did, the value of the signal sent when it finances part of a project is very high. Furthermore, if a large part of bank lending is carried out with repeat borrowers that especially value access to EIB lending, monitoring is easier as the risk of moral hazard is lowered.

*ii. Complementarities*

This market imperfection occurs when there is a divergence between individual cost and social gain, which results from positive or negative externalities that are not reflected in the profit of the investor or lender. Complementarities play an important part in growth theory, where it is often posited that a higher level of capital accumulation by the economy as a whole raises the productivity for all individual firms. Thus if each individual firm does not take this into account and they fail to co-ordinate, multiple equilibria may arise and a lock in a sub-optimum level of investment can occur. Complementarities are particularly relevant when investing in infrastructure, because the numerous external gains for consumers and firms brought about from its construction do not accrue to the investor. As a result a project that is considered beneficial to society may not be invested in.

To overcome this market imperfection the externality needs to be internalized, RDBs and SRDBs can play a role by providing social evaluation of the proposed investment, by

assisting in the co-ordination of investment between several private actor and/or by providing subsidized loans when social returns are higher than total private returns.

*iii. Market failures or imperfections specifically linked to infrastructure*

There are also market failures or imperfections specifically linked to big infrastructure projects. Firstly, and perhaps most important such projects often take a long time to build up revenues and become profitable; these periods are often far longer than those for which capital or banking markets want to lend for. Financial Markets do not wish to commit themselves over very long periods, as they seem to perceive risk increases over time.<sup>12</sup>

Furthermore, the length of the maturity, accompanied by very high cost, and the nature of infrastructure projects imply political risks. The regulatory frameworks are especially complex for cross-border projects. For this reason, the comfort provided by public guarantees or public co-financing by RDBs or SRDBs is especially crucial for encouragement of private investment in infrastructure. However, the national governments or RDBs or SRDBs have to be cautious with the scale of contingent liabilities that guarantees can imply.

3. The problems of providing regional public goods (RPGs)

Regional public goods have been relatively neglected even despite the fact that much financing for development issues, such as regional energy cooperation, financial regulation to limit cross-border contagion or infrastructure coordination, are better dealt with at the regional level. RDBs have a central role to play in the provision of these RPGs.

Public goods, regional and international, are characterized by generating externalities, by creating opportunities for improvement of welfare through collective action. A regional public good is a service or resource whose benefits are shared by neighbouring countries and often requires cross-border collective action and coordination. Because of these features regional public goods are usually undersupplied.

*Coordination*

The reason why RPGs are likely to be under funded and undersupplied most probably reflects collective action problems. RPGs require coordination of many actors, governments, as well as private sector ones. Cooperation among countries is difficult because different countries value the benefits of cooperation and public goods differently and receive different benefits.

Lending for regional initiatives has been difficult as borrowers must first agree between themselves on their respective debt obligations. Strictly regional programs are relatively rare and many programs are in fact a cluster of country programs.

---

<sup>12</sup> Interview material



RDBs have the ability to potentially provide solutions to the collective action problems at the regional level. A particularly good example was the EIB, and its commitment to regional infrastructure. It is important to clarify that institutions (e.g. RDBs) need to have not just the appropriate mandate to provide RPGs, with sufficient capital, as well as appropriate instruments to do so.

### *Cooperative motives*

The fact that cross-border spillovers induce positive or negative 'neighbourhood effects' is a rationale for involvement of RDBs. The aim of a RDB is to diffuse the negative effects while promoting forces capable of producing positive ones. When countries cooperate regionally, they increase their external financing, exploit economies of scale, meet external development financing resource gaps and help to fill gaps caused by incomplete markets.

### *Incentives*

Regional development banks are however not unconstrained in their provision of RPGs. The pace of progress in RDBs' support of regional policies and programmes aimed at providing public goods is affected by two factors. Firstly countries have limited resources to take the national measures necessary to carry out joint projects, whether it is due to limited institutional or political commitment. Secondly, regional development banks can be constrained by the lack of a suitable instrument that would catalyse action and encourage them to use capital to finance regional initiatives. As a consequence, multilateral institutions face disincentives to lend and governments to borrow for the provision of regional public goods.

