

The role of Development Banks in Developing Countries

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1. Introduction

The important role of finance intermediation in economic growth is now widely accepted. Poorly developed financial markets and institutions can hold back economic growth and in turn this will retard efforts at poverty reduction (World Bank 2014). There is a long tradition in development studies which argues that at early stage of development state ownership of banks can be an important catalyst in mobilizing and allocating savings (Gerschenkron, 1962). Experiences both in Europe and North America in the nineteenth century and in Japan and Korea in the early post 1945 period provided evidence in support of this position. In the era of privatizations and a shrinking state in the 1980's this view was challenged, in large part because of the fiscal drain poorly performing state banks were creating. Since then a research literature based on cross country studies has suggested that state ownership of a banking sector is negatively associated with economic growth and financial depth (La Porta et al 2002).

The evidence on this negative link is less robust than is sometimes stated and subsequent analyses have found conflicting results, although here is little evidence that state-owned banks positively support financial development in lower middle and low income economies. Part of the problem is that in such economies weak institutional development is associated with high state ownership, low financial depth and slower growth. Isolating the impact of state ownership alone is difficult and the negative association with growth may be caused by the association with poor institutions, which are the key causal factor. Re-working the original analysis by La Porta et al shows that once differences between countries in institutional and financial development are allowed for universal generalizations on the negative effects of public bank ownership do not hold and that the negative impact is only in countries with very poorly developed financial sectors and very weak institutions (Korner and Schnable, 2011). However, aside from the doubts about the econometric results a more profound point is that with improvements in their operations there may be scope for reformed Development Banks to play a more positive role in growth as they appear to have done in some countries in the past

State ownership of banks remains significant in some parts of the developing world and many governments (not just of those of developing countries) are looking again at the potential role of Development Banks, which are a subset of the wider category of state-owned banks. Part of the interest stems from the recognition that private sector banks need not be the best institutions to fund long term strategic projects or to expand financial sector outreach to small firms or low income borrowers. In addition, after the economic crisis of 2008-9, there is now a wider appreciation of stabilizing macro-economic role that state owned banks can play by lending counter-cyclically, boosting demand in the downturn and dampening in the upturn of the cycle. Although there is no agreed definition of a Development Bank, a simple broad

definition is of a financial institution with state capital (which need not be a majority share) and with a mandate to pursue developmental as opposed to solely commercial objectives in its operations. This differentiates a Development Bank from State-owned commercial banks.

This paper explores the role of such banks as part of contemporary policy for economic development. It draws on recent reviews of the operations of Development Banks and current thinking on how these can be improved. The rest of this paper is as follows. A second section gives some statistics on the nature and scale of Development Banks drawing on a recent detailed survey which reveals a very wide range of characteristics. A third section looks at the economic theory that rationalises the role of these banks and highlights how they can be used to meet development objectives – investing in and supporting strategic activities, funding SMEs and small borrowers, linking with and helping to develop financial intermediaries, as well as boosting demand at critical points in the economic cycle. A fourth section reviews some of the policy issues on the operations of Development Banks. A fifth section offers some conclusions.

2. Operations and characteristics of Development Banks

State-owned banks in general were estimated to have around 22% of all banking system assets in developing countries in 2009. This is a very large reduction relative to 1970 where the comparable figure is put at 67%. This large reduction is due to the wave of privatizations in the 1980's and 1990's. However the impact of privatization has been very uneven and in a number of large economies (for example, China, India, Egypt and Syria) state-owned banks still dominate taking over half the assets of the banking system in 2010. In others (for example, Argentina, Brazil, Indonesia, Korea, Poland, the Russian Federation and Turkey) they play a significant role accounting for between 20% and 50% (World Bank 2013: 103-104).² In Latin America an alternative source puts the change in state owned bank assets from 46% of the total for the region in 1970 to 15% in 2010 (Crespi et al 2013: 191).

These figures do not separate Development Banks from state-owned commercial banks and other state-owned financial institutions. However, Development Banks tend to be some of the largest state-owned banks and some are very large. Three of the best known Development Banks - China Development Bank, the Brazilian Development Bank (BNDES) and the German Development Bank (KfW) - each have assets larger than the World Bank group. An estimate from a few years ago suggests there are about 750 national Development Banks globally in addition to a number of multilateral banks like the World Bank and the regional banks in Asia, Latin America, Africa and Europe (UN, 2005).

² The definition of state owned banks used in this source is not clear.

There is considerable heterogeneity within the category of national Development Banks, which is revealed by the survey reported in Luna-Martinez and Vicente (2012). This covered 90 banks in 61 countries with data usually referring to 2009.³ Of the banks surveyed some play a major role in the financial sectors of their economies. The Agricultural Bank of Turkey has 15% of the total assets of the Turkish banking system, whilst BNDES has 10% of the assets of the Brazilian and the Land Bank of the Philippines has 9% of the Philippines system (Luna-Martinez and Vicente 2012: 7). However, the majority of banks surveyed (roughly 80%) individually have assets that are less than 3% of the total assets of their financial sectors.

