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# **SHOULD THE GOVERNMENT BE IN THE BANKING BUSINESS? THE ROLE OF STATE-OWNED AND DEVELOPMENT BANKS**

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## Abstract\*

This paper surveys the theoretical and empirical literature on the role of state-owned banks and also presents some new results and a robustness analysis. The paper shows that state-owned banks located in developing countries have fiscal costs because they are characterized by lower returns than comparable privately owned banks (on the other hand, there is no evidence that state-owned banks located in industrial countries are less profitable than their private counterparts). We then point out that this evidence cannot be used as an argument against the existence of state-owned banks, as this low profitability might stem from state-owned banks' activity on projects characterized by low private sector investment and high social return. While we find no evidence that the presence of state-owned banks promotes economic growth or financial development, we also find that the evidence that state-owned banks lead to lower growth and financial development is not as strong as previously thought.

**Keywords:** Banking; Privatization; State-owned banks; Financial development; Latin America

**JEL Codes:** G21; H11; O16

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## 1. Introduction

Should the state play a role in the banking business, and, if so, should the state directly own banks or simply intervene with subsidies and regulations? These are very controversial issues in development economics. Some economists and policymakers answer both questions with a strong “yes” and claim that state ownership of banks is necessary to spur financial development and stimulate economic growth. Others argue that the opposite is true and suggest that state ownership of banks depresses financial development and stunts economic growth. The purpose of this paper is to provide a balanced and non-ideological reading of the existing literature and provide some checks of the robustness of existing results.

Arthur Lewis, Alexander Gerschenkron, Gunnar Myrdal and several other prominent development economists writing in the 1950s and 1960s tended to agree that the state should play a key role in the banking sector. Governments acted largely in line with this view and, by the 1970s, the state owned 40 percent of assets of the largest banks in industrial countries and 65 percent of the largest banks’ assets in developing countries, as shown in Figure 1.

The 1980s and 1990s, however, witnessed a sea change in views on the state’s role in the economy, and privatization was at the very center of the neo-liberal economic policies codified in the Washington Consensus. Consequently, from 1987 to 2003 more than 250 banks were privatized, raising US\$143 billion.<sup>1</sup> But even after this wave of privatization, the presence of the state in the banking sector is still widespread and pervasive. In the mid 1990s, about one quarter of the assets of the largest banks in industrial countries and 50 percent of the assets of the largest banks in developing countries were still under state control.<sup>2</sup> It is therefore interesting to ask whether there is a justification for such a massive public presence in the banking sector.

Some argue that state presence in the banking sector is justified by market failures and development goals. They point out that financial markets in general and the banking sector in particular are different from other markets and that government intervention can improve the working of the financial sector and the overall functioning of the economy. In particular, the *social view* emphasizes the public sector’s role in compensating for market imperfections that

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<sup>1</sup> See Megginson (2004).

<sup>2</sup> The data reported here are from La Porta, López-de-Silanes and Shleifer (2002) and refer to the assets of the ten largest banks in each country. Data for the whole banking system (from Micco and Panizza, 2004) are highly correlated with the data for the top ten banks (the regression coefficient between the two variables is 0.1 and the  $R^2$  is 0.8), but the former dataset shows somewhat lower presence of the public sector (11 percentage points lower on average).

leave socially profitable investments underfinanced.<sup>3</sup> Also supportive of public participation in the banking sector is the *development* view (often identified with Gerschenkron, 1962) that stresses the need for public intervention in economies where the scarcity of capital, general public distrust and endemic fraudulent practices among debtors may fail to generate the sizable financial sector required to facilitate economic development (Stiglitz, 1994).

Others argue that banks are not necessarily different from other businesses and that the case for financial market imperfection is often overstated. Furthermore, they suggest that market failures can be better addressed by regulation and subsidies rather than direct state ownership of banks. This is the *political view*, which holds that politicians create and maintain state-owned banks not to channel funds to socially efficient uses, but rather to maximize politicians' personal objectives.<sup>4</sup> According to proponents of this view, state ownership of banks is merely dictated by redistributive politics and by the fact that politicians are interested in appropriating the rents that may derive from controlling the banking sector. Somewhere between the benign view of state intervention in the banking sector, represented by the social and development views and the more cynical political view, there is also the *agency view*. This approach highlights the trade-off between the allocative efficiency motive stressed by the social and development views, and internal efficiency, or the ability of state-owned enterprises to carry out their mandate. This view emphasizes that, while market imperfections may exist, agency costs within government bureaucracies may more than offset the social gains of public participation.

In order to understand whether the state should be in the banking business, it is useful to divide the issue into the following two questions. First, are there market failures that justify state intervention in the banking sector? Second, if such market failures exist, are they better addressed with subsidies and regulations, or do they require direct state ownership of banks?

## **2. The Rationale for State Intervention**

Standard arguments for state intervention in the banking sector can be broadly classified into four groups: (i) maintaining the safety and soundness of the banking system; (ii) mitigating market failures due to the presence of costly and asymmetric information; (iii) financing socially

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<sup>3</sup> See Atkinson and Stiglitz (1980) and Stiglitz (1994), among others.

<sup>4</sup> See La Porta, López-de-Silanes and Shleifer (2002).

valuable (but financially unprofitable) projects; and (iv) promoting financial development and giving access to competitive banking services to residents of isolated areas.

The first group of arguments, those concerned with safety and soundness, are based on the insight that banks are inherently fragile institutions whose liabilities consist of demand deposits and whose assets consist of loans, which are more illiquid. Such a situation can lead to self-fulfilling bank runs and widespread bank failures. However, banking fragility by itself does not justify government intervention aimed at guaranteeing the stability of the banking system, unless bank failures generate large negative externalities. It is exactly in this sense that banks are special because, besides intermediating credit, they also provide two services that have a public-good nature: they are the backup source of liquidity for all other institutions and the transmission belt for monetary policy (Corrigan, 1982). The need for state intervention also arises from the fact that, due to the large leverage ratios that characterize financial institutions in general, bank managers and owners may have strong incentives to pursue investment activities that are riskier than those that depositors would prefer.<sup>5</sup> This would not be a problem if depositors could effectively monitor banks' managers. However, there is a free rider problem in bank monitoring because banks' liabilities are mostly held by small depositors who have very limited incentives and ability to monitor banks' activities.<sup>6</sup>

The second set of explanations, concerned with mitigating market failures, has to do with the fact that financial markets in general, and banking in particular, are information-intensive activities. It is generally accepted that the stock of information gathered by banks plays a role in increasing the pool of domestic savings that is channeled to available investment opportunities. However, as information has some public-goods characteristics, such as non-rivalries in consumption and costly excludability, and often entails a fixed acquisition cost, competitive markets will undersupply information; this combination of characteristics leads to imperfect competition in the banking system. Moreover, information can be easily destroyed, thus increasing the cost of bank failures, as customers of the failed bank may lose access to credit. It has also been shown that asymmetric information may lead to credit rationing, a situation in which good projects are underfinanced (or not financed at all) due to the lack of verifiable

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<sup>5</sup> See Jensen and Meckling (1976) and, for a textbook treatment, Freixas and Rochet (1997).

<sup>6</sup> The same problem underlies the role of banks as delegated monitors of depositors' investments, as pointed out by Diamond (1984). These arguments have been invoked to motivate the need for more stringent prudential regulation, as opposed to direct state participation in banking activities.

information.<sup>7</sup> A similar case can be made for the relationship between depositors and banks: lack of bank-specific information can dissuade savers from depositing in banks, particularly in incipient banking systems where long-standing customer relationships have yet to be built.

The third group of reasons, which address projects' social utility, has to do with the fact that private lenders may have limited incentive to finance projects that produce externalities. In this line, direct state participation would be warranted to compensate for market imperfections that leave socially profitable (but financially unattractive) investments underfinanced. Alternatively, state intervention may be justified by big-push theories like the one originally formulated by Rosenstein-Rodan (1961). It is also possible to argue that banks may frustrate expansionary monetary policy. This occurs because they have limited incentives to lend during periods of economic downturns and low interest rates and do not internalize the fact that, by increasing lending, they would push the economy out of recession (this is the *macroeconomic* view).<sup>8</sup> If this is the case, state intervention could solve a coordination problem and make monetary policy more effective. A related theoretical argument in favor of state intervention, borrowed from the literature on financial markets, points to the fact that effective prudential regulation (and, in some cases, banks' own incentives) tends to make private banks too risk averse to finance all potentially profitable investments.<sup>9</sup> Then, in the absence of developed capital markets that allow for alternative sources of financing—which is the case in most developing countries—state intervention may be warranted.

A final set of arguments for state intervention in the banking sector is that private banks may not find it profitable to open branches in rural and isolated areas and that state intervention is necessary in order to provide banking services to residents of those areas. Underlying the argument are two beliefs: i) granting access to banking services may increase financial development, with positive externalities for growth or poverty reduction (see, for instance, Burgess and Pande, 2003); and ii) access to financial services is a right, and the state should make an effort to guarantee that they are universally provided. Along similar lines, the presence

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<sup>7</sup> Indeed, rationing may occur as an adverse selection phenomenon in which, by pooling good and bad projects, the lender may increase the financing costs to the point of driving good projects out of the market. For a detailed discussion of market failures arising from costly and asymmetric information, see Stiglitz (1994)

<sup>8</sup> Prudential regulation may create an additional disincentive, as both the quality of banks' portfolios and prospective investments tend to deteriorate during a recession.

<sup>9</sup> There are at least two reasons why this may be the case. First, due to the presence of externalities in the banking sector, the regulator may aim at a suboptimal risk level. Second, reputation costs and significant market power may induce large private banks to shy away from risky investments in order to protect their charter value.

of public banks has also been advocated as a means of guaranteeing competitive behavior in an otherwise collusive banking sector. This rationale, however, is likely to be relevant only when the regulatory and monitoring capacity of the public sector is limited and prone to capture.

### **3. How Should the State Intervene?**

Most economists would agree that market failures in the banking system warrant some degree of government intervention. There is less consensus, though, on the specific nature of this intervention; a particularly thorny dilemma is whether state intervention should take the form of regulation and contracting of private agents or extend to direct state ownership. Under what conditions, then, would state ownership be justified?

The recent literature on contracting provides some insight into this question. If the government knows exactly what it wants to produce, and if the characteristics of the goods or services to be produced can be written in a contract or specified by regulation, then it will not matter whether a given good or service is directly provided by the government or contracted to a private provider.<sup>10</sup> Analyzing the more realistic case in which the good or service to be provided has some “non-contractible” quality, Hart, Shleifer and Vishny (1997) show that, if cost reductions lead to a deterioration of the non-contractible quality, private provisions may have benefits in terms of cost reduction but may yield lower quality. In particular, the non-contractible quality will depend on the effect of cost reduction activities on the quality of the good or service provided.

