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COST BENEFIT ANALYSIS AND DEVELOPMENT BANKS

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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 [28].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 [10]. 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 [15].

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 [14]. 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.

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% [27].[1] 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 [4].

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 [24].

There is considerable heterogeneity within the category of national Development Banks, which is revealed by the survey reported in Luna-Martinez and Vicente (2012). 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. In terms of operations a key distinction is between first tier banks, lending directly to end-borrowers and second tier banks, lending through other financial institutions which deal with the end borrower. 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.

This paper explores the question of how such banks can assess the viability of the investment projects that it considers for financing. Prior to that a second 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. The third section discusses the role of project economic analysis in aiding Bank decisions and a fourth section offers some conclusions.

2.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 Dl and Sl in the market. Demand is based on the marginal productivity of the investment the funds will finance and Dl 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 [22].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^1due to the banks' attitude towards risk. If positive externalities from investment are introduced into the analysis there will be a new demand curve Dl*, 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

[1] The definition of state owned banks used in this source is not clear.

account in the borrowing decisions of investors.[2] 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 Dl*.

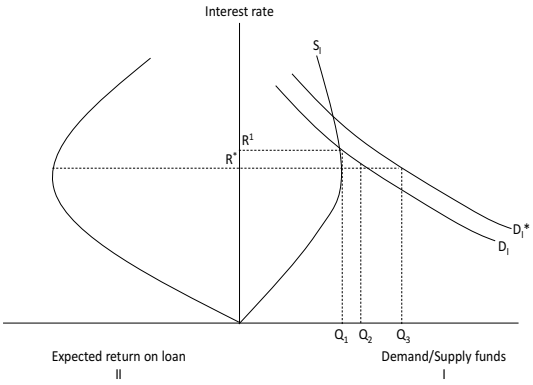

Figure 1. Credit market

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 [12], [20]. 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 bottlenecks to investment that need to be addressed.[3] 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 [4].

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

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

[3] For example, in relation to their proposals for industrial policy in South Africa, [12] 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.'

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 [3] and exclusion from financial services is also seen as a major barrier to poverty reduction [28]. 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'[28]. 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.[4]

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 [27]. 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.[5]

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.

3. 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 from the 1960's a large technical literature showed in detail how this could be done [16], [21],[25].[6]

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

[4] 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).

[5] 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 [28]. 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).

[6] Textbook introductions are [19] and [5]. [26] review current issues in the application of these methods.

controlled interest rate, should be allowed for by using economic values for foreign exchange, labour or funds, based on their opportunity cost.

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.[7] 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 later 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.

A significant level of rigour has been introduced to estimates of willingness to pay by contingent valuation approaches that apply specially designed surveys. In a closed-ended approach the respondent is asked whether they are willing to pay a specified amount presented as the value of the improved service. Prices for the service, or 'bids', are set within a range and distributed randomly to respondents. The yes/no answers to the question of willingness to use the service become the dependent variable in a probit regression model where they are related to household, area and service characteristics as well as the bid price.[8]

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 CO_2 emissions, for example, in principle should be included in an 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 [23].

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.[9] Where

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[7] 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.

[8] The probit model will be of the form

$$Y = \alpha + \beta_1 X + \beta_2 B + \varepsilon$$

Where Y is the yes/no response, X is a vector of variables reflecting household, area or other characteristics, B is the bid price and ε is an error term.

Mean willingness to pay (WTP) is derived from the expression $(\alpha + \sum(\beta_1 * X^a)/\beta_2)*-1$

where X^a is the mean value of X variables.

Mean WTP is thus derived by first summing the product of the mean value for the explanatory variables and their coefficient from the probit analysis ($\sum(\beta_1 * X^a)$) and then dividing this by the coefficient on the bid price (β_2) and adding the constant in the probit model (α). This expression is then multiplied by minus unity to give a positive number. ADB (2013) explains this approach with detailed case studies.

[9] Best practice requires an initial baseline survey with a treatment group of borrowers and a control group of

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.[10]

In practice the application of these techniques has been very mixed, even in multilateral Development Banks, where there is a formal requirement that economic returns be assessed.[11] The methodology is well developed for most sectors, although obtaining realistic values for environmental externalities is a challenge. Benefit transfer approaches apply or adapt monetary estimates of environmental value or damage estimated in one context to another similar situation, but there are always questions of how comparable the cases are.

Adjustments for the macro-economic parameters relating to the exchange rate and unskilled labour remain relevant. Wherever there are some controls or taxes on foreign trade combined with instability in real exchange rates there is a case in theory for applying a foreign exchange adjustment (which will be positive where the national currency is overvalued relative to its long-run equilibrium value or negative where it is undervalued) through use of a shadow exchange rate.[12] Similarly wherever there is significant structural unemployment in the labour market there is a case for applying a shadow wage factor of below unity, since labour's opportunity cost will be below the wage paid.[13]

Where there is perhaps 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.[14] 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. An alternative is to apply a form of scenario analysis setting out two or three alternative future scenarios in terms of project sales and costs and their implications. The realism of the scenario needed to justify the project can then be assessed on the basis of judgement.

In practice 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 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

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similar non-borrowers, selected randomly. After a few years from receiving a loan a double difference approach can be applied.

[10] [9] illustrates this approach in the case of a number of projects from the Asian Development Bank.

[11] The Asian Development Bank is unusual in publishing formal Guidelines for the application of this approach [1]. In addition it has also produced detailed best practice cases for water, sanitation, power and transport [2].

[12] [17] discusses this in detail.

[13] EU (2008) discusses different measures of the shadow wage based on different assessments of the labour market in the context of EU Member States; see also [28].

[14] The early stage funding of the Chinese solar photovoltaic industry by the China Development Bank is an example of a strategic bet [18].

the government's cost of capital (such as the long-run Treasury Bill rate).[15]

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 [13].

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

[15] 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 [11].

4. 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 here which sets out 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.

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