Important differences between banks in the survey were found in ownership structure, policy mandate, funding sources, targeted borrowers, lending models, interest rate policy, form of regulation and governance practices. Although the survey cannot be taken as wholly representative a review of these differences is useful to highlight the varied nature of contemporary development banking.

Ownership

In terms of ownership the majority (74%) of banks surveyed were 100% government owned, with 26% having some private capital. Of these latter, most had over 50% government equity.⁴ In some of the Development Banks with less than 50% government ownership it is also the case that private sector management is used. Funding sources for Development Banks can range from deposits of savers, borrowing from other financial institutions, raising funds on domestic or foreign capital markets, use of their own equity and budget allocations from the government. The survey reveals that most banks do not rely on a single source but combine use of these sources. A majority (59%) do not take deposits from the public, whilst a large majority (89%) raise funds in local capital markets or by borrowing from other financial institutions. For most of these banks government approval is required to raise funds externally. In terms of government funding, direct government budget transfers are received by a minority of banks (40%), although government guarantees on their loans are offered for more banks (64%). These guarantees allow the banks that borrow or issue debt to access funds at a lower cost than would otherwise be the case, creating a potential gain for the banks' clients as this saving can be passed on to the ultimate borrowers.

Mandate

Development Banks by definition have a mandate to pursue developmental goals. This mandate can either be specific (for example lending to a particular sector or

³ Regional coverage is judged to be fairly representative apart from the Middle East and North Africa where only banks from Egypt and Oman responded to the survey. Banks in a few high income economies in Europe, as well as Canada responded.

⁴ The definition of a development bank for the purpose of the survey was set at a minimum of 30% government equity ownership.

category of borrower) or general in relation to the promotion of 'development', in either economic or social terms. The surveyed banks are divided roughly equally between these two categories with a slight majority (53%) having a specific mandate. Of these the most common were lending to agriculture and to small and medium enterprises (SMEs). The nature of the mandate has an impact on the type of clients served. However, virtually all banks (92%) reported that they targeted SMEs, although large numbers also reported targeting large private corporations (60%) and state-owned enterprises (54%).⁵

Lending model

There is an important difference that has emerged in the lending model applied by these banks. The two key alternatives are lending directly to end-borrowers (first-tier operations) or lending through other financial institutions which deal with the end borrower (second tier operations). Of the banks in the survey a slight majority (52%) use a combination of first and second tier lending, whilst of the rest 36% lend only on a first tier basis and 12% only on a second tier basis. All banks which take deposits from the public are first tier banks and no second tier bank takes deposits. There are advantages and disadvantages attached to both lending models that are discussed further below. The first tier or retail approach allows the bank to assume the risk and to act strategically in identifying key projects to support. With this approach it is more difficult to reach large numbers of disbursed small borrowers unless the bank has its own branch network. The second tier model allows the bank to draw on the branch network and lending and credit scoring expertise of the financial intermediary.

Financial products

In terms of products most banks surveyed offer long terms loans (90%) and working capital loans (85%). Long term loans are usually for less than 20 years with most banks (71%) offering periods of 5 to 20 years. Roughly half the banks surveyed stated they offered interest rate subsidies and two-thirds of these fund the subsidies from transfers from the government (as opposed to cross-subsidies on their profitable activities or from concessional lending sources). A majority of banks (73%) also offer loan guarantee products to the financial intermediaries with which they deal to cover loan defaults. Most second tier banks also offer advisory and capacity building services both to their intermediaries and the end borrowers.

Financial outcomes

Financial outcomes need not be a satisfactory indicator of Development Bank performance because of their non-commercial mandate. However, as noted above, state owned banks in general have been criticized for their poor financial

⁵ The focus on SMEs also holds for Development Banks in high income countries; for example the Business Development Bank of Canada, Finnvera in Finland and KfW in Germany give priority to SMEs.

performance relative to private sector banks.⁶ In the case of the banks covered in the survey financial performance is uneven, but less weak than is sometimes implied in discussions of Development Banks. A minority of banks (15%) have serious problems with non-performing loans (NPLs) which are more than 30% of the portfolio. However a majority (55%) have relatively low NPL ratios of below 5%.⁷ The second tier banks showed significantly lower NPL ratios with all second tier banks having a ratio below 5%, while only around a quarter (27%) of first tier banks had ratios below 5%. This could imply greater care in credit allocation amongst the second tier group, but also that as expected first tier banks took greater risks on 'strategic' projects.

However the NPL figures were not high enough to cause widespread financial losses, since only 14% of the banks reported financial losses. This figure was an increase over that for the previous two financial years. The most relevant comparison is with the national financial sectors in which they are based and here the banks surveyed do not appear to be performing particularly badly. A majority (64%) had NPL ratios below the national average for their economies, which is an improvement over the previous two years. In addition a slight majority (53%) had a return on assets greater than the national average for their financial sector, which was also an improvement over previous years.