### *Political considerations*

There is a need to guarantee that strong regional institutions are developed. Institution building is very much affected by political considerations since regional integration is in large part a political process that is very complex and long term in nature, as can be seen from the example of history of European cooperation. Wyplosz (2006) argues that regional integration may be hindered by nationalistic forces as the process of integration is associated with erosion of national sovereignty. European integration happened in the face of diversity, encouraged by the strong wish to create a united Europe to avoid another war, whereas on the other hand Latin American integration has been slow despite large similarities. This points to the fact that political motivations and political will need to play a vital role in the regional initiatives.

## **V. Best modalities for financing to be available**

### a) The overall framework

The traditional investment that MDBs, RDBs and SRDBs provide is loans, typically of long maturities. To the extent that market imperfections are more permanent (or fairly

long term), the case for more conventional loans from RDBs and SRDBs remains very strong. Clear examples of missing or incomplete markets are that of loans to poorer, less creditworthy countries and loans where long maturity is required for activities to become profitable, such as in the case of much infrastructure. However, where market failures are more temporary, there may be an important case for RDBs and SRDBs helping introduce more innovative instrument. Indeed, in some cases, leadership in first time transactions can be crucial for creating the confidence and conditions for subsequent transactions. This implies that these transactions have “learning by doing” externalities. Even in cases of countries lacking all the necessary legal or regulatory conditions, or of international private markets lacking specific instruments, innovative transactions can show the imperative for changes and create the demand and dynamic for such changes, both nationally and internationally.

b) Loans

i) *Standard loans and their maturities*

As regards loans, clearly where more permanent market gaps or imperfections exist, there is space for more conventional loans. As pointed out, it is particularly difficult – even for creditworthy borrowers – to obtain credits with long maturities. Therefore long maturities for loans by RDBs are very important, especially but not only in areas such as infrastructure; a variant on this is for the development bank to lend for the longer maturities, whilst private lenders and investors provide more short-term resources. The ability of RDBs and SRDBs to provide such long term loans is of course to an important extent linked to their ability to obtain long term funding in private capital markets. This could therefore be an important consideration in defining the size, composition and structure of their capital.

ii) *Local currency lending*

A crucial role that multilateral and regional development banks need to play is to mitigate the pro-cyclical effects of financial markets, which can have such damaging effects for developing countries. One important way in which RDBs and SRDBs can do this is by helping create or kick-start market instruments that better distribute the risk faced by developing countries throughout the business cycle, such as local currency and GDP-linked bonds (Ocampo and Griffith-Jones, 2006). RDBs and SRDBs can and should increasingly do so by acting as “market makers” for such instruments.

One very crucial problem of cross-border lending has been that of currency mismatching for projects or companies that borrow in foreign currency and have revenues in local currency; this was an extremely important cause of debt and currency crises, as well as causing major disruptions (and even bankruptcies) to companies and projects. The most direct and desirable modality for dealing with foreign exchange risk is promoting local currency funding. The issue of local currency bonds has led to their fairly significant growth domestically in some developing countries; international investors have also become increasingly interested, though to a lesser extent. Where such financing is not available (or is too expensive or too short-term), MDBs or RDBs can help to develop such a market either through local currency loans or guarantees (we will discuss the latter further below).

The most desirable and simplest modality for RDBs and SRDBs to do this is to lend or expand their lending directly in local currencies. Where this can be funded by issuing debt in the same currency, this eliminates the foreign exchange risk for the development bank. Issuing of paper in local currencies also has the important virtue of developing local capital markets, particularly effective where there is local long term savings. This positive side product of helping develop local capital markets occurred for example when the EIB borrowed and lent in local currencies in Central and Eastern Europe; similar effects were achieved when the IADB and CAF lent in local currency in Latin America. The development of domestic capital markets creates a more stable source of local funding for both the private and public sectors thereby mitigating the problems of pro-cyclicality and sudden stops in private international capital flows.