To provide a concrete example, consider the case in which a government wants to establish a development bank whose ultimate objective is to promote economic development by making loans to certain economic sectors at a subsidized interest rate, due to the presence of important externalities. The government could either establish a public development bank or contract a private provider. According to Hart, Shleifer and Vishny (1997), the private provider will have an incentive to reduce costs and innovate. However, the incentive to reduce costs may conflict with the development objective. As economic development cannot easily be monitored (at least in the short term), the bank could take cost-saving actions that would reduce its long-term development impact. For instance, it could eliminate (or understaff) its research department

and hence reduce its ability to identify and target sectors that generate large externalities. While this problem could be addressed by separating research from banking activities and by maintaining the former under state control, such a solution may be inefficient if there are important synergies between the two activities. This seems to suggest a theoretical rationale for direct ownership of development banks.<sup>11</sup> Indeed, most development banks are indeed either public or have a mixed (public-private) structure, as shown in Figure 2.

The claim that state-owned banks may be more efficient than private sector institutions in achieving objectives that are not clearly contractible or monitorable may seem paradoxical. After all, if the state cannot clearly write a contract with a private sector provider, how can it provide incentive to the bureaucrats? The argument that the state can provide incentives to public bureaucrats more easily than to private providers is in line with Holmstrom and Milgrom's (1991) result that increasing incentives along a measurable performance dimension (costs or profitability) reduces incentives along non-measurable dimensions.<sup>12</sup>

Critics of government intervention argue that state ownership of banks eventually leads to a situation in which credit allocation is dictated by political rather than economic considerations (Kane, 1977).<sup>13</sup> However, once the assumption of a benevolent government is relaxed, the impact of corruption, patronage and a generally "weak" state on the balance between the costs and benefits of state ownership is not straightforward. While state ownership may increase the opportunities for corruption and patronage, a "weak" state makes contracting and regulation more difficult and may thus increase the benefits of state ownership.<sup>14</sup>

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<sup>10</sup> This is because, from the government's point of view, there is no difference between providing the right set of incentives to private or public managers, and this holds even in the presence of moral hazard and adverse selection (Hart, Shleifer and Vishny, 1997).

<sup>11</sup> By contrast, the objective of providing banking services to isolated areas could be readily met by contracting a private bank to open branches in specific locations, a solution that appears to dominate direct ownership if the latter involves the *de novo* creation of a state-owned institution.

<sup>12</sup> This also provides one possible explanation for the finding that state-owned banks tend to be less profitable than their private counterparts. Interestingly, in this context, the finding of profitable public banks may be signaling the failure of the incentive scheme rather than its success. Pressures for profitability (for prudential reasons or for fear that financial losses may fuel support for privatization) may induce public bank managers to deviate from their social mandate and mimic private banks in their credit allocation criteria, in what De la Torre (2002) labeled the "Sisyphus syndrome." If so, public banks, although efficient, would become redundant. Thus, public ownership would be preferable when there is limited potential for quality improvement or when the adverse effect of cost reduction on quality is likely to be substantial.

<sup>13</sup> Two papers that use microeconomic data and find support for this political view are Sapienza (2004), who focuses on Italy, and Khawaja and Mian (2004), who study the lending behavior of Pakistani banks.

<sup>14</sup> Moreover, as Hart, Shleifer and Vishny (1997) note, the presence of competition in the provision of the good or service would reduce the incentives of the private providers to reduce quality by over-investing in cost-reducing activities. This is true only if those who choose the provider care about the non-contractible component. Therefore,

It is also worth noting that market failures in the banking system not only concern the underprovision of certain goods or services, but also the inherent fragility of the banking system. In this regard, the traditional view is that regulation and supervision, together with deposit insurance, can reasonably reduce banking fragility without eliminating the incentives to reduce costs and innovate that arise from private ownership.<sup>15</sup> This is indeed the avenue followed by most industrial countries. It is, however, true that deposit insurance and regulation do not work satisfactorily in poor developing countries that are plagued by high levels of corruption and poor institutional quality.<sup>16</sup> In that context, direct state ownership could increase public trust in the banking system and lead to deeper financial markets.

This original view by Gerschenkron (1962) was recently formalized by Adrianova, Demetriades and Shortland (2002). Their work is motivated by the example of Russia, where public mistrust of banks induces most small savers to keep their funds outside the banking system and where 70 percent of retail deposits are with the largest state saving bank.<sup>17</sup> Note that the argument can be made more generally in terms of a comparison of agency costs. Credible deposit insurance and effective regulation and supervision can offset the mistrust of depositors while limiting the contingent liability of the insurance agency (which in this case becomes the principal of the problem). If regulation and supervision are ineffective, however, the cost in terms of insurance outlays may outweigh the agency costs of direct state ownership. Thus, the case for direct intervention hinges on the government's ability to provide incentives and monitor private bank owners and managers relative to its ability to do so for its own agents.

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this may not apply to banking if the non-contractible quality is, for example, the development impact of banking. As Hart, Shleifer and Vishny (1997) point out, corruption may weaken the case for private contracting as privatization maximizes the bribes that can be collected by politicians.

<sup>15</sup> In the case of banking, a possible source of cost reduction is better screening of potential debtors. This would reduce non-performing loans and hence reduce the fragility of the banking system.

<sup>16</sup> See Demirgüç-Kunt and Detragiache (2002) and Barth, Caprio and Levine (2003).

<sup>17</sup> At the cross-country level there is a positive, but not statistically significant, correlation between the saving ratio and state ownership of banks.

#### 4. What Should State-Owned Banks Do?

In order to evaluate the performance of state-owned banks, it is important to have a clear idea of what state-owned banks are *a priori* expected to do, in line with the alternative motivations discussed above.<sup>18</sup>

The social view would indicate that state-owned banks should be more active in sectors where market failures are likely to be more prevalent, namely, those associated with information asymmetries, intangible assets, large external financing needs, and significant spillovers. Candidates would include agriculture (plagued by asymmetric information and aggregated shocks), R&D-intensive sectors like the pharmaceutical industry (with a large share of intangible assets and potentially large spillovers), or capital-intensive industries with long start-up periods involving negative cash flow (such as the aerospace industry). It is also plausible that politicians may want to use public banks to limit employment volatility. Therefore, one should expect them to lend to labor-intensive sectors, particularly during recessions and in the presence of high unemployment rates. This discussion suggests that we should not expect to see state-owned banks competing with the private sector to finance firms with alternative sources of credit, or with the public sector. There are, however, two exceptions to this general statement.

The first has been stressed by the development view: in a context of poor institutional development and a general mistrust of private banks, state-owned banks could be the only viable financial institutions. Furthermore, well-structured public financial institutions may disseminate their experience to private sector partners, thus promoting financial development.<sup>19</sup> Consequently, commercial (as opposed to development) public banks may play a role at the very early stages of financial development.

The second has to do with the fact that private bank lending could overreact to recessions and amplify the business cycle. Although this problem could be addressed with government guarantees or subsidies, these actions could take time to materialize, as they would likely require some sort of legislative action. Hence, a public bank manager that internalizes the benefits of increasing credit during recessions may play a useful role in smoothing credit cycles.<sup>20</sup> The

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<sup>18</sup> The related issue of the different institutional arrangements that characterize state-owned banks in practice is addressed in Appendix 1.

<sup>19</sup> This was, indeed, the case for the development banks created in Europe during the nineteenth century. See Armendáriz de Aghion (1999).

<sup>20</sup> The idea is similar to the argument that monetary policy has shorter implementation lags than fiscal policy. In this context, a case can be made in favor of contingent guarantees that activate in the event of a crisis.

evidence on the stabilizing role of public banks is still extremely limited and somewhat controversial. On the one hand, Micco and Panizza (2004) show that credit extended by state-owned banks located in developing countries is less procyclical than private credit. On the other hand, Cecchetti and Krause (2001) show that the effectiveness of monetary policy is *reduced* (and not enhanced) by the presence of state-owned banks.

Some policymakers argue that public sector banks could also be used as a tool to address, in a non-transparent way, a whole class of problems that may arise at times of crisis. For instance, public sector banks could be used as a crisis resolution vehicle, absorbing restructured banks' bad loans, or as an instrument to quickly distribute subsidies to politically sensitive sectors, thus hiding their fiscal cost or overcoming political economy constraints. The same could be done for industries that are facing an economic crisis. There is clearly a trade-off between the costs and benefits of having such an instrument. On the one hand, by increasing policymakers' degrees of freedom, public banks may make policy more effective. On the other hand, by reducing transparency and accountability, public banks increase opportunities for waste, corruption, and patronage and may generate a series of contingent liabilities that are not properly accounted for in the fiscal accounts. It is fair to conclude that, in most cases, this lack of transparency and accountability may do more harm than good.

## **5. Public Banks in Latin America: Evolution and Main Characteristics**

The share of bank assets controlled by the public sector varies widely across countries. The industrial countries and Sub-Saharan Africa are the world's regions with the lowest prevalence of state ownership of banks (around 20 and 30 percent, respectively, in 1995, as shown in Figure 1).<sup>21</sup> By contrast, South Asia and the Middle East are the regions with the largest share of state ownership, at 90 percent and more than 50 percent, respectively. The transition economies of East and Central Europe, after the massive privatization programs of the 1990s, moved from almost full state ownership of banks—90 percent in 1985—to intermediate levels of state ownership in 1995. Data for 2001 indicate an even lower level of state ownership.<sup>22</sup>

Latin America has a level of state ownership of banks similar to the developing country average. There are, however, large differences across countries in the region, as shown in Figure

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<sup>21</sup> The data described here include both commercial and development banks.

<sup>22</sup> For details of bank privatization in transition countries see Bonin, Hasan and Watchel (2003).

4. Costa Rica has the largest share of government ownership, at 90 percent in 1995, down from 100 percent in 1970. Trinidad and Tobago has the smallest share of state ownership, at 1.5 percent in 1995. Most countries in the region privatized aggressively both in the 1970s and the 1990s.<sup>23</sup> Ecuador, Chile and Peru are the countries that privatized the most, moving from levels of state ownership above 90 percent (or close to that level in the case of Peru) to less than 40 percent; state ownership fell below 30 percent and 20 percent, respectively, in the cases of Peru and Chile. Only Uruguay increased state ownership of banks, moving from 42 percent in 1970 to 69 percent in 1995. Other countries experienced large swings in the bank privatization and nationalization process. Mexico, for instance, moved from 82 percent of state ownership in 1970 to 100 percent in 1985, then down to 35 percent in 1995. A similar pattern holds for Nicaragua, Colombia, El Salvador and Bolivia.<sup>24</sup>

More recent data show that the pattern of bank privatization has continued in most countries. Over the 1995-2001 period, large bank privatizations raised US\$5.5 billion in Brazil (with the privatization of BANESPA raising US\$3.6 billion), US\$800 million in Mexico and more than US\$500 million in both Colombia and Venezuela.<sup>25</sup> Table 1 illustrates the recent evolution of state ownership of banks in ten Latin American countries.<sup>26</sup> It shows that Argentina, Brazil, Costa Rica and Nicaragua are the countries that privatized the most. The share of assets controlled by state-owned banks also dropped in Chile, El Salvador, and Guatemala, while it remained more or less constant in Colombia.