Corporate governance

Concerns have been raised over the corporate governance of Development Banks where weak control leads to politically-connected lending (World Bank, 2013). Most banks surveyed (75%) use independent (that is non-government) Board members and most (76%) are subject to the same financial regulation and supervision, with the same capital adequacy requirements, as private sector commercial banks. The remainder are supervised by the relevant Government Ministry.

In summary, the survey results indicate most Development Banks are government owned, with many operating through intermediaries. Most target SMEs although they also lend to large public and private sector firms. Roughly half still offer subsidised lending, but overall their financial results are not markedly out of line with their own financial sectors. Most are regulated and supervised in the same way as commercial banks. Not all fit this description however and a minority still have serious NPL problems. It is an important question how far performance of these banks varies between different ownership categories, types of lending and models of corporate governance. As yet no definitive answer has emerged on this although it seems clear that judged narrowly on financial performance those banks which have pursued a less direct 'second tier' role have taken less risks and have had less bad

⁶ Demirguc-Kunt and Huizinga (2000), for example, provide evidence on relatively profitability. De la Torre et al (2007: 17) cites evidence on macro costs of Development Bank recapitalization that came to 6% of GDP in Brazil and as much as 15% in Turkey.

⁷ Definitions of NPLs differ across countries so comparative statistics need to be used with caution.

debts. Whilst this section has described actual patterns of operation, the following considers the 'ideal' potential role Development Banks can play.

3. *Role of Development Banks*

Development Banks are typically rationalised in terms of filling gaps in the financial market that commercial banks whether privately or publicly-owned cannot fill. The three key roles that have figured in recent policy discussions are

- Lending to or investing in strategic or innovative high –risk activities with external benefits and projects requiring long-term funding
- Contributing to financial inclusion objectives by lending (and possibly providing other financial services) to disadvantaged or low income borrowers
- Lending counter-cyclically to boost demand in recessions.

The theory underlying the first of these points is illustrated graphically in Figure 1. The right hand segment I shows the demand and supply of loanable funds relating the market interest rate R to the demand DI and SI in the market. Demand is based on the marginal productivity of the investment the funds will finance and DI reflects the private returns to the borrowers. It is downward sloping as more funds are demanded at lower interest rates and the profit maximizing investor will invest up to the point at which r equals the expected return on additional investment. The supply curve for loanable funds is shown as rising with the interest rate up to interest rate R^* at which point it bends backwards with the supply of funds falling at rates beyond R^* .

The rationale for this backward bending supply curve stems from the analysis of an imperfect credit market under uncertainty (Stiglitz and Weiss 1981). The supply offer of banks will be based on expected returns from a loan portfolio which is the product of the interest charge and the probability of repayment aggregated over all borrowers. The probability of repayment is likely to be negatively associated with the interest rate due to 'adverse selection' (as the riskier borrowers accept loans at high interest rates) and 'incentive effects' (any individual borrower will tend to make the project more risky to generate a sufficiently high return to pay the higher interest rate). This relation is shown in the left hand segment II, which has the expected return on loans on the horizontal axis. Beyond R^* the increase in the probability of default due to the increase riskiness of the loans outweighs the impact of a high R on expected returns. Risk aversion by commercial banks will magnify this process by causing the curve to shift further backwards by reducing banks' perception of expected returns. Hence due to uncertainty in a competitive financial market banks would set R^* as the interest rate and not the market-clearing rate of R^1 . There will be an unsatisfied private demand for funds of Q^2Q^1 due to the banks' attitude towards risk.

If positive externalities from investment are introduced into the analysis there will be a new demand curve DI^* , which reflects the marginal economic productivity of investment. At an interest rate of R^* there will be a second unsatisfied economic demand for funds Q^3Q^2 reflecting the fact that externalities by definition are not taken into account in the borrowing decisions of investors.⁸ In total therefore left to themselves commercial banks will undersupply the credit market by the sum of these two credit gaps or the distance Q^3Q^1 .

In practice it is not possible to isolate these two gaps but they provide a rationale for a Development Bank to lend to both high risk, but high return projects, and to projects which benefit not just the investor, but others in the economy. External benefits are typically innovation and knowledge spillovers, which the innovator or pioneer does not capture in monetary charges and the benefits from various forms of physical infrastructure, like roads or water systems, which have public good characteristics, so private providers cannot charge fully for these benefits. In principle, it is possible to incorporate the other two objectives into this framework by treating outreach to target groups and counter-cyclical lending as a form of external benefit which are incorporated into DI^* .