It would seem very desirable for RDBs and SRDBs to expand further their activity of lending and borrowing in local currencies.

A step further could be taken, which would make local currency investments more attractive to international investors. Once an RDB or SRDB has a somewhat larger portfolio of local currency debt, it could create a diversified portfolio of this debt across a variety of its borrowing countries to generate a return to risk that is sufficiently high to be competitive in international capital markets, due to the considerable benefits of diversification (see Dodd and Spiegel, 2004 and Eichengreen and Hausmann 2003). Such a portfolio could be sold to international investors.

### *iii) GDP-linked bonds*

Besides issuing and developing further instruments already in existence, such as local currency lending, RDBs and SRDBs could go beyond and pioneer new instruments. This should be done where there is a strong case and a growing consensus that such instruments can play an important role in supporting development. One such example seems to be GDP-linked bonds. The servicing of these GDP-linked bonds would be higher in times of rapid growth and lower when growth was slow or negative.

There has been increasing interest in creating bonds linked to the growth of a countries' gross domestic product. At the 2006 spring meetings of the International Monetary Fund and the World Bank, both potential issuers and investors expressed a clear appetite for such bonds.

For borrowers, issuing such bonds would help stabilise public spending throughout the cycle as governments would service more debt when they could better afford to, and less in more difficult times. It would also significantly reduce the likelihood of costly and disruptive defaults and debt crises. Defaulting on debt is a last resort that governments find highly undesirable and costly to the country's international reputation. Indeed, it is the lack of insurance mechanisms like GDP-linked bonds that make debt crises more likely. A temporary reduction of a country's debt service when the economy deteriorates, for example due to a slowdown of the world economy, would facilitate more rapid recovery. This would open space for higher government spending in bad times, thus reducing the need

for damaging cuts in social spending. On the other hand, in boom times, higher servicing of debt by governments would curb excessively expansionary fiscal policy.

For investors, defaults are costly as they result in expensive renegotiation and sometimes in very large losses. As GDP-linked bonds would help reduce the probability of default, effective total payments may in fact be higher than with conventional bonds. Furthermore, GDP-linked bonds would give investors the opportunity of taking a position on a range of countries' growth rates, offering a valuable diversification opportunity. If GDP-linked bonds became widespread across countries, investors could take a position on growth worldwide – the ultimate risk diversification (see Griffith-Jones and Shiller, 2006).

For RDBs and SRDBs, and the countries that fund them, there would be benefits from the decreased likelihood of debt crises as this would reduce the need for costly rescue packages. Reduced risk of crisis contagion would also benefit other developing countries. These externalities and the fact that, as discussed above, financial innovations are difficult to introduce, seem to clearly justify some initial public action (by development banks) to help jump-start and develop this market instrument. This role of “market maker” by development banks for innovative instruments that better distribute risk is increasingly important.

Similarly as in the case for local currency bonds, the RDB or SRDB could, for instance, make loans whose servicing would be linked to the growth rate of GDP. The loans could then be grouped – and if appropriate – sold to the financial markets.

The moment is particularly favourable. Though current financial turbulence may pose a problem, investor appetite for emerging countries' risk is still fairly strong. Investors' experience with Argentine GDP warrants, issued as part of their debt restructuring, has been very positive; their price has been rising significantly. However, markets and issuers may be slow to move forward on their own to develop GDP-linked bonds, due to externalities and collective action problems, as well as initial lack of liquidity of such instruments. Several developing country policy-makers have at meetings and seminars expressed a clear preference for MDBs and RDBs to play an important initial role.