Figure 5 describes public bank performance indicators relative to that of private domestically owned banks.<sup>27</sup> It shows that public banks charge lower interest rates than their private counterparts, a result consistent with the findings of Sapienza (2004) for Italy, and also

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<sup>23</sup> During the 1970-1985 period, average state ownership of banks dropped from 64 to 55 percent, and during the 1985-1995 period, average state ownership of banks dropped from 55 to 40 percent. Studies of bank privatization in Latin America include Beck, Crivelli and Summerhill (2003), Clarke and Cull (2002) and Haber and Kantor (2003).

<sup>24</sup> In Nicaragua state ownership went from 90 percent in 1970 to 100 percent in 1985, declining to 63 percent in 1995. In Colombia, state ownership went from 57 percent in 1970 to 75 percent in 1985, falling to 53 percent in 1995. In El Salvador, state ownership went from 53 percent in 1970 to 100 percent in 1985 to 26 percent in 1995. In Bolivia, state ownership rose from 53 percent in 1970 to 69 percent in 1985, then declined to 18 percent in 1995.

<sup>25</sup> See Megginson (2003).

<sup>26</sup> The data are not directly comparable with those of Figure 3 because the data in Table 1 include only commercial banks and the data in Figure 4 also include development banks. Furthermore, the data in Figure 3 include only the assets of the ten largest banks, while Table 1 includes all the banks operating in the country. Finally, the data of Table 1 were computed by assigning 100 percent government ownership to banks with at least 50 percent of assets owned by the government and 0 percent government ownership to others.

pay lower interest rates on their deposits (90 basis points less than private banks). A further difference is that public banks lend more to the public sector than do private sector banks; the average difference is 8 percentage points. Public banks' portfolios also have an 8 percent higher share of non-performing loans. Finally, public banks are less profitable than their private counterparts; the difference in returns on assets is 0.4 percentage points. Micco and Panizza (2004) and Demirgüç-Kunt and Huizinga (2000) use a larger set of countries and also find that state-owned banks have lower profitability than their private counterparts. However, Micco and Panizza (2004) show that this result does not hold if the analysis is restricted to industrial countries.

Table 2 illustrates the results for each country, reporting both public and foreign coefficients, and shows that the relative profitability of public banks is particularly low in Colombia and Honduras. (Costa Rica is the only case in which public banks are more profitable than their private counterparts). Brazil and Honduras are the countries where public banks pay and charge the lowest interest rates (again relative to domestically owned private sector banks), with a rate differential close to two percentage points in the case of loans in Brazil. Non-performing loans are particularly high for public banks in Costa Rica (a seeming contrast with their relatively high profitability), Guatemala and Honduras, and public sector loans are particularly high in Chile and Costa Rica.

Table 3 traces the evolution of public sector loans in public, private and foreign banks. In three countries, Argentina, Brazil and Colombia, the share of public sector loans increased considerably over the 1995-2000 period, but only in Colombia and Argentina do public sector banks seem to have absorbed a disproportionately large share of public sector debt.

While these results should be taken with some caution, because they are simple correlations that control only for bank size, they suggest that while public banks tend to be less efficient than their private counterparts (with higher non-performing loans, more loans to the public sector, higher overheads, and lower returns) they are also perceived to be safer and hence able to pay lower rates on their deposits and extend credit at a lower rate. An alternative

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<sup>27</sup> All the values were obtained by running a bank-level regression, controlling for size (expressed as log of total assets) and including a dummy taking value one for public banks and a dummy taking value one for foreign-owned banks. The values plotted in Figure 4 are the coefficients of the public bank dummy.

explanation for this last result is that state-owned banks may benefit from indirect subsidies coming from government deposits paying no or low interest rates.<sup>28</sup>

Finally, it is important to stress that state-owned banks may not maximize profits but social welfare. Therefore, it could be the case that an efficient public bank loses money in projects with negative private present value but with positive externalities or social benefits.

## **6. Development Banks**

Most of the literature on state ownership of banks either focuses exclusively on commercial banks or considers both commercial banks and development banks.<sup>29</sup> However, these are very different types of institutions (see Appendix 1). While there is no universally accepted definition of what a development bank is, development banks are often described as financial institutions that are primarily concerned with offering long-term capital finance to projects that are deemed to generate positive externalities and hence would be underfinanced by private creditors. Standard objectives of development banks also include financing the agriculture sector and reducing regional economic disparities. Rather than working directly with the public, development banks sometimes function as second-tier institutions (i.e., operating through other banks) and often have a well-defined objective that is closely related to the economic development of either the country or a given sector.<sup>30</sup> The last available survey (Bruck, 1998) indicates that there are 550 development banks worldwide, with 152 development banks located in Latin America and the Caribbean. Figure 6 describes the relative importance of development banks in different regions of the world (expressed as a share of development bank assets over assets of the ten largest banks in each country). Among world regions, Latin America, South Asia and Sub-Saharan Africa are characterized by a relatively large presence of development banks.

There is some consensus that development banks played an important role in the industrialization of Continental Europe and Japan (Cameron, 1961, and Armendáriz de Aghion, 1999). *Crédit Mobilier* (a private institution with close government ties), for instance, played a

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<sup>28</sup> This is the case of Chile, where the Banco del Estado de Chile manages the central government checking account.

<sup>29</sup> Important exceptions include Armendáriz de Aghion (1999), Titelman (2003) and ALIDE (2003).

<sup>30</sup> Alternative definitions of development bank include: “An institution to promote and finance enterprise in the private sector” (Diamond, 1957), “A financial intermediary supplying long-term funds to bankable economic development projects and providing related services” (Kane, 1975) and “Institutions public or private which have as one of their principal functions the making of medium or long term industrial projects” (Boskey, 1959).

very important role in financing the European railway system and through partnership with other banks contributed to overall European financial development.<sup>31</sup> In Germany and Japan, development institutions were key to reconstruction after the World Wars. According to Armendáriz de Aghion (1999), key factors in the success of these financial institutions were their dispersed ownership (especially in the case of institutions created before World War II) and charters that stated that these institutions should only provide supplementary finance; the latter led to co-financing agreements. These characteristics were important because they enabled the development institutions to disseminate their expertise and thus promote financial development in Europe. In comparing the experience of *Crédit National de France* with *Nacional Financiera de Mexico*, Armendáriz de Aghion (1999) suggests that the type of government involvement (with subsidized credit and loan guarantees in the first case and direct ownership in the second) and need for co-financing agreements (strong in the first case and weak in the second) are among the factors that made the experience of *Crédit National* more successful than that of *Nacional Financiera*. She also argues that these findings are consistent with a theoretical model showing that well-targeted state intervention (via subsidies and credit guarantees) and the imposition of co-financing restrictions are likely to maximize the positive spillover of development institutions. Not only may they lead to a better allocation of credit (co-financing may limit the opportunities for politically motivated credit allocation), but they may also disseminate development expertise to the whole financial system.

Latin America has a large number of institutions that define themselves as development banks and are part of the *Asociación Latinoamericana de Instituciones Financieras para el Desarrollo (ALIDE)*.<sup>32</sup> Of ALIDE's 121 members, 75 are first-tier banks and 21 are second-tier banks; the remainder are mixed. Most of these banks are either state-owned or have mixed public-private ownership. In 2002, for instance, there were only 11 development banks with fully private ownership, accounting for less than 2 percent of total assets of Latin American development banks (See Figure 2).<sup>33</sup>

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<sup>31</sup> For a brief history of *Crédit Mobilier*, see Rajan and Zingales (2003). Cameron (1961) provides a more detailed account.

<sup>32</sup> The self-definition is adopted because it is difficult to define whether an institution is a development bank or not.

<sup>33</sup> These were *Banco Industrial S.A.* (operating in Bolivia and Guatemala), *Banco del Desarrollo* (Chile), *Banco BHD S.A.*, *Banco Dominicano del Progreso S.A.*, *Banco de Desarrollo Citicorp* (the Dominican Republic), *Banco Empresarial S.A.*, *Financiera Guatemalteca S.A.*, *Financiera Industrial S.A.* (Guatemala), and *FEDECREDITO* (El Salvador)

The Dominican Republic, Argentina, and Brazil have the largest number of development institutions (more than 10) and development banks are particularly important in Uruguay, Brazil, Panama, the Dominican Republic, and Costa Rica (where in 2001 loans totaled more than 15 percent of GDP) and relatively less important in Ecuador, Venezuela, Honduras, Peru, and El Salvador. In Brazil, Banco Nacional de Desenvolvimento Econômico e Social (BNDES) is the largest development bank, with total net loans in 2002 of US\$28.3 billion and annual disbursements of approximately US\$11 billion (Figure 7). The second and third largest development banks are also Brazilian (Banco do Brasil and Caixa Econômica Federal), followed by two Mexican banks (NAFIN and BANOBRAS) and an Argentine institution (Banco de la Nación Argentina). It should be clear from this classification that the list of ALIDE member institutions largely includes firms that mostly engage in commercial banking activities (i.e., belong to Group 1 in the taxonomy of Appendix 1). If these banks are dropped from the sample the share of development bank loans over GDP drops substantially. Brazil then becomes the country with the largest presence of development banks, followed by Mexico, Colombia and Chile.

Development banks tend to have low profitability, and their return on assets tends to be lower than that of private banks in the country (Figure 8).<sup>34</sup> This is particularly true for Guatemala, Chile, Mexico and Colombia.<sup>35</sup> In the cases of Brazil and Peru, however, there is no large difference between the profitability of development and private commercial banks (this could be due to the fact that development banks have a lower cost of funds) and in El Salvador and Bolivia, development banks seem to be more profitable than private commercial banks.

There are some aspects in which Latin American development banks adhere to their mandate of focusing on certain disadvantaged sectors. For instance, a recent survey by ALIDE found that more than 20 percent of total credit allocated by its member institutions is directed towards agriculture and rural development and that 80 percent of credit allocated by second-tier ALIDE members is either medium or long term. The same survey found that 50 percent of the surveyed institutions allocate more than 80 percent of their credit to small and medium

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<sup>34</sup> The figure compares average return on assets (weighted by bank assets) for development banks (excluding first-tier banks) and private commercial banks.