Insert Figure 1

High risk lending

The role of Development Banks in stimulating new activities in low and lower middle income countries has been stressed in recent discussions of industrial policy (Hausmann et al 2008, Rodrik 2007). The argument is that innovation creates external benefits as followers can learn from the first-movers and this innovation justifies support and a subsidy, in the sense of a loan at an interest rate that does not reflect the risks involved. By pooling their risk and investing government funds across a wide portfolio Development Banks can afford to fund some loss making projects, provided successes outweigh failures. This is an illustration of a Development Bank both ignoring risks that would dissuade a commercial bank and at the same time supporting an externality-generating activity. Furthermore, as part of a wider industrial policy, this approach suggests that Development Banks should take a pro-active not a passive role. This implies researching market opportunities, taking an equity stake in projects, helping to initiate a dialogue between the government and prospective investors and pointing out to the government

⁸ DI reflects ex ante perceptions of returns by investors whilst DI^* can be interpreted as probability weighted outcomes. In theory the optimal level of investment will be determined by the intersection between DI^* and the supply of funds from savers, so the marginal economic productivity of investment equals the social time preference cost of saving.

bottlenecks to investment that need to be addressed.⁹ The more established development banks such as BNDES and GfW already play an 'intelligence role' as a guide to policy makers in Brazil and Germany, respectively (Crespi et al 2014: 201-202).

The alternative means of addressing the risk issue is for a Development Bank not to lend directly but to provide funding to or guarantee lending by other institutions in a second tier role. As noted above this has the advantage of drawing on the credit assessment skills and branch networks of the intermediary, but the disadvantage that it leaves final decisions on who receives the funds to the intermediary. Where the aim is to reach large number of borrowers and the Development Bank does not have a large branch network working on a second tier basis seems inevitable. Guarantees have become a popular tool for supporting risk and best practice advice on how to apply these suggests that where private financial intermediary institutions are the recipient that Development Banks should not offer too high a coverage ratio of a loan portfolio (for example, no more than 80% of a portfolio of loans to SMEs) to give the intermediary adequate incentive to apply a sound loan assessment. In addition, the guarantee should be priced so that the charge to the intermediary is high enough to ensure the financial viability of the Guarantee Fund so that it does not become a drain on the Development Bank's budget, but low enough to attract participation from intermediaries and ultimate borrowers.

Financial Inclusion

In theory, due to the market failure caused by lack of information on the part of banks illustrated in figure 1, at interest rate R^* that there will be some potential borrowers who are indistinguishable from those who receive credit, who could afford to repay at R^* , but who do not receive funds. Development Bank lending is one means of addressing this lack of inclusion. As noted part of the mandate of many Development Banks is lending targeted at small firms who would otherwise have difficulty in accessing finance either because of a perceived high risk, a lack of credit history or lack of collateral. However, the mandate can also be extended to excluded low income households who do not receive financial services, like savings accounts and insurance, because of the high cost (for example due to the small size of individual transactions or the remoteness of their locations). Development Banks can be used to address both these client groups of small firms and poor households.

Access to finance has been cited widely as a key constraint on firms in low and middle income countries (Ayyagari et al 2008) and exclusion from financial services

⁹ For example, in relation to their proposals for industrial policy in South Africa, Hausmann et al (2008: 11) discuss development banks as 'sources of ideas about high return activities and about the obstacles that need to be addressed to increase chances of success of projects that attempt to realise those ideas. This is particularly useful for strategic projects where the relevant actors will not come knocking at your door.'

is also seen as a major barrier to poverty reduction (World Bank 2014). Development Bank lending and financial services are by no means the only way of overcoming these problems and are not the approach favoured by the 'Aid consensus' led by the World Bank, on the grounds that they are more likely to be 'politicized' (World Bank 2014:3). Whilst the Aid Consensus favours private sector solutions and past state interventions have been associated with the leakage of funds to non-target groups there is nothing inevitable about this and in principle well run and closely targeted schemes are possible within a Development Banking framework.

Microfinance has emerged as a segment of the financial sector geared towards small borrower clients. Microfinance can be delivered by different types of institution, such as NGOs, co-operatives, regulated non-bank financial institutions and commercial microfinance banks. In addition lending can be on a group or individual basis. In principle a Development Bank can also offer a microfinance lending window, as well providing a range of financial services such as deposit and current accounts for small low income savers. Microfinance is a specialist operation which has proved highly profitable in commercial terms in many places and Development Banks deciding to move into this area would need to develop specialist skills. How far it has actually succeeded in reducing poverty amongst borrowers is the subject of considerable debate, in part because of the difficulty of assessing its true impact.¹⁰

Counter-cyclical lending

The tendency for private sector banks to become less risk averse in the upturn of an economic cycle and more risk averse in the downturn has been suggested after the global financial crisis of 2008-09 and if valid means that commercial banks can exacerbate the economic cycle. The recent financial crisis has stimulated interest in the role of state-owned banks, including Development Banks, in counteracting this tendency (World Bank 2013). Many governments injected capital into their state-owned banks to fill the gap in the credit market left by commercial banks. In some countries this role was taken by Development Banks.¹¹

Definitive assessments of this type of macro-intervention are not yet available. Part of the difficulty is that the three different roles for Development Banks highlighted here are potentially contradictory. To lend to high risk activities or to target special groups of borrowers requires a specialist focus to identify suitable clients who would not be eligible for commercial bank funding. On the other hand, the counter-cyclical role is principally about demand stimulation in the aggregate and requires lending to

¹⁰ The present author reviewed the evidence on lending by multilateral Development Banks in support of microfinance on behalf of the donor Evaluation Co-operation Group in ECG (2010).