Any country whose growth slows significantly, for example as a result of current problems in developed countries, would be thankful afterwards that they have the insurance such bonds represent. Indeed, recent serious turbulence in financial markets has shown the serious potential downside risks of the world economy, with likely effects on developing countries' growth. This shows the value for countries of insurance against economic fluctuations. If currency mismatches in developing countries were reduced by their issuance of local currency paper for domestic investors, and if external debt servicing were linked to those countries' growth, the risk of debt crises would be significantly reduced for most developing economies.

c) An important role for guarantees; nature of desirable instruments

It seems desirable for the RDBs/SRDBs to be involved in risk mitigation activity, for example, by providing guarantees, as suggested by several reports on development financing. Guarantees can be, where appropriate, a vital mechanism to ensure that private financing becomes available (in areas such as infrastructure project finance and loans to SMEs) which would otherwise not be feasible due to credit rationing. In such cases, they help leverage public resources, by catalyzing private flows. They have become fairly important as an MDB/RDB instrument; in recent years guarantees are estimated to have been equivalent to almost 10% of IFI combined programmes (Winpenny, 2005). They could however, be expanded and tailored more closely to developing countries' needs.

In deciding and designing guarantees it is important that these are tailor made with existing market or government imperfections, to avoid two distortions:

- i) Ensure that private investors choose good projects and run them efficiently thus avoiding adverse selection. Excessive guarantees could provide incentives for potentially more profitable projects, with very high risk of failure. Furthermore, the design of the guarantee needs to encourage the investor to maximize its success.
- ii) It is necessary for guarantees to avoid excessive contingency liabilities both for international institutions and host governments (see Griffith-Jones and Fuzzo de Lima, 2005 which discusses the issues of guarantees in greater depth.)

It would seem that the type of risk which development banks would be best qualified to guarantee against – given their experience and links with governments – is regulatory and contractual risk. Development banks now offer products in this area, including the World Bank Partial Risk Guarantee (PRG), but take up has been relatively limited to date.

The second type of risk that can be covered by guarantees is credit risk. To avoid moral hazard, it is important that such guarantees are partial and clearly defined. One particularly helpful use of such guarantees is to cover against non-payment of the part of the debt service that has a longer maturity than is available normally from commercial lenders. According to World Bank estimates, the extension of maturities of debt instruments can be up to twelve times what it would have been without guarantees.

The third type of risk that private investors and lenders are understandably very keen to get guarantees on is devaluation risk, especially after so many major debt and currency crises in the 1980's and 1990's. However, open-ended public guarantees against devaluation can impose excessive contingent liabilities on RDBs and SRDBs and indeed on host governments (where counter-guarantees are required). Recent history has taught the lesson of how costly such guarantees granted ex-ante or sometimes ex-post can be.

One possible way forward is to design partial exchange rate guarantees via, for example, liquidity facilities. These imply short-term loans drawn after a large devaluation (of a pre-determined scale) that results in the inability of the project to repay its debt. As soon as the project becomes again profitable the loan is paid back to the guarantor. To restrict excessive contingent liability and guarantee sharing of risks, both the maximum scale of the loan and its duration can be pre-established. Such liquidity facilities have an

element of valuable counter-cyclical, as the project continues to operate in the face of a large devaluation (Griffith-Jones and Lima, 2005).

A mechanism to promote local currency debt to be sold to domestic or foreign investors, is through guarantees. Recently there are some experiences where a partial guarantee by a RDB has been able to upgrade a project to investment grade, allowing local institutional investors to buy this paper.<sup>13</sup>

A key risk for developing countries is that international financial markets overestimate risk in difficult times and underestimate it in good times, resulting boom-bust patterns are often more determined by changing global risk appetite and/or contagion rather than by country fundamentals. This provides a strong case for public institutions to play an explicit countercyclical role to help compensate for the inherent tendency of private flows to be pro-cyclical. This is very relevant for MDBs, RDBs and SRDBs.

There could be two paths for increasing the countercyclical role of international financial institutions in this area. One would be for RDBs and SRDBs to provide more countercyclical lending than already occurs (e.g., in infrastructure). Another path, which could provide more leverage of the public resources they manage, would be for these institutions to be more active in issuing guarantees to private sector lenders, which could include an explicit countercyclical element in the associated risk evaluations. This requires them to assess risk for issuing guarantees with a longer term perspective than typically done by commercial banks.

To the extent that these institutions used a longer perspective for issuing guarantees, this would require the use of models with longer-term horizons than those used by private lenders. These models would be presumably better at “seeing through the cycle”, using more measures of risk focused on long-term factors.