<sup>35</sup> It should be pointed out, however, that the figure for Guatemala is influenced by the disastrous returns of one institution that had an ROA of -26 percent! If this institution is dropped from the sample, the return on assets of development banks increases to 0.6 percent. In the case of Chile, the negative results are due to the crisis at the

enterprises (ALIDE, 2003).<sup>36</sup> However, there are also cases in which, as predicted by the Sisyphus syndrome, some development banks forget their mandate and merely replicate the activity of private commercial banks.<sup>37</sup>

## **7. Do Public Banks Play a Useful Role in Economic Development?**

The few existing empirical studies addressing the development impact of state-owned banks have tended to focus on their implications for the evolution of the private banking sector and financial markets as a whole and, through them, for economic performance. Looking at the correlation between public participation in the banking sector and financial development, Barth, Caprio and Levine (2002) argue that greater state ownership of banks tends to be associated with more non-performing loans. Nonetheless, they find that, after controlling for bank regulation, government ownership of banks is not robustly linked with other indicators of bank development and performance.<sup>38</sup> These results are somewhat in contrast with their previous work (Barth, Caprio and Levine, 2001). In that study, using a sample of 59 developed and developing countries, the authors find a negative association between state ownership and financial depth as measured by ratios of bank and non-bank credit to the private sector over GDP, and by the value of securities traded domestically. These results hold even after controlling for economic development and the quality of government.

The interpretation of these findings in terms of causality is rather difficult, and these results do not help clarify whether public banks' existence is justified by development and social objectives or whether their existence is purely due to political reasons. In fact, the correlation

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Corporación de Fomento de la Producción (CORFO), which in 2001 had an ROA of -4.8 percent (ROAs were mostly positive in the previous years).

<sup>36</sup> Evaluating the impact of development banks is not an easy task. Take for instance the provision of long term financing. In Brazil, BNDES is basically the only provider of long-term financing. This could be interpreted in two different ways. On the one hand, it could be claimed that BNDES provide a much-needed form of credit that is not offered by private provider. On the other hand, it may be claimed that the presence of BNDES crowds out the activity of private providers of long-term financing (that cannot compete with BNDES because, lacking government guarantees and subsidies, they have a higher cost of funding) and hence the presence of BNDES stunts financial development in Brazil.

<sup>37</sup> One example is the Mexican Banco Nacional de Crédito Rural (BANRURAL) which has a mandate to finance agricultural activities but has a large share of its branches in urban areas.

<sup>38</sup> They also study the relationship between banking crises and state ownership of banks, but they do not find a significant link. Some evidence for such a relationship is found by Caprio and Martínez Peria (2002). The fact that bank failures during a crisis tend to be followed by nationalization may generate a positive correlation between the propensity to face banking crises and the extent of ex-post state ownership, independently of whether state participation increases banking fragility.

between state ownership of banks and poor institutional quality (as measured by lack of property rights), low financial development, government intervention in the economy, and low GDP per capita, is consistent with all theories aimed at explaining state intervention in the banking sector.

An alternative way to look at the issue is to use microeconomic data.<sup>39</sup> But even in this case, the empirical implications of each theory are often difficult to distinguish given the available information because both the development and political view of public banks are consistent with low profitability of public banks, due to the financing of socially (but not privately) profitable investments, the dominance of agency costs, their exploitation for political patronage or their subordination to macroeconomic policy.

La Porta, López-de-Silanes and Shleifer (2002) focus more specifically on the determinants and implications of state ownership of banks. Their original data on public ownership (which comprises public shares for about 90 economies for the years 1970, 1985 and 1995) show that government ownership of banks at an earlier period is associated with a slower subsequent development of the financial system and slower economic growth. Their tests, while controlling for initial conditions, such as financial and economic development and state ownership ratio, are still limited to cross-section correlations and, as the authors note, “are not conclusive evidence of causality.” This is particularly true in light of the strong persistence of both credit shares and state-ownerships ratios.<sup>40</sup> As noted, a negative link between government ownership and financial development is not at odds with Gerschenkron’s (1962) development view.

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<sup>39</sup> Altunbas, Evans and Molyneux (2001) investigate scale economies, inefficiencies, and technical progress for a sample of private, mutual, and publicly owned banks in the German market. They find little evidence that privately-owned banks are more efficient than public and mutual banks. Indeed, inefficiency measures indicate that public and mutual banks have slight cost and profit advantages over their private commercial banking counterparts, a feature which may be explained by their lower cost of funds. On the other hand, their results suggest that public banks do not play the subsidizing role that the social view typically assigns to them. Sapienza (2004) studies the comparative performance of privately and publicly owned banks in Italy. She shows that: (i) state-owned banks charge lower interest rates than their private counterparts to similar firms, even if the latter have access to financing from private banks; (ii) state-owned banks’ lending behavior is affected by the electoral results of the party affiliated with the bank; (iii) state-owned banks favor mostly large firms; (iv) state-owned banks favor firms located in depressed areas. While the last finding is somewhat aligned with the development view, the first three findings provide strong evidence in support of the political view of state-owned banks.

<sup>40</sup> The correlation between state ownership of banks in 1970 and 1995 is 0.77, the correlation between state ownership of banks in 1970 and 1985 is 0.88, and the correlation between state ownership of banks in 1985 and 1995 is 0.79 (all the p values are 0.00). In turn, the correlation between private credit over GDP ratios in 1960 and 1995 is 0.68, the correlation between private credit over GDP ratios in 1960 and 1985 is 0.78, and the correlation between private credit over GDP ratios in 1985 and 1995 is 0.92.

As the statistical analysis of La Porta, López-de-Silanes and Shleifer (2002) groups together very different countries, including former socialist economies where state ownership was the rule and for which output data for earlier periods are less reliable, a revision of their results may shed additional light on these issues. Tables 4 and 5 revisit those findings, using their own measures of state-owned (public) shares in the banking sector and updating and extending in time the private credit and GDP data following their definitions and sources.<sup>41</sup>

Table 4 focuses on the relationship between state ownership of banks and subsequent financial development. Column 1 reproduces the results in Table IV of La Porta et al. for ease of comparison. Columns 2 and 3 replicate the regression using the new data. Reassuringly, the original results remain virtually unchanged, indicating that state ownership of banks depresses subsequent financial development even after controlling for initial GDP and the initial level of financial development. This is also true when 1970 (the earlier year for which they compute the state ownership ratio) is used as the initial period.

While the negative association between public shares and private credit growth appears to be robust, causality and omitted variable issues are more difficult to assess. In particular, if public banks are more likely to arise in a context in which private financial intermediation is discouraged by institutional deficits, the negative link between private financial intermediation and state ownership could be due to either reverse causality or the omission of institutional variables. Results in columns (4) and (5) provide a robustness check for this potential simultaneity problem by instrumenting the state-ownership variable using an index of state-owned enterprises as a share of the economy.<sup>42</sup> With these specifications the effect of state ownership of banks on subsequent financial development, while still negative, ceases to be statistically significant.<sup>43</sup>

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<sup>41</sup> Initial per capita GDP is expressed in current U.S. dollars (source: *World Development Indicators*). Credit to GDP ratios are computed as credit to the private sector (lines 22.d.f and 22zw, plus line 42d) over GDP (source: *International Financial Statistics*). The growth in the credit to GDP ratio is computed as the average of the log difference of the ratio over the period, for those countries for which a minimum of 10 observations is available. In order to maintain data homogeneity, columns 2-10 only use data for which WDI and IFS information are available; this reduces the sample to 70 observations

<sup>42</sup> The variable, computed as the average of the index for 1975 and 1995 (see Gwartney, Lawson and Black, 1996), is shown in LLS to be highly correlated with state-ownership of banks. In addition, it is not significantly correlated with private credit growth once the share of public banks is included.

<sup>43</sup> It should be pointed out, however, that the coefficient, while not statistically significant, does not change in value, which suggests that the change in significance may be due to the loss of efficiency typical of IV estimation.

Columns (6) and (7) report additional robustness checks by focusing on the impact of state ownership at shorter horizons by splitting the sample into two periods (1970-1985 and 1986-2002) in line with the available data on public shares.<sup>44</sup> The link is still significant at 10 percent for the later period, but not for the earlier one.

In sum, while the evidence that the prevalence of state ownership in the banking sector conspires against its ultimate development appears to be weaker than hinted by previous studies, there is no indication that state ownership has the positive catalytic effect that its advocates have suggested. A balanced reading of these results would indicate that public banks, at best, do not play much of a role in the development of their private counterparts.

The same conclusion can be extracted from the more elusive question on the impact of public banks on long-run economic growth. While a direct nexus is difficult to construct, there are at least two indirect avenues through which one could envisage a link, either positive or negative. First, public banks may foster growth by financing projects with important externalities that would otherwise be shelved. Second, public banks may inhibit financial development, which would ultimately be reflected in poorer investment and growth records.

Table 5 explores the link between state ownership of banks and economic growth. As before, it closely follows La Porta et al., who report a negative association between state ownership and growth (column 1 reproduces their results for comparison). It should first be noted that the negative link between state ownership of banks and growth does not disappear when the regression controls for the growth rate of financial development (column 2). This suggests that the relationship between bank ownership and growth is unrelated to changes in the amount of credit during the period, which is at odds with the view of financial underdevelopment (measured as total credit) as a channel through which bank ownership may influence economic performance.<sup>45</sup> The result may reflect the fact that total credit does not capture allocative efficiencies and is an intriguing finding that warrants further exploration. Column 3 interacts financial development with bank ownership (to proxy credit extended by public and private banks, respectively) and shows that the two types of credit have an identical effect on growth. There is a possibility that the equation in column 3 is mis-specified because public ownership of banks may affect overall financial development, generating non-linearities that are not controlled

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<sup>44</sup> Private credit growth is here computed only for countries with at least five observations within the period.

<sup>45</sup> However, this result is consistent with the finding of La Porta et al. (2002) that the negative effect of state ownership of banks manifests itself through lower productivity rather than lower capital accumulation.

for in the specification of column 3. Column 4 addresses this issue by controlling for the main effect of public ownership. While the main coefficient on bank ownership is negative, high, and statistically significant (indicating that state ownership of banks is harmful for growth), the results now indicate that impact of state ownership of banks is negatively correlated with the level of financial development.<sup>46</sup> This is in line with the finding of La Porta et al. that state ownership of banks has a negative impact on growth in countries with low financial development but no statistically significant effect on growth in countries with high financial development.

These results suggest that state ownership of banks has a beneficial impact on growth only in countries with highly developed financial systems, contradicting the hypothesis of substitutability between public and private credit implicit in the development view. A possible explanation for this puzzling result is that countries with well-developed financial systems are better equipped to deal with the distortions that arise from government ownership of banks (La Porta, López-de-Silanes and Shleifer, 2002). Alternatively, these results could be due to the fact that the model is not well specified and that public bank ownership is proxying for some excluded variable correlated both with bank ownership and subsequent growth (institutional quality, for instance).