¹¹ In Brazil BNDES expanded credit by 70% in real terms from September 2008 to December 2011 and offered credit at rates 7.5 percentage points below the market rate (World Bank 2014). In Canada the Development Banks increased their loans by 2% of GDP in 2009 and Development Banks in Latin America increased their loans by around 30% (Gutierrez et al 2012:9).

clients many (if not most) of whom are the recipients of commercial bank loans. Here the gap that is to be filled is credit in the aggregate not in relation to any specific niche, since lending to niches will not by definition have a significant macro impact. In addition, where a significant capital injection to a Development Bank occurs to support this counter-cyclical lending, there is the risk that it is used to support lending expansion beyond the point in the economic cycle where counter cyclical loans are needed. As commercial bank clients are targeted in counter cyclical lending there is the risk of the original goal of a Development Bank becoming blurred with this expansion and of it retaining these clients and moving into more commercially focussed activity.¹²

The importance of the counter-cyclical role will vary between economies depending on the size of state financial institutions and how far the central bank can encourage commercial banks to lend to stimulate demand, for example through adjustments to the base rate or through direction or 'administrative guidance'. It is likely to be more of a significant role in high income and upper middle income emerging economies than for poorer countries.

4. Policy Ideas

In this section we first discuss two key conceptual areas affecting bank operations - the techniques of investment appraisal that Development Banks should apply in project selection and the issue of how far lending should be on subsidised terms. We then discuss some examples of innovative practices that have been applied by Development Banks in Latin America to develop their second tier role in collaboration with private sector financial institutions. The critical point is that with improvements to practice in these banks the mistakes of the past, with funds directed towards unviable or politically –connected projects, can be avoided.

Investment appraisal

As institutions with a developmental as opposed to a commercial mandate it is critically important that Development Banks assess the projects they fund from an economic (and if appropriate) a social perspective. Whereas commercial banks will typically assess the credit worthiness of the borrower, Development Banks should assess the impact of the projects the borrower will undertake with its funds. Starting

¹² One suggestion to counter this is for the capital injection to be on terms that require it to be repaid within a period related to the repayment of loans granted during the downturn (Gutierrez et al 2012:10).

from the 1960's a large technical literature showed in detail how this could be done (Little and Mirrlees, 1974, Squire and van der Tak, 1975, UNIDO, 1972).¹³

The methodology follows discounted cash flow principles (so it calculates internal rates of return and net present values) but departs from financial analysis in that it replaces prices actually charged with alternative economic values that attempt to capture the economic benefits and costs created by a project. Key principles of welfare economics are applied to derive these economic values. Goods traded internationally are valued at their prices on the world market with any domestic logistics costs allowed for in calculating a value at the project site. Goods that are non-traded are normally valued on the basis of what consumers are willing to pay for them. Where project effects do not occur through a market transaction, so they are an externality, a value must be imputed. Transfers that simply reallocate funds within an economy are neither an economic cost nor benefit and are excluded. Any macro-economic distortion, such as a misaligned exchange rate, a wage that exceeds the productivity of workers in their alternative employment, or a controlled interest rate, should be allowed for by using economic values for foreign exchange, labour or funds, based on their opportunity cost.¹⁴

These adjustments are particularly important for infrastructure projects where many of the effects of a project arise as externalities. Many Development Banks specialise in lending for infrastructure and here a financial analysis can understate (or sometimes overstate) net benefits depending on the nature of the externality.¹⁵ For example, road projects may charge a toll but the revenue collected will typically grossly understate the full benefits. These are usually estimated based on projected traffic flows with savings in vehicle operating costs used as the basis for valuation, with a distinction drawn between 'normal' and 'generated' traffic (with the latter valued at half vehicle operating cost savings). Similarly water supply and sanitation projects may charge for their services, but these charges may not fully reflect the value of the services to consumers. The difference between willingness to pay and actual charges is a consumer surplus that should be included as benefit of a project.

In a number of countries Development Bank funding is going increasing towards 'green industries' where wider social returns may be high, whilst commercial returns are low as environmental benefits are not priced adequately in the market and are thus external to individual projects. On the cost side projects which damage the environment and are not required to fully mitigate this effect will be imposing an economic cost that must be included as a negative external effect. The full cost of increased CO₂ emissions, for example, in principle should be included in an

¹³ Textbook introductions are Potts (2002) and Curry and Weiss (2000). Weiss and Potts (2013) review current issues in the application of these methods.

¹⁴ The summary here simplifies several issues.

¹⁵ For example the multilateral Development Banks the European Investment Bank and the Asian Development Bank have loan portfolio that is dominated by infrastructure projects. The Government of China is currently in the process of setting up the Asian Infrastructure Investment Bank.

economic calculation, either on the basis of damage caused or of abatement expenditure necessitated, although empirical estimates have suggested a wide range of possible values (Tol, 2009).