It is important that guarantees should be tailor-made to correct market imperfections and avoid moral hazard. In the case of infrastructure projects, the risks to be guaranteed have to be carefully defined so that private agents assume normal market risks (which can be subject, however, to some countercyclical evaluation), whereas non-market risks (such as regulatory risk or force majeure) should be subject to greater attention by RDBs.

An alternative to mitigate risks is to push forward regional efforts to create guarantee agencies or special vehicles within RDBs or SRDBs that enable risk sharing among countries that have common interests, including infrastructure development in neighbouring economies. This could enhance the creditworthiness of single country members and therefore of their government guarantees, especially in difficult times. A sovereign guarantee pool could be developed as a contractual mechanism for risk sharing among governments that benefit from the same infrastructure project but have different credit ratings. The country with the higher rating could have an interest in having the project funded via this mechanism, due to positive externalities derived from

---

<sup>13</sup> One example is the road to the airport in Santiago de Chile. This project borrowed \$260 million with a 100% guarantee of principal and interest from the IDB, 75% of which was passed on to a monoline insurer. As this raised the project to investment grade, Chilean pension funds were able to buy it.

the project. The lower rated country could compensate the guarantee coverage provided by its higher rated partner.

## **VI. Structure of regional banks to reduce their cost of lending and increase access for poorer countries**

There are several conditions for regional banks to be able to lend at low cost. These are well illustrated by the experience of the EIB. A first condition is to make an RDB or SRDB as strong financially as possible, by endowing it with a large capital base. This not only reduces the cost of funding from the capital markets, which benefits borrowers by allowing lending at low cost; it also reduces the likelihood of recourse to shareholder money.

It is important to emphasize that whilst initial contribution by member countries can imply a fairly large commitment of resources towards capital, as the bank expands its lending, and if it charges mark-up on its total costs, it will generate surpluses. As such banks typically pay no dividends; an important use of surpluses is to finance future increases of capital. For example, since 1991, all capital increases of the EIB were self-financed from earnings (see Griffith-Jones, Steinherr and Fuzzo de Lima, 2006). As so many developing countries now have large foreign exchange reserves, exceeding their liquidity needs, this would seem to be an excellent time to allocate part of those reserves to both expand RDBs or SRDBs and create new ones.

It is noteworthy that, with respect to contributions to paid-in capital, pecunia non olet ('money does not smell'); this means that paid-in capital contributions from countries with lower ratings would not be affected by a discount factor. Indeed as the experience of the CAF shows it may be necessary for banks with only developing country members to have a fairly high share of paid in capital, to ensure a very good rating for the RDB or SRDB.

Other conditions for a high rating and thus low cost are also extremely important. They include strong management, a good loan portfolio based on rigorous economic evaluation of projects and low delinquency of loans. It should be stressed that the perceived reputation and creditworthiness of such an institution may take some time to become established. Further, the fact that a regional development bank has a relatively small, first class professional staff helps the bank establish a very good reputation as has been the case for both the EIB and the CAF. If feasible, it would seem best if the staff of the bank was chosen only on professional merit; for example, the CAF prides itself on not using country quota criteria for appointing its staff.

It also seems desirable that the staff employed in the RDB or SRDB is relatively small in proportion to loans made, as this will limit administrative costs, which need to be added to the cost of loans. This will be facilitated by the fact that there will be no intricate conditionality, often time consuming and complex to negotiate, as can be the case with MDBs. On the other hand, it is important to have sufficient high quality staff to carry out rigorous evaluation of projects, and provide technical assistance where required.

RDBs and SRDBs can also subsidize loans to relatively poorer countries and for projects to improve incomes of poor people. The CAF has an interesting mechanism, called the

Compensatory Financial Mechanism, whereby parts of its surpluses are devoted to subsidizing loans to: a) countries with a lower level of development, b) social sector projects that especially favour poor people, and c) high priority regional infrastructure. There is a matrix of rankings for levels of subsidy, with the highest subsidies going for example to loans for social projects in the poorest countries of the region.<sup>14</sup>

Naturally resources available from CAF earnings are limited, and they are used to help finance capital increases, to fund grants for technical assistance as well as for the above discussed subsidies. It may therefore be desirable that countries which are relatively more developed, or have greater levels of foreign exchange reserves, beyond their liquidity needs, contribute additional resources to enlarge this fund. More generally, when new RDBs or SRDBs are created, provision should be made for an element of solidarity whereby concessional resources were provided by richer countries for subsidizing high priority loans to poorer countries.