The remaining columns of the table show that the results are somewhat sensitive to the sample. For instance, column 5 uses data from La Porta, López-de-Silanes and Shleifer (2002), though restricting the sample to countries for which World Bank and IMF data are available, and finds a much lower coefficient and no significant correlation between initial state ownership and subsequent growth. The same is true if data for the 1970-1995 period are used.

While these findings qualify the previous evidence for a negative effect of state ownership of banks, they also fail to support the view that public banks mitigate market imperfections that lead to allocative inefficiencies. Indeed, the preliminary conclusion from this evidence suggests that, in terms of its impact on financial development and long-term growth, the average public bank does not appear to be significantly better than its private peers.

As noted above, an alternative rationale for the existence of public banks is that they could play a useful countercyclical role by stabilizing credit. If this is the case, one should observe that, compared to the behavior of private banks, public bank lending should react less to

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<sup>46</sup> The total effect of financial development measured at the average level of state ownership is positive and significant, indicating that a one percentage-point increase in financial development is associated with a half percentage point increase in growth.

macroeconomic shocks (i.e., it should decrease less during recessions and increase less during expansions). Furthermore, if bank failures are more likely during recession, and if depositors think that public banks are safer than private banks, the former should enjoy a more stable deposit base and hence be better able to smooth credit. Micco and Panizza (2004) use bank-level data to look at whether bank ownership affects credit growth during different parts of the business cycle. They find that, in developing countries, credit extended by public banks is less procyclical than credit extended by private banks and that the smoothing effect of public banks is particularly strong in periods characterized by a slow growth of domestic deposits, when credit grows less than total demand deposit. In fact, the results also suggest that deposits of public banks are less procyclical than deposits of private domestic banks.

While these results suggest that public banks may play a useful role in reducing credit procyclicality and hence reducing business cycle fluctuations, it should be pointed out that the analysis of Micco and Panizza (2004) focuses on bank-level variables and not on total credit. If public banks were to crowd out private credit, it would still be possible that their presence could lead to higher credit volatility.

## **8. Good and Bad Public Banks: What Makes the Difference?**

As the previous discussion made clear, it is hard to make general statements on the desirability and past performance of state-owned banks based on a cross-country analysis of aggregate data. There are two reasons for this. One has to do with the basic specification problems (omitted variables and endogeneity) compounded by data restrictions (for example, the lack of institutional measures for earlier periods). The other relates to the fact that state-owned institutions are a heterogeneous family that may work satisfactorily in some countries and disappointingly in others. Heterogeneity is also present within individual countries, as illustrated by the case of Brazil in Appendix 3. Thus, while cross-country studies tend to portray public sector banks in either a negative or neutral light, more detailed studies that use micro-level data have reached different findings. Provided with the right incentives, public sector banks may play a positive role in mobilizing savings (Yaron and Charitonenko, 2000) or in providing consumption smoothing at time of crisis (Alem and Townsend, 2002).

Characteristics that may affect the success of a state-owned bank include: (i) the nature of the bank's objective and mission; (ii) clear accounting of the subsidy component and constant evaluation of its mission; and (iii) the bank's governance structure.

While public sector banks with a general mandate may achieve more economies of scale and scope than public sector banks with a narrower mandate, public sector institutions with a well-defined mandate are less likely to be affected by mission creep and conflicting objectives. Having a well-defined objective may also prevent managers of public sector banks from continuously switching between trying to fulfill their social mandate and trying to maximize profits. It should be pointed out that having a well-defined mandate is not necessarily in conflict with maximizing profits (or becoming self-sufficient).<sup>47</sup>

Public sector banks may have high costs and low profitability because they are poorly managed or because they are providing large subsidies and services to their borrowers. Lack of clear accounting for the subsidy component is problematic. On the one hand, the excuse of subsidy can be used to cover up for poor management of the institutions. On the other hand, in the absence of proper accounting, well-managed institutions that have low profitability (or losses) because they administered well-targeted subsidies can be accused of mismanagement and forced to change their policies. Transparency and proper fiscal accounting would also make it necessary to measure the subsidies *received* by public sector banks. This is important because it would allow an estimation of the true costs associated with managing these institutions and would lead to a proper cost-benefit analysis of their role. However, this is often difficult to do because the subsidies are not usually implemented by direct transfers of funds but through the low cost of funding that results from implicit guarantees and public sector deposits.

The main criticism levied against state-owned banks is that they are poorly managed and that their lending activities are politically motivated. This shows that the most difficult issue for a country that wants to maintain a public sector presence in the banking system is to devise an appropriate governance structure for its public banks. While there is no literature specific to the

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<sup>47</sup> Consider, for instance, the case of BRI-UD (a rural financial institution in Indonesia). In the early 1980s, BRI-UD was running large losses and its management was told that the institution needed to become financially self-sufficient; otherwise it would have been liquidated. In looking for a way to become self-sufficient, BRI-UD realized that it was putting too much focus on its lending activities and too little on its deposit activities, which seems to be a standard mistake of most rural and development banks. Vogel (1984) calls saving mobilization the forgotten objective of rural finance. As a consequence, it started offering innovative deposit accounts for low-income farmers and became a leader in this segment of the market and at the same time profitable (Yaron and Charitonenko, 2000).

problems of the governance of public banks, it is possible to formulate some principles on how managers of state-owned banks should be chosen by drawing a parallel with the literature on central banking. First of all, bank managers should have operational independence. This means that government should set some objectives that the bank should reach but that the bank management should be free to choose how to reach these objectives.<sup>48</sup>

Second, in order to guarantee banks' independence from direct political influence, managers should have long appointments that do not overlap with the political cycle.

Third, a board of directors that represents a wide cross-section of the society (private sector, civil society, different regions of the country) could guarantee checks and balances and limit the amount of political lending. Interestingly, the need to protect the independence of the bank may provide a political economy explanation of why it may be optimal to have institutions that mix banking activities with development activities rather than pure development institutions with no banking activities.<sup>49</sup> The argument goes as follows, a well-managed development bank has the potential to conduct its activities without direct government transfers (of course, there still may be subsidies in the form of implicit or explicit guarantees), but a development agency may need direct government transfers. The need to ask for these transfers, as well as the discretionary authority of the executive on whether to grant these transfers and their total amount, may reduce the degree of independence of the institution.<sup>50</sup>

## 9. Conclusions

Several prominent development economists writing in the 1960s and 1970s strongly supported government intervention in the banking sector and direct state ownership of banks. The more

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This clearly illustrates that a development objective can be compatible with running a profitable institution. Even though, it is not clear why, once the banks becomes profitable it should remain in the hands of the public sector.

<sup>48</sup> Clearly, here the task of defining an objective is more difficult than in the case of central banking, where the objective is often a well-defined monetary, inflation, or exchange rate target.

<sup>49</sup> The latter option has been suggested by De la Torre (2002).

<sup>50</sup> Again, a parallel with the way central banks operate may provide a useful example. In most countries, central banks cover their expenses with the revenues deriving from seignorage and transfer the residual "profits" to the central governments. It is plausible to think that an arrangement in which seignorage revenues were directly collected by the central government and the budget of the central banks financed with government transfer would greatly reduce the independence of the central banker (who would always be under the threat of a cut in budget or staff). A possible way to address the issue of independence would be to create a large endowment for the development bank and let the bank decide how to use the proceeds of this endowment. A proposal along this line was part of one of the proposals aimed at transforming the World Bank from a loan-making to a grant-making institution.

recent view is that state ownership of banks is not beneficial for economic development or, in the words of a recent World Bank report, "...whatever its original objectives, state ownership of banks tends to stunt financial sector development, thereby contributing to slower growth" (World Bank, 2001, p. 123).

This paper reviews the existing evidence on the role of state ownership of banks, tests its robustness, and introduces new evidence. Although there is some evidence that state-owned banks do not allocate credit optimally, the paper shows that state ownership's inhibitory effects on financial development and growth are less robust than previously thought. Furthermore, the paper discusses some new evidence indicating that, at least in the case of Latin America, public banks may play a useful role in reducing credit procyclicality.

One argument often invoked against state ownership of banks is that private banks tend to be more profitable than public banks. There is in fact evidence that this is the case, especially in developing countries. It should be pointed out, however, that public banks cannot necessarily be judged by their profitability benchmark, because public banks' attempts to maximize profitability would generate an inherent contradiction and a vicious circle. Public banks would start with a social policy mandate and concentrate on high risk and low private return activities. This would lead to recurrent losses and a need for recapitalization that would soon be followed with a re-orientation towards profitable activities in competition with private banks. In turn, this would lead to insufficient attention to the social policy mandate and political pressure to restart the cycle (De La Torre, 2002).<sup>51</sup>

In this context, public banks should be judged on the basis of their development and stabilizing effect. The main problem in identifying whether state-owned banks play a positive role in economic development is that both the political view (which assumes that state-owned banks have a negative impact on the economy) and the development view (which assumes that public banks can play a beneficial role) are consistent with a negative relationship between state ownership of banks and both financial development and institutional quality. The main difference between these two interpretations lies in the fact that, according to the development view, state ownership helps promote financial development at initial stages and mitigates the negative effect of poor institutional quality (which would be even more damaging without public

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<sup>51</sup> Some may conclude that, because state-owned banks have fiscal costs, and there is no convincing evidence that they play a beneficial role, they should not exist. While it is difficult to argue with such logic, it should be pointed out that this reasoning also applies to several other areas of government intervention, including IFIs.

intervention) whereas, according to the political view, state ownership of banks depresses financial development and possibly promotes corruption. As both financial development and institutional quality are closely related with economic growth, it is very difficult to make a statement on the role of public banks without disentangling the causal relationship between these variables and state ownership of banks. Thus, a definitive answer on the development role of state-owned banks will require addressing this causality problem, one of the thorniest issues in economics.<sup>52</sup>

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<sup>52</sup> A brief illustration of the reverse causality problem is useful. Suppose a social scientist wanted to test the hypothesis that going to the hospital makes people sick by looking at the health status of a randomly selected group of people. The social scientist would probably find a positive correlation between the probability of being sick and number of visits to the hospital. It would, however, be wrong to conclude that going to the hospital makes people sick. It is very likely that the causality goes in the opposite direction: sick people tend to go to the hospital more often! While there are statistical techniques that can address the causality issue (the instrumental variable method is such a technique), they are often difficult to apply because they require identifying a variable that is correlated with the variable of interest (in the previous example, the probability of visiting a hospital) without being directly correlated with the outcome variable (in the previous example, the probability of being sick). Such variables (called instruments) are often very hard to find, but the causality issue is very important because, in the words of Rajan and Zingales (2003, p. 109), “Correlation is the basis for superstition, while causality is the basis for science.”