These economic adjustments will give an economic measure of what a project is worth - an economic internal rate of return (EIRR) and economic net present value (ENPV). Development Banks should strive to ensure that their funds are used as productively as possible. This means that a cut-off or minimum acceptable return should be stipulated to ration funds. This is usually done through a test discount rate reflecting the opportunity cost of funds. In principle this should vary between economies, but a typical figure is either 10% or 12%.

Application of this approach also requires the calculation of the financial return on a project, not because this is taken as its worth to the economy, but because project sustainability requires that a project will generate sufficient funds over its working life to maintain operations and repay debts. If inadequate funds are generated the Bank or the government will have to provide a further injection of funds and this will need to be allowed for in a financing plan.

In addition, where the inclusion objective is important the social dimension of lending must be incorporated. This can either be through lending to small borrowers or indirectly through benefits from large projects spreading to low income households. The methods for economic analysis of projects discussed above are most directly applicable to large projects (such as infrastructure investments or industrial investments in an innovative product or process) funded on a first tier basis, where the Development Bank itself does the detailed project assessment. It will clearly not be practicable to do this analysis for large numbers of small project loans, even where lending is on a first tier basis. One approach to this problem is to do sample calculations on 'representative' small projects. An alternative is not to attempt ex ante assessments, but to do sample ex post surveys using impact evaluation techniques to assess how far loan recipients have benefited from the loans.¹⁶ Where inclusion effects are to be achieved through the distribution of project benefits the initial project plan should include a market survey of users to allow an assessment of how far particular user groups will benefit. Distribution analysis, as a subset of project economic analysis, can then be applied to estimate the 'first round' distributional effects of a project.¹⁷

In practice the application of these techniques has been very mixed, even in multilateral Development Banks, where there is a formal requirement that economic

¹⁶ Best practice requires an initial baseline survey with a treatment group of borrowers and a control group of similar non-borrowers, selected randomly. After a few years from receiving a loan a double difference approach can be applied.

¹⁷ Fujimura (2013) illustrates this approach in the case of a number of projects from the Asian Development Bank.

returns be assessed.¹⁸ The methodology is well developed for most sectors, although obtaining realistic values for environmental externalities is a challenge. Where there is most difficulty is in the area of 'strategic bets' - the risky innovative projects where a Development Bank is funding a first mover innovator and where there is considerable uncertainty about the future market.¹⁹ As noted earlier, this is highlighted as a key role for these banks in the industrial policy literature. Applying the methodology discussed above requires putting numerical values on future benefits and costs over a project life of say 20 years. If the project succeeds in the market benefits may be very high, but conversely if it fails they may be very low.

As noted, the literature recommends banks should play an active role in removing bottlenecks thus aiding success. However this does not remove uncertainty. The technique of risk analysis can be applied by putting probabilities on different outcomes to generate an expected EIRR or expected ENPV, as well as a measure of the risk of failure (defined as the probability of a negative ENPV at the test discount rate). The difficulty is that in the presence of uncertainty by definition accurate probabilities will not be known, so the analysis will be based on little more than a hunch about outcomes. Probably the best way to address this problem is to accept that there will be some high risk activities that Development Banks should fund, possibly as a form of venture capital, so the Bank will benefit from project success as a shareholder. A separate funding window could be set aside for these strategic bets and whilst the project proposals would need to be examined carefully for their realism, the techniques discussed here would be treated as no more than illustrative and would be only one input into the final decision on the project. The final decision would need to assess the potential of the borrower, the realism of the assumptions about the market and the bottlenecks to be faced.

Subsidies

The issue of subsidies offered by Development Banks has been discussed widely with critics warning that credit subsidies can distort financial markets crowding out private sector financial institutions, whilst at the same time encouraging inefficiency in the activities of borrowers and making the banks dependent on government funding. It is accepted as good practice that a Development Bank should not rely heavily on budget transfers from the government as this will make it vulnerable to political interference in lending policy, which has been blamed for past mistakes in lending in many countries. Furthermore setting a financial target makes the Board of

¹⁸ The Asian Development Bank is unusual in publishing formal Guidelines for the application of this approach (ADB 1997). In addition it has also produced detailed best practice cases for water, sanitation, power and transport (ADB 2013).

¹⁹ The early stage funding of the Chinese solar photovoltaic industry by the China Development Bank is an example of a strategic bet (Mazzacato 2014:153).

a bank accountable for operations. None the less financial objectives should be seen as a constraint not an ultimate goal and the aim should be to achieve a bank's developmental mandate subject to a minimum financial target. The main alternatives are either aiming for a breakeven financial position over a given period or setting a return on capital equal to the government's cost of capital (such as the long-run Treasury Bill rate).²⁰

A breakeven target is most compatible with the risk-taking and inclusion mandates discussed above and requiring a Development Bank to act in too commercial a manner both undermines these mandates and forces a bank into direct competition with commercial banks. Balancing developmental objectives with a minimum financial target raises the issue of how far borrowers should be subsidised by Development bank lending. There can be different concepts of a user subsidy, but the most obvious is where the loan rate is below a commercial rate for the category of borrower, typically set at the bank's cost of capital plus administration costs plus a risk premium for the borrower. The role of Development Banks is to provide long-term funds to borrowers at a charge which does not set such a high risk premium that borrowing would not occur. Hence there will be a subsidy element whenever funds are lent at an interest rate or for a repayment period that is more favourable than those a commercial bank would offer, but which covers the direct costs of the Development Bank. The interest charge will then be the bank's cost of capital plus administration charges plus a non-commercial borrower charge, which in some instances could be zero, but at any rate would be a non-commercial charge.