## **VI. The need for new RDBs and for expanding existing ones**

There seems to be a clear case for both creating new RDBs and SRDBs, as well as expanding existing institutions. The availability of large foreign exchange reserves, beyond their liquidity needs, makes it feasible for developing countries in Asia and Latin America to be able to finance both, where this is the most efficient arrangement.

The magnitude of the financing gaps, in Asia, Latin America and Africa suggest that the shortfall is unlikely to be met only by an increase of lending by existing institutions or by private finance. Furthermore, existing regional institutions have found it particularly difficult to commit a significant proportion of their lending to regional public goods, and have tended to diminish their focus on infrastructure.

Expanding existing well functioning institutions in their area of comparative expertise is clearly desirable. If their capital base is expanded, existing institutions can build on their expertise, their established links and knowledge of borrowers, and their credibility in financial markets; this record has taken many years to build up and is a valuable asset that needs to be fully used. This is in contrast with new institutions, which typically have to build up expertise and credibility, both with financial markets and borrowers. Typically, the initial expansion of loans of new RDBs has been slow and gradual, as they 'learn by doing'; this is the experience in Europe – both for the EIB and the EBRD –, and also with the CAF. Once these institutions became well established and experienced, they have entered a second phase of more rapid growth of loans, expansion of sectors and countries lent to, as well as more innovative instruments.

However it also seems desirable to create some new institutions, especially to provide regional public goods which are currently underprovided, such as regional infrastructure, and to help meet new challenges in the productive sector, posed by major structural changes in the world economy.

---

<sup>14</sup> Interview material



The European experience can provide interesting lessons in that an institution (the EIB) was created with a clear mandate, and instruments for supporting European integration. When conditions changed, and new challenges arose (e.g. create guarantees for private finance in infrastructure and for SMEs) that it could not easily meet, it helped create a new institution the European Investment Fund. Another European example was the creation of the European Bank for Reconstruction and Development (EBRD). The Bank was established in 1991 to assist the countries of central and Eastern Europe and the Commonwealth of Independent States in their transition to the market. With the fall of communism, new needs and challenges appeared. EBRD's priority was to promote the development of the private sector, allocating to it at least 60% of its financial assistance. One of the EBRD's main advantages is soon to be its willingness to bear risk, allowing it to operate at the forefront of commercial possibilities.

New RDBs or SRDBs, for example focussed on regional infrastructure could develop specific methodologies for evaluating economic feasibility of regional projects, create instruments appropriate for lending/guaranteeing cross-border projects, help distribute costs and benefits between countries when there are asymmetric (see, for example, proposal above) and provide technical assistance where this is appropriate for overcoming complexities involving different countries and stakeholders.

In the case of Asia, there is a clear lack of sub-regional development banks, with the AsDB being the only – if major, effective and well established - regional bank. Interesting lessons can be drawn here from the very successful and rapidly growing CAF.

Because of the diversity of Asian countries and, especially, the huge distances between different regions and countries, it may be desirable to create several SRDBs, for example a South Asian, North East Asian and South East Asian SRDB. This would have the advantage of sub-regional focus, and of giving smaller countries participation in their governance. To avoid lack of coordination between sub-regions, another option would be to start with a new pan-Asian infrastructure bank, but initially limiting its membership (UNESCAP 2006). As it would become more established, it could expand its membership. Such a bank, that could be called the Asian Investment Bank, could initially focus on integrating pan-Asian infrastructure. It would naturally work closely with the AsDB to benefit from its considerable expertise in this field.