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**Table 1. Share of Public Bank Assets**

Country	1995	1998	2000	2002
Argentina	42.48%	29.22%	25.70%	NA
Bolivia	0	0	0	0
Brazil	52.77%	49.56%	46.57%	42.71%
Chile	13.29%	10.61%	9.49%	10.34%
Colombia	19.60%	16.32%	21.10%	19.39%
Costa Rica	80.95%	76.71%	73.23%	68.02%
Guatemala	6.36%	3.84%	3.78%	3.22%
Honduras	NA	3.23%	2.28%	1.78%
Nicaragua	52.98%	13.32%	0.46%	NA
El Salvador	9.05%	6.99%	5.73%	4.28%

*Source:* Authors' calculations based on balance-sheet data.

**Table 2. Public and Foreign Bank Performance Indicators Relative to Private Domestic Banks**

Country	ROA		Interest Rate (Loans)		Interest Rate (Deposits)		NPL		Loans to Public Sector	
	<u>Public</u>	<u>Foreign</u>	<u>Public</u>	<u>Foreign</u>	<u>Public</u>	<u>Foreign</u>	<u>Public</u>	<u>Foreign</u>	<u>Public</u>	<u>Foreign</u>
Argentina	-0.0037	-0.0006	-0.0045	0.0000	-0.0023	-0.0002			0.0876	-0.0060
Bolivia		-0.0026		-0.0109		-0.0060		0.0927		0.0806
Brazil	-0.0026	-0.0002	-0.0194	-0.0228	-0.0176	0.0073	0.0644	-0.0108	0.0009	-0.0013
Chile	-0.0001	-0.0005	-0.0034	-0.0004	-0.0094	-0.0001	0.0090	-0.0002	0.1725	-0.0205
Colombia	-0.0098	-0.0016	0.0078	0.0094	0.0001	-0.0016	0.0703	-0.0156	0.0734	0.0318
Costa Rica	0.0014	-0.0023	0.0039	-0.0101	-0.0013	-0.0117	0.2337	0.0590	0.1661	0.0100
Guatemala	-0.0010	0.0058	-0.0042	-0.0098	-0.0021	-0.0052	0.2465	-0.1051	-0.0031	0.1030
Honduras	-0.0058	0.0049	-0.0162	-0.0096	-0.0147	-0.0176	0.2620	-0.1216	0.0428	0.0296
Mexico	-0.0035	0.0010	0.0013	0.0014	0.0312	0.0035	0.0158	-0.0360	-0.0150	0.0218
Nicaragua	-0.0111		0.0185		0.0056		0.1163			
Peru		-0.0003		-0.0054		-0.0013		0.0003		
El Salvador	-0.0052	-0.0013	-0.0070	-0.0033	-0.0041	-0.0005	0.1219	0.0106	0.0636	0.0104

**Table 3. Public Sector Loans (percentage)**

Country	Private	Public	Foreign	Private	Public	Foreign	Private	Public	Foreign
	1995			1998			2000		
Argentina	5.28	16.65	7.95	8.16	14.42	8.11	12.88	21.64	12.09
Bolivia	0.97	NA	10.09	6.46	NA	9.80	6.30	NA	6.70
Brazil	21.53	13.33	18.96	33.05	21.26	33.68	31.24	24.83	33.13
Chile	0.14	1.14	0.80	0.11	1.30	0.56	0.15	1.52	0.89
Colombia	2.61	5.16	2.02	3.73	5.79	4.06	8.85	23.06	13.11
Costa Rica	6.25	7.09	7.44	3.29	13.64	2.70	4.36	11.01	2.17
Guatemala	31.99	19.75	27.40	21.24	18.06	34.51	24.51	6.21	36.76
El Salvador	16.48	33.77	9.13	25.05	20.87	17.40	30.26	23.26	20.39

**Table 4. The Effect of State Ownership of Banks on Financial Development**

Dependent Variable: Average annual growth rate of private credit / GDP							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Source	LLS	IPES	IPES	IPES	LLS	IPES	IPES
(periods)	(60-99)	(60-99)	(70-02)	(70-02)	(60-99)	(70-85)	(86-02)
Methodology	(OLS)	(OLS)	(OLS)	(IV)	(IV)	(OLS)	(OLS)
GDPPC (initial)	-0.056 (0.433)	-0.205* (0.122)	-0.176 (0.135)	-0.076 (0.152)	-0.572 (0.487)	-0.030 (0.270)	-0.345 (0.212)
Priv. Cred. (initial)	- 0.056*** (0.019)	- 0.037*** (0.009)	- 0.036*** (0.009)	-0.041** (0.019)	-0.041** (0.178)	- 0.083*** (0.025)	- 0.051*** (0.015)
Public share (initial)	- 0.039*** (0.011)	-0.021** (0.008)	-0.019** (0.009)	-0.026 (0.027)	-0.030 (0.024)	-0.015 (0.015)	-0.039** (0.017)
Constant	6.681** (2.616)	6.651*** (1.225)	6.257*** (1.305)	5.663*** (1.934)	8.749** (3.744)	7.040*** (2.601)	9.411*** (2.276)
Observations	82	66	70	65	73	66	77
R-squared	0.21	0.26	0.20	0.17	0.22	0.17	0.21

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

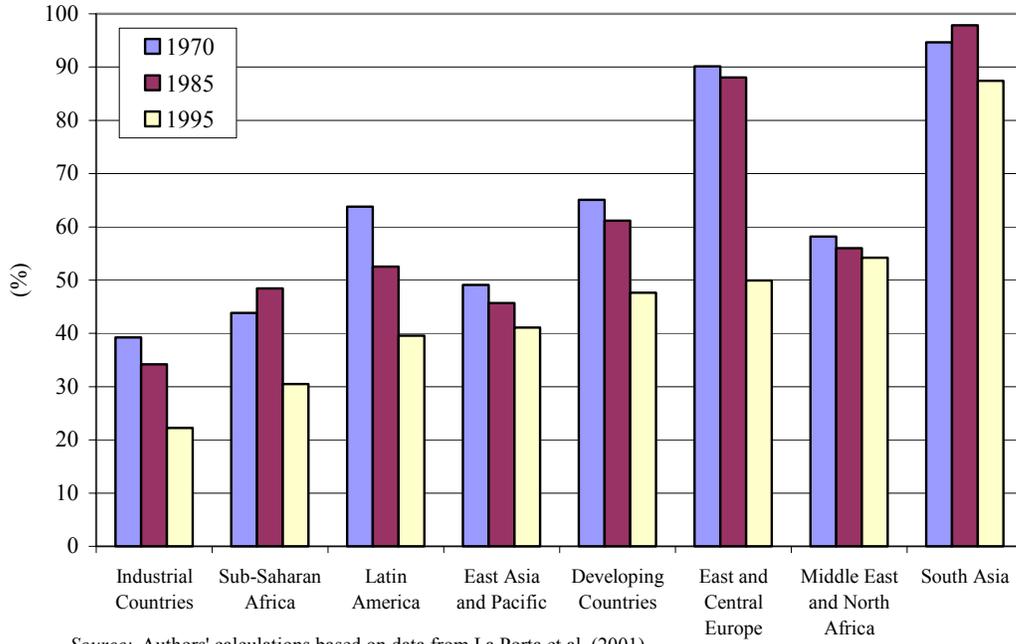
**Table 5. State Ownership and Output Growth**

	(1)	(2)	(3)	(4)	(5)	(6)
Source (periods)	LLS (1960- 1995)	LLS (1960- 1995)	LLS (1960- 1995)	LLS (1960- 1995)	LLS (1960- 1995)	IPES (1970- 2002)
GDPPC (initial)	-1.749*** (0.300)	-1.740*** (0.308)	-1.603*** (0.297)	-1.922*** (0.277)	-1.872*** (0.384)	-1.604*** (0.376)
Public share (initial)	-0.017** (0.007)	-0.016** (0.008)		-0.040*** (0.912)	-0.008 (0.008)	0.001 (0.007)
School enroll. (avg.)	0.545*** (0.123)	0.540*** (0.126)	0.586*** (0.126)	0.586*** (0.113)	0.549*** (0.157)	0.596*** (0.140)
Private credit (initial)	0.030*** (0.010)	0.031*** (0.011)		0.001 (0.012)	0.030*** (0.009)	0.020** (0.008)
Private credit (growth)		0.016 (0.073)				
Priv. Cred. * Public share (initial)			0.036** (0.016)	0.082*** (0.024)		
Priv. Cred. * (1-Public share) (initial)			0.031** (0.012)			
Constant	9.417*** (1.628)	9.292*** (1.710)	7.338*** (1.415)	11.230*** (1.356)	9.817*** (1.917)	7.397*** (1.763)
Observations	82	82	82	82	69	69
R-squared	0.42	0.42	0.36	0.49	0.41	0.39