Lending without regard to the risk profile of borrowers can lead to financially unsustainable outcomes and Banks may need to segregate categories of borrower and to take equity stakes in some of the most innovative to ensure the Banks benefit from favourable outturns. The provision of management advice and technical assistance to borrowers can help to reduce risk, but will raise Banks' operating cost. The most obvious candidates for significant rates of subsidy in terms of low risk premiums are those where there is the strongest evidence of externalities and those small firms to be supported on distributional grounds. The academic literature has stressed that innovators should be subsidised due to the demonstration effect they create, whilst size in itself does not justify favourable treatment, although it may do so due to employment or other social as opposed to efficiency considerations (Hausmann and Rodrik, 2005).

Where Development Banks operate on a second tier basis through financial intermediaries they may wish to impose an interest rate ceiling on this lending, since otherwise the subsidy component will accrue to the intermediary not the ultimate

²⁰ The Mexican Development Bank NAFIN has a target to preserve its capital over a five year period, which is equivalent to a zero real rate of return. BDC in Canada is required to generate a return on equity equal to the long-term cost of government funding (Gutierrez et al 2012).

borrower. However, where there is competition between institutions to intermediate the funds it may be possible to allow discretion in setting rates.

Innovative financing solutions

As financial sectors develop there is increasing opportunity for Development Banks to collaborate with private sector financial institutions and to combine the access of these Banks to low cost funding with the expertise of the private sector through a second tier role. Several examples of successful collaboration have been highlighted from Latin America as illustrations of how public funding through Development Banks can be used to strengthen both access to finance and private sector financial institutions (Crespi et al 2014: 190-202).²¹ Detailed assessments of the economic impact of these schemes are not available, but they are now cited as illustrations of financial product innovations as part of a second tier Development Banking role.

In Mexico the Development Bank NAFIN has introduced several initiatives to leverage the resources of the private sector to obtain the best credit terms for SMEs. For example it has developed a hybrid credit guarantee scheme with a combination of first tier and second tier components. Under this scheme it preapproves a total or partial guarantee for firms which meet specific requirements. The firms are then free to contact different commercial banks to discover who will offer them the best terms to lend subject to this guarantee.

Another development is to utilise the process of 'factoring' whereby credit-constrained firms sell to a factoring institution the right to funds owing to them (accounts receivable) at a discount in return cash paid immediately. The process is critically dependent on the credit worthiness of the original debtor since if there is risk attached to the accounts receivable there will be a heavy discount involved. NAFIN has created a programme linking large credit-worthy buyer firms (including the government) and small suppliers. This allows the small firms increased access to cash on the strength of the debts owed by these buyers and in effect allows them to enlarge their collateral and reduce their credit risk. NAFIN provides the financial infrastructure of the programme and acts as a second tier bank by lending to the financial institutions that buy the accounts receivable. It also encourages the participation of large credit worthy buyers and provides training to the SMEs that are enrolled in the programme.

Guarantee schemes administered by Development Banks can be auctioned to private financial institutions to ensure minimum possible coverage and highest possible guarantee fee. The FOGAPE scheme in Chile administered by Banco Estado a public commercial rather than Development Bank has been cited as a successful example of a public intervention incorporating market principles into a

²¹ De la Torre et al (2007) describe measures such as these 'market friendly interventions'.

guarantee scheme (de la Torre et al 2007). Funds available for guarantees are auctioned on a regular basis and banks will bid on the basis of the coverage ratio they will require, so funds are allocated to the lowest bidders until they are exhausted. Participating commercial banks will select the borrowers, who must meet eligibility criteria in terms of borrower and loan size, with the target market small borrowers. The guarantee fee on the total portfolio of a bank can be varied where the default rate is above a stipulated minimum to give an incentive for effective credit screening. The aim is that the fees will cover default costs so the scheme will breakeven.

In Brazil through BNDES the government launched a new credit line Cartão aimed at supplying credit to small and medium enterprises whilst avoiding bureaucratic delays and at the same time encouraging domestic linkages. The credit line is distributed via VISA cards issued by BNDES and by participating commercial banks acting on its behalf. The credit must be spent on approved products (machinery, vehicles, raw materials and components) supplied by firms registered with BNDES and registration requires a minimum national content of 60%. Loans are for a maximum of 4 years and are at an interest rate based on the rate for government bonds. Eligible borrowers must be below a minimum size of turnover. The interest rate is lower than market rates, but the main advantage is speed of processing, since borrowers do not need to undergo credit analysis for each operation, and the reduced transaction cost for customers and the participating financial institutions (ILO 2011).