In the case of Latin America, there already exists an important network of SRDBs, which are major lenders to countries in their sub-regions. There seems to be a clear case to expand these existing institutions; this seems particularly clear for the CAF, which has had such an excellent performance. This is also important because creating a new institution will take some time and expanding its loans will probably take some time.

However, important gaps remain. For example, Mercosur does not have a sub-regional development bank to help finance integrated infrastructure and lend – with some possible concessional elements – to poorer countries and regions. There are new productive and environmental needs. And the challenge to reduce poverty, especially by generating employment, continues to be a pressing issue in the region. Therefore, the likely creation of the Banco Sur, can provide valuable additional resources to meet the region's needs. Its lending should be more focussed on areas where existing institutions have been less active. It would be important also for the Banco Sur to learn, where

relevant from the successful experience of institutions like the CAF in determining its' criteria for lending, capitalization, and governance arrangements.

Two final points need to be made. Though it is valuable to create new institutions, where clear gaps exist, it is important to avoid too much duplication of services, and to limit the transaction costs that establishing new institutions imply.

However, creating new institutions or expanding existing ones – if developing countries are the only or main members – will have the clear benefit of increasing their voice in the allocation of resources, especially those that originate from their own national savings and their own foreign exchange surpluses.

## Bibliography

ADB/JBIC/WB (2005), "Connecting East Asia: A New Framework for Infrastructure", joint study, Asian Development Bank, Japan Bank for International Cooperation/World Bank.

Agarwala, R. And Kumar, N. (2007), "Regional Cooperation for Infrastructure Development in Asia", RIS report: New Delhi.

Birdsall, N. (2006), "Overcoming Coordination and Attribution Problems : Meeting the Challenge of Underfunded Regionalism", in Kaul, I. and Conceicao, P., *The New Public Finance: Responding to Global Challenges*, 2006, Oxford University Press: New York.

Birdsall, N. and Rojas-Suarez, L. (2004), *Financing Development: The Power of Regionalism*, Center for Global Development: Washington, DC.

Borensztein, E. and Mauro, P. (2004), "The Case for GDP-indexed Bonds." *Economic Policy*, Vol. 19, No. 38, pp. 165-216.

CAF (2006), "Annual report 2006", Corporacion Andina de Fomento: Caracas, Venezuela.

CAF (2007), "Inversión y productividad", Presentation by Miguel Castilla, Corporacion Andina de Fomento: Caracas, Venezuela.

Culpeper, R. (2006), "Reforming the Global Financial Architecture: The Potential of Regional Institutions", in Ocampo, J. A., *Regional Financial Cooperation*, 2006, Brookings Institution Press: Baltimore, MD.

Dodd, R. and Spiegel, S. (2004), "Up from Sin: A Portfolio Approach to Financial Salvation," G-24 Discussion Paper Series No. 34, United Nations Conference on Trade and Development: New York.

Eichengreen, B. Hausman, R. and Panizza, U. (2003). "Currency Mismatches, Debt Intolerance and Original Sin: Why they are not the same and why they matter", NBER Working Paper 0036, National Bureau for Economic Research, Cambridge, MA.

Estache, A. (2004), "Emerging Infrastructure Policy Issues in Developing Countries: A Survey of the Recent Economic Literature", Background paper for the October 2004 Berlin meeting of the POVNET Infrastructure Working Group, The World Bank: Washington, DC.

Estache, A. (2006), "Africa's infrastructure: challenges and opportunities", Paper presented at the high-level seminar: *Realizing the Potential for Profitable Investment in Africa*, Tunisia.

Fan, S. and Zhang, X. (2004), "Infrastructure and Regional Economic Development in Rural China", *China Economic Review*, Vol. 15, No. 2.

Fay, M. and Morrison, M. (2005), "Infrastructure in Latin America: Recent developments and key challenges", joint study, World Bank and Inter-American Development Bank, June 3, 2005.

Fay, M. and Yepes, T. (2003), "Investing in Infrastructure: What is Needed From 2000 to 2010?", *World Bank Policy Research Working Paper No. 3102*, July 2003, World Bank, Washington, DC.