Robust standard errors in parentheses

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

**Figure 1. Share of State-Owned Banks**



**Figure 2. Share of Development Bank Assets in Latin America**

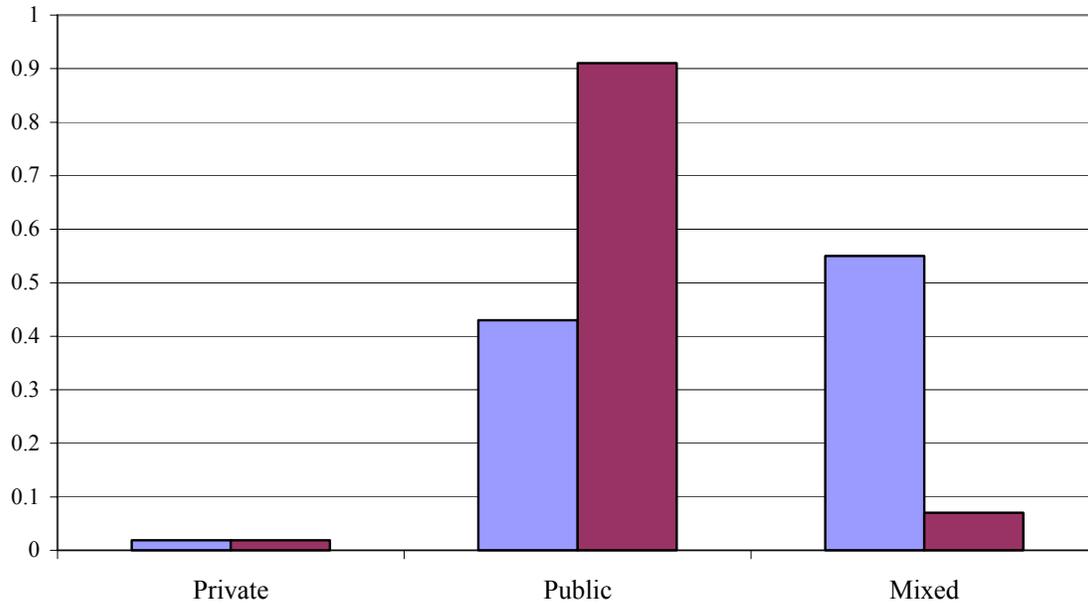


Figure 3. Share of State-Owned Banking and Financial Development

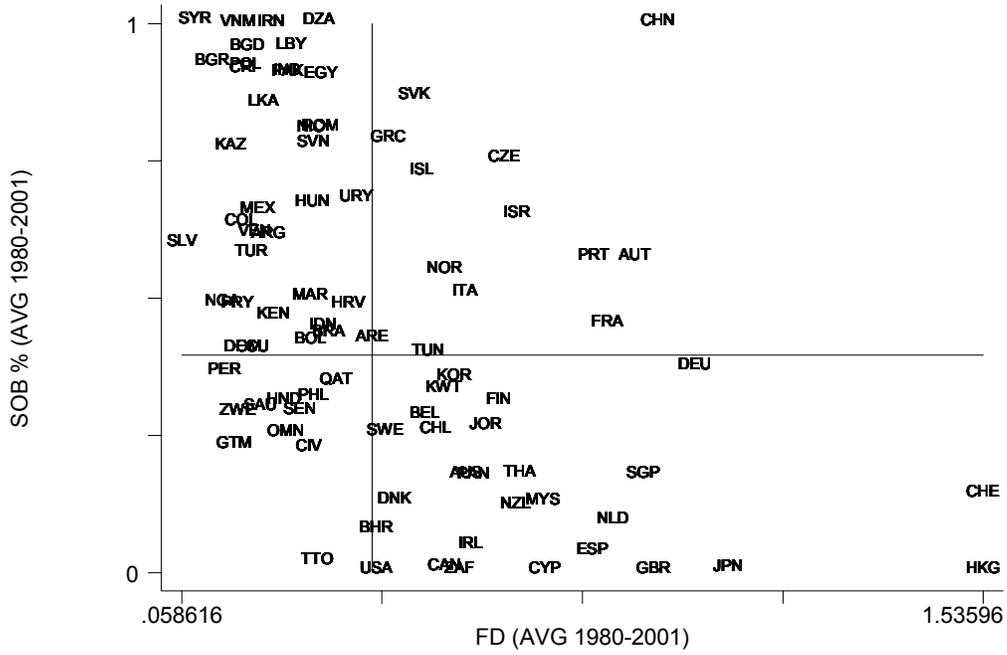
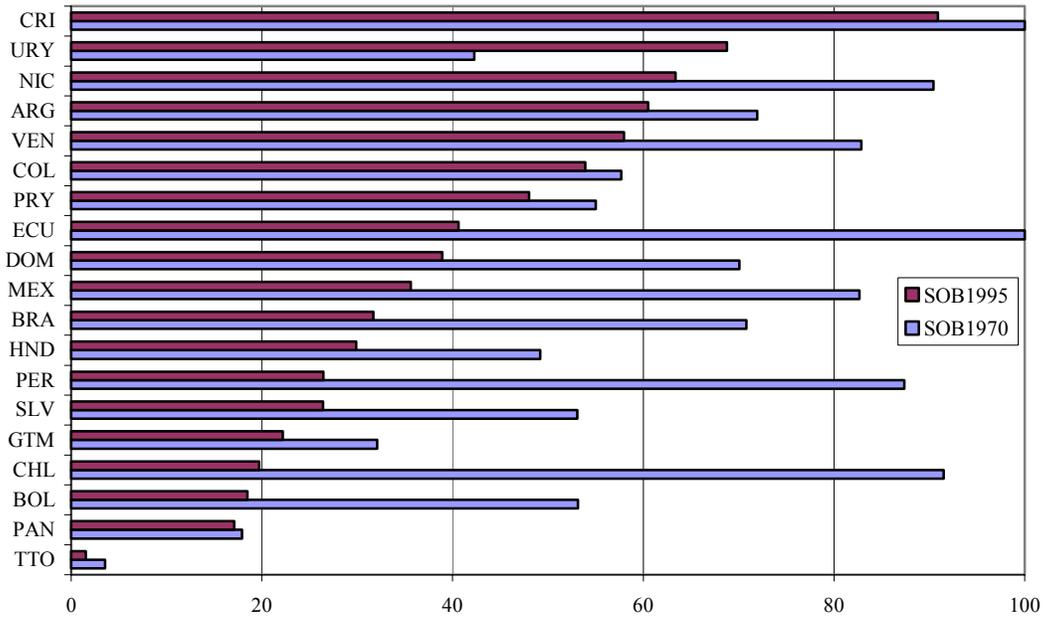
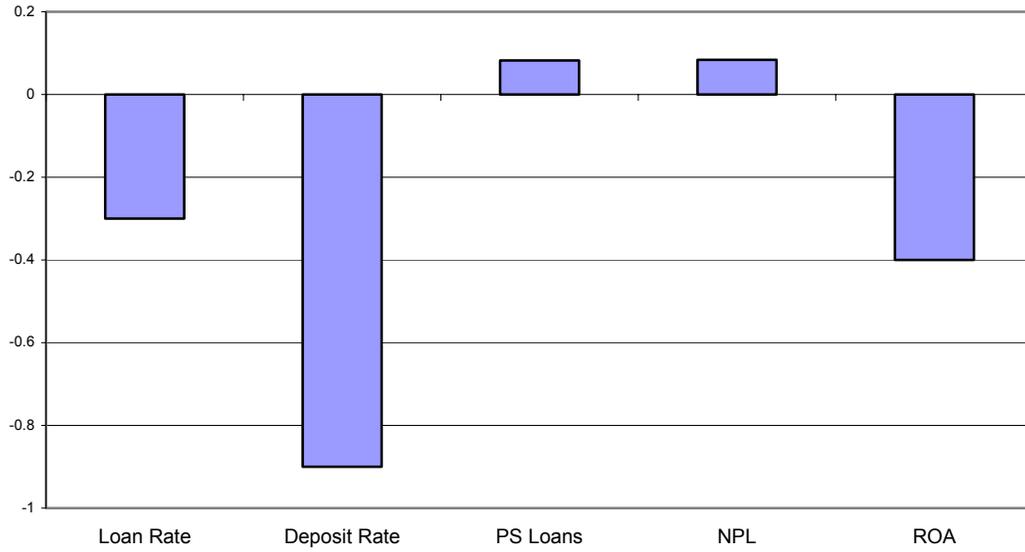


Figure 4. State-Owned Banks in Latin America



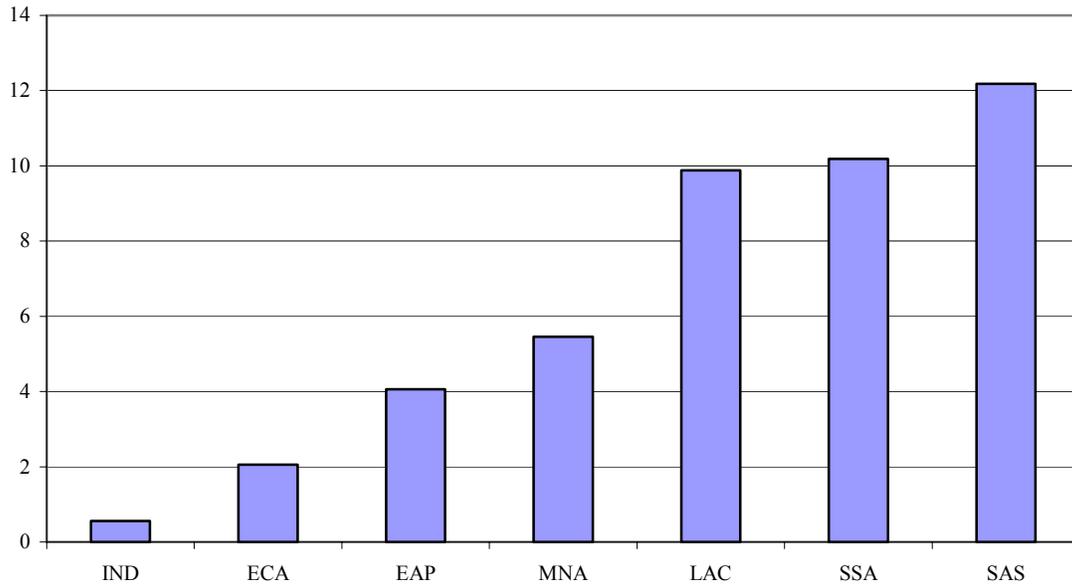
Source: La Porta et al. (2001).

**Figure 5. Relative Performance Indicators of State-Owned Banks**



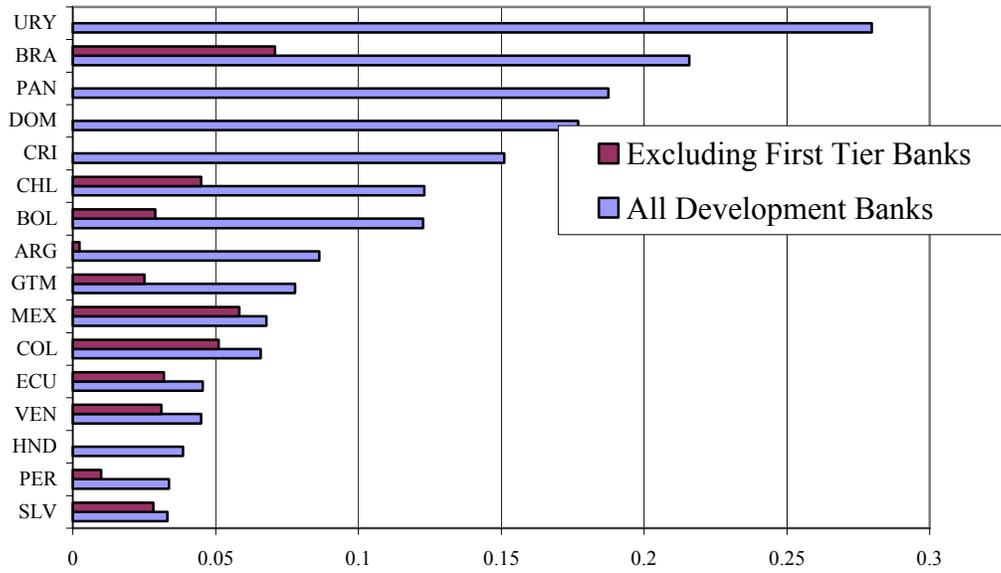
*Source:* Authors' calculations based on balance-sheet data.  
Includes banks from ARG, BRA, CHL, COL, CRI, MEX, PER and SLV.