In summary, in relation to current thinking on policy the suggestions are that Development Banks should

- Apply clear appraisal criteria that assess the economic impact of projects that they finance on a first tier basis
- Look carefully at the subsidy structure they apply – since subsidies should be sufficient to fund strategic investments but not too extensive as to undermine the financial independence of a bank
- Experiment with ways of working with private sector financial institutions
- Establish a system of strong corporate governance with an independent Board and Chief Executive responsible to shareholders for their decisions.

5. Conclusions

Development Banking is not a new phenomenon with public banks playing a role in nineteenth century Europe, and having a major role in post 1945 developments in some parts of the world. Past experience has been mixed with high rates of NPLs for some banks amidst the charge of widespread 'connected lending'. None the less despite the wave of bank privatizations in the 1980's and 1990's in response to these results, Development Banks remain important parts of the financial sector in many countries. They are far from homogenous, however, and whilst the traditional model

of a fully government owned bank offering subsidised long-term credit remains accurate in many cases, it is far from the full story. Many banks have private capital, some take deposits and others act as second tier rather than first tier institutions collaborating closely with private sector intermediaries. A majority are regulated in the same way as commercial banks. The new focus is on streamlined, more efficient and financially aware operations.

To avoid misdirected lending it is important to establish some form of financial independence from governments. The traditional roles of lending long-term to relatively risky projects, which promise high economic returns – whether in terms of infrastructure, innovative products or technologies or environmentally friendly investment – remain valid. There is an extensive technical literature discussed how economic costs and benefits can be assessed and this should be drawn on, as far as possible. The subsidy structure used to fund these activities needs to balance the incentive effect for investors against the viability of the Bank. Ideally the Bank's cost of funds should be covered plus an allowance for borrower risk, but not at a commercial rate.

These strategic loans are best handled through first tier lending. Where second tier lending is involved there is scope for using financial intermediaries to reach large numbers of small borrowers and to use Bank guarantees to support these. Recent developments in Latin America illustrate how competition can be introduced into a guarantee model and financial inclusion objectives can be pursued through innovative lending practices.

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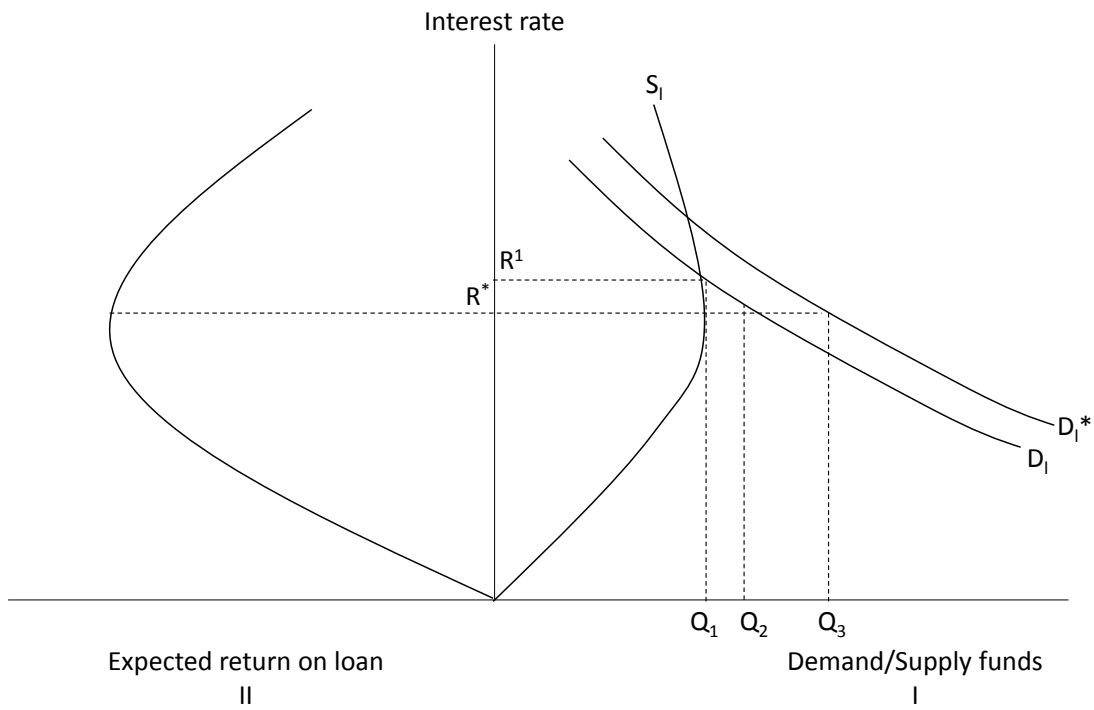


Figure 1 Credit market