Fitch Ratings (2006), Ratings of CAF, [www.fitchratings.com](http://www.fitchratings.com).

Griffith-Jones, S. and Fuzzo de Lima, A. T. (2006), "Mitigating the Risks of Investing in Developing Countries: Currency-Related Guarantee Instruments for Infrastructure Projects", in Kaul, I. and Conceicao, P., *The New Public Finance: Responding to Global Challenges*, 2006, Oxford University Press: New York.

Griffith-Jones, S. and Ocampo, J.A. (2002), "What Progress on International Financial Reform? Why So Limited?", paper prepared for the Expert Group on Development Issues (EGDI).

Griffith-Jones, S. and Shiller, R. (2006), "A bond that insures against instability", *Financial Times*, July 10 2006.  
<http://www.ft.com/cms/s/2/b7155454-1039-11db-8f6f-0000779e2340.html>

Griffith-Jones, S., Steinherr, A. and Fuzzo de Lima, A. T. (2006), "European Financial Institutions: A Useful Inspiration for Developing Countries?", in Ocampo, J. A., *Regional Financial Cooperation*, 2006, Brookings Institution Press: Baltimore, MD.

Gurria, J.A. and Volcker P. (2001), "The Role of the Multilateral Development Banks in Emerging Market Economies", Findings of the Commission on the Role of the MDBs in Emerging Markets.  
[http://www.thedialogue.org/publications/MDB\\_report.pdf](http://www.thedialogue.org/publications/MDB_report.pdf)

Institute of Development Studies (2000), "A Foresight and Policy Study of the Multilateral Development Banks", prepared for the Ministry for Foreign Affairs, Sweden.

Jones, S. (2006), "Infrastructure Challenges in South and East Asia", *IDS Bulletin*, Asia 2015: Sustaining Growth and Ending Poverty, Vol. 37, No.3.

Ocampo, J. A. (2006), "Regional Financial Cooperation: Experiences and Challenges", in Ocampo, J. A., *Regional Financial Cooperation*, 2006, Brookings Institution Press: Baltimore, MD.

Ocampo, J. A. and Griffith-Jones, S. (2006), "A Countercyclical Framework for a Development-Friendly International Financial Architecture", paper prepared for the CEDES/IDRC Project on "International Financial Architecture, Macro Volatility and Institutions: The Developing Country Experience".

Sagasti, F. and Prada, F. (2006), "Regional Development Banks: A Comparative Perspective", in Ocampo, J. A., *Regional Financial Cooperation*, 2006, Brookings Institution Press: Baltimore, MD.

Strand, J. (2003), "Measuring Voting Power in an International Institution: The United States and the Inter-American Development Bank", *Economic Governance*, Vol. 4, No. 1.

Titelman, D. (2006), "Subregional Financial Cooperation: The Experiences of Latin America and the Caribbean", in Ocampo, J. A., *Regional Financial Cooperation*, 2006, Brookings Institution Press: Baltimore, MD.

UNECA (2006), "Infrastructure Development and Regional Integration", prepared for ADB-ECA High Level Seminar.

UNESCAP (2006), "Enhancing Regional Cooperation in Infrastructure Development Including that Related to Disaster Management", 62nd Commission Theme Study, New York.

Yepes, T. (2004), "Expenditure on Infrastructure in East Asia Region, 2006-2010", paper commissioned for the ADB/JBIC/WB East Asia Pacific Infrastructure Flagship Study.

Winpenny, J. (2005), "Guaranteeing Development? The Impact of Financial Guarantees", OECD Development Centre Studies, OECD Publications: Paris.

World Bank (2005), "Scaling up infrastructure support in Africa and promoting regional integration", presentation to Mr. Wolfowitz in preparation for the Gleneagles summit.

World Bank (2006), "Consultation with DAC on Middle-Income Countries (MICs)", June 14, 2006, Paris.

Wyplosz, C. (2006), "Regional Exchange Rate Arrangements: The European Experience", in Ocampo, J. A., *Regional Financial Cooperation*, 2006, Brookings Institution Press: Baltimore, MD.