**Figure 6. Development Bank Share**



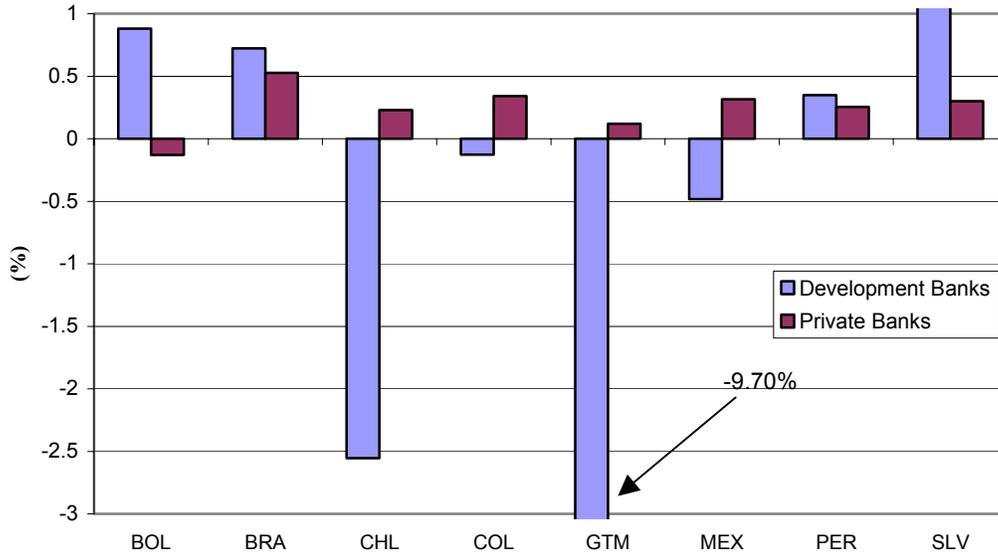
*Source:* Authors' calculations based on data from La Porta et al. (2001).

**Figure 7. Share of Development Bank Loans as Percentage of GDP**



Source: Authors' calculation based on data from ALIDE.

**Figure 8. Average Return on Assets of Development and Private Banks**



Source: Authors' calculation based on data from ALIDE.  
The figure for development banks excludes first-tier development banks.

## APPENDIX 1. A Taxonomy of State-Owned Banks<sup>53</sup>

While it is difficult to define exactly the range of operations of state-owned banks and financial institutions, a taxonomy of those institutions can lead to a better understanding of their role and possible objectives. By focusing on the type of operations performed by the various state-owned financial institutions, and on whether they act as first or second-tier banks on the liability and/or assets side of the balance sheet, it is possible to classify them into four groups.

The first group consists of *retail commercial banks*. These are banks that may have an ultimate social or development objective but whose operations are virtually indistinguishable from those of private commercial banks. They collect deposits from the public and use them to give direct credit to firms and individuals. As such, they act as first-tier banks on both the liability and asset side of the balance sheet.<sup>54</sup> Besides embracing typical retail activities such as credit card management and insurance, in some cases public banks in this category act as universal or near-universal commercial banks, either directly or through affiliates. Examples of such institutions are Banco de la Nación Argentina, Banco do Brasil, Banco Estado (Chile), and Banco de Costa Rica. This group also includes institutions that were originally created with well-defined development purposes but have grown to incorporate commercial banking activities as well. These *hybrid institutions* play both the role of development bank and commercial bank, and act as a government agent administering subsidies and various government programs. Examples include the Caixa Econômica Federal (Brazil), Banco Nacional (Costa Rica), and Banco de Fomento (Ecuador). One key difference between banks in this subgroup and standard retail banks is that, while the latter are funded primarily through private deposits, the former fund their operations with government transfers or special deposits from the government.<sup>55</sup>

The second group includes institutions that do not operate directly with the public on the liability side—i.e., they do not take deposits. Such institutions include development banks like BNDES (Brazil), Nacional Financiera (Mexico) or Corporación Financiera Nacional (Ecuador). These are institutions funded by multilateral development agencies, bond issues or government transfers that act either as second-tier banks on the assets side (lending through other banks) or lend directly to firms that operate in specific sectors of the economy (exports, agriculture, firms with

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<sup>53</sup> Augusto De La Torre provided invaluable help in formulating this taxonomy.

<sup>54</sup> Some of these banks have a national charter, while others operate only in a given region or province.

<sup>55</sup> However, this distinction is sometimes rather vague, as retail public banks also tend to hold a large amount of government deposits.

high innovative content, etc.). In some cases, these institutions act as financial agents of the government (e.g., NAFIN) or are assigned a key role in the structural reform process (e.g., BNDES managed most of the Brazilian privatization process). To prevent overexpansion of activities, some of these banks are endowed with initial capital and are legally prohibited from borrowing additional funds (this is the case, for instance, of the recently created Financiera Rural in Mexico).

The third group includes institutions that act as first-tier banks on the liability side but not on the asset side. These are institutions that collect deposits but invest all their assets in short-term government paper and make no loans; in this sense, they operate like *quasi-narrow banks*. Their ultimate objective is to mobilize savings by supplying safe deposits. An example of such an institution was PAHNAL in Mexico.<sup>56</sup> Postal offices in continental Europe and Japan traditionally played a similar role.

The fourth group includes institutions that do not explicitly make loans or issue liabilities but play the role of *development agency* through a potentially wide range of instruments, including providing (directly or via the private sector) technical assistance, issuing partial guarantees, matching grants, and subsidies. As such, they neither lend nor borrow and hence do not act as banks (either first or second tier) on either the liability or asset side. At this stage, there are no institutions of this type in Latin America, but CORFO (Chile) and, to a lesser extent, FIRA (Mexico) seem to be moving in this direction.

		Assets		
		First-tier	Second-tier	Non-Banking Activities
Liabilities	First-tier	Retail banks and Hybrid Institutions (Group1)	Quasi-narrow banks (Group3)	
	Second-tier	Development banks (group3)	Development banks (group3)	
	Non-Banking Activities			Development Agencies (Group 4)

<sup>56</sup> PAHNAL was recently replaced by BANSEFI, which is, by law, a full-fledged development bank. However, so far, BANSEFI has decided to stay out of lending and has retained its small saving mobilization function.

## **APPENDIX 2. Bank Privatization: A Survey of the Empirical Evidence**

While there is some evidence that private banks outperform public banks in terms of profitability and operating efficiency (see Meggison, 2003) and hence privatization could involve fiscal benefits and increase microeconomic efficiency, the evidence on bank privatization in developing countries indicates that these purported benefits have been rather limited and, in some cases, even negative. According to Haber and Kantor (2003), Mexico's bank privatization of the early 1990s "produced disastrous results."<sup>57</sup> Chile in the early 1980s is another example where a rapid privatization led to a large financial crisis. Clarke, Cull and Shirley (2003), instead, suggest that bank privatization in Argentina was highly beneficial and involved very large fiscal savings (up to half of a typical province's total expenditure).

There are a limited number of studies that try to measure the effect of bank privatization in developing and industrial countries.<sup>58</sup> Their main findings are that in developed countries bank privatization leads to improvement in terms of profitability and stock performance but that these improvements are smaller than what is typically found in the case of non-financial companies. Studies that focus on non-transition developing countries tend to find that privatization has a positive impact on bank competition but no significant impact on profitability or operating efficiency and that poorly done privatizations (like the one in Mexico in the early 1990s) can carry very large costs. Studies focusing on transition countries found more beneficial effects of privatizations.

The surveyed studies also found that privatization tends to be more beneficial if the state completely relinquishes its ownership (full as opposed to partial privatization) and that privatizations that involve (or, at least, allow for) the entry of foreign banks tend to be more beneficial than privatizations that exclude foreign ownership.

Privatization can be implemented either by directly selling the bank's assets to a set of strategic investors or by selling equity shares in the capital markets (the voucher privatization implemented by some transition countries shares many of the characteristics of this second approach). There is some evidence that share-issues privatization tends to work better in countries with a strong institutional environment and well-developed capital markets, while direct asset sales

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<sup>57</sup> They do not criticize that idea of privatization but the way it was implemented in early 1990s. One of the major points of criticism was the exclusion of foreign banks from the privatization process.

<sup>58</sup> This appendix is based on surveys in Meggison (2003) and Clarke, Cull and Shirley (2003).

(especially those involving foreign strategic investors) are preferable in countries with poor institutions and limited capital market development.

### **APPENDIX 3. Public Sector Banks in Brazil**

Until the mid 1990s, Brazil was characterized by a large presence of public banks owned by either the federal government or various state governments. The implementation of the program of incentives for reduction of state banks' participation in the banking system (PROES) led several states to close, privatize, transform into specialized government agencies or restructure their banks.<sup>59</sup> At this stage, the public sector still owns a few small state banks and three large banks. These are Banco do Brasil (BB), Caixa Econômica Federal (CEF), and BNDES. The first is a retail commercial bank. The second one is a mixed institution with both retail and second-tier activities; CEF manages government social payments and is very active in the mortgage market. The third, BNDES, is a development bank that acts mostly as a second-tier institution. Until 2001, both BB and CEF's balance sheets were characterized by a large amount of non-performing loans; these loans were subsequently absorbed by the federal government at a net cost of approximately 6 percent of GDP. While three-quarters of this cost was due to the restructuring of CEF, BNDES had a sound balance sheet and did not need any restructuring.

While all three institutions rely on highly subsidized sources of funds (less so for the case of BB, which is funded mostly by deposits), most observers are convinced that the three institutions operate and fulfill their respective mandates with very different degrees of efficiency. CEF is often considered the least efficient of the three. Due to its multiple roles (commercial bank, mortgage bank, lottery manager, scholarships administrator), CEF does not have a clear strategy and is burdened with very high operating costs; in addition, it is probably overstaffed. CEF's other problems include a very poor loan recovery record (especially in the case of mortgages, which represented two-thirds of its loan portfolio). This bank's record default rates led to a 2001 recapitalization whereby the government swapped the non-performing portfolio with government securities. It is also possible that CEF's problems stem from its multiple mandates and objectives, and that breaking up the institution into smaller parts with narrower objectives may improve its efficiency.

BB is in an intermediate position. While it is not considered a model of efficiency and is also characterized by high costs and non-performing loan ratios, it is often viewed as better managed than CEF. Although it is difficult to estimate the opportunity cost of BNDES projects (i.e., if the implicit subsidy provided by BNDES lending would have higher return if employed

differently), there is agreement that the institution is fairly well-managed, has low default rates (in part because most of its lending is second-tier and therefore channeled through intermediary banks) and contributes to Brazil's economic development. There is also some consensus that BNDES successfully managed its transition from an institution created to support Brazil's import substitution policies to cooperating with the private sector in projects aimed at increasing the country's competitiveness.

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<sup>59</sup> For more details see Beck, Crivelli, and Summerhill (2003).