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A Reappraisal of State-Owned Banks

> The scarcity of capital in Russia was such that no banking system could conceivably succeed in attracting funds. . . . Supply of capital for the needs of industrialization required the compulsory machinery of the government.[1]
>
> Whatever its original objectives, state ownership tends to stunt financial sector development, thereby contributing to slower growth.[2]

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 appeared to concur: by the 1970s, the state owned 40 percent of the largest banks' assets in industrial countries and 65 percent of the largest banks' assets in developing countries. The 1980s and 1990s witnessed a sea change in the view of the state's role in the economy, and privatization was at the very center of the economic policies codified in the Washington Consensus. Consequently, more than 250 banks were privatized from 1987 to 2003, raising U.S.$143 billion.[3] Even after this big privatization wave, however, the presence of the state in the banking sector remained widespread and pervasive. In the mid-1990s, about one-quarter of the largest banks' assets in industrial countries and 50 percent of the largest banks' assets in developing countries were still under state control.

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1. Gerschenkron (1962, pp. 19–22).
2. World Bank (2001, p. 123).
3. Megginson (2004).

The key question explored in this paper is whether public presence in the banking sector is justified. Advocates argue that state presence in banking is warranted 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 role of the public sector in making up for market imperfections that leave socially profitable investments underfinanced.[4] Also supportive of public participation in the banking sector is the *development view,* which stresses the need for public intervention in economies where the scarcity of capital, the general distrust of the public, and endemic fraudulent practices among debtors may fail to generate the sizable financial sector required to facilitate economic development.[5]

Critics argue that banks are not necessarily different from other businesses and that the case for financial market imperfection is often overstated.[6] They suggest that market failures can be better addressed through regulation and subsidies than through direct state ownership. This *political view* contends that politicians create and maintain state-owned (henceforth, public) banks not to channel funds to socially efficient uses, but rather to maximize the politicians' personal objectives.[7] Specifically, state ownership of banks is dictated by redistributive politics and the politicians' interest in appropriating the rents that may be derived from the control of bank funds. Somewhere in between the benign assessment of the social and development views and the skepticism of the political view, the *agency view* highlights the trade-off between allocative efficiency and internal efficiency (namely, the ability of public enterprises to carry out their mandate), asking whether agency costs within government bureaucracies offset the social gains of public participation in the presence of market imperfections.

This paper is divided into three parts. The first part describes the evolution of state ownership of banks in Latin America and the rest of the world. The second part discusses the theoretical justification for the existence of public banks. The third part surveys the existing empirical evidence and presents some new results.

4. See Atkinson and Stiglitz (1980); Stiglitz (1993).
5. Stiglitz (1994). The development view is often identified with Gerschenkron (1962).
6. Stigler (1967).
7. La Porta, López-de-Silanes, and Shleifer (2002).

The Evolution of Public Ownership of Banks

Obtaining consistent time series describing the evolution of public banks around the world is not easy because different authors use different methodologies and sources. Data going back to 1970 are available from La Porta, López-de-Silanes, and Shleifer (who collected data for 1970, 1985 and 1995), while more recent data covering the 1995–2002 period are available from Micco, Panizza, and Yañez.[8] These two data sets display at least two differences. First, whereas Micco, Panizza, and Yañez look at the whole banking system, La Porta, López-de-Silanes, and Shleifer focus on the assets of the ten largest banks in each country, which tends to overstate the public share given the typically large size of public banks. Second, Micco, Panizza, and Yañez center their analysis on commercial banks, while La Porta, López-de-Silanes, and Shleifer include development banks. These methodological differences sometimes lead to finding very different levels of state ownership. Consider, for instance, the cases of Bolivia and Mexico. According to La Porta, López-de-Silanes, and Shleifer, in 1995 the public sector owned 18 percent of the assets of the ten largest banks in Bolivia and 35 percent of the assets of the ten largest banks in Mexico. The data from Micco, Panizza, and Yañez, however, suggest that there were no public commercial banks in Bolivia in 1995, and the state controlled only 5 percent of the assets of Mexican commercial banks.[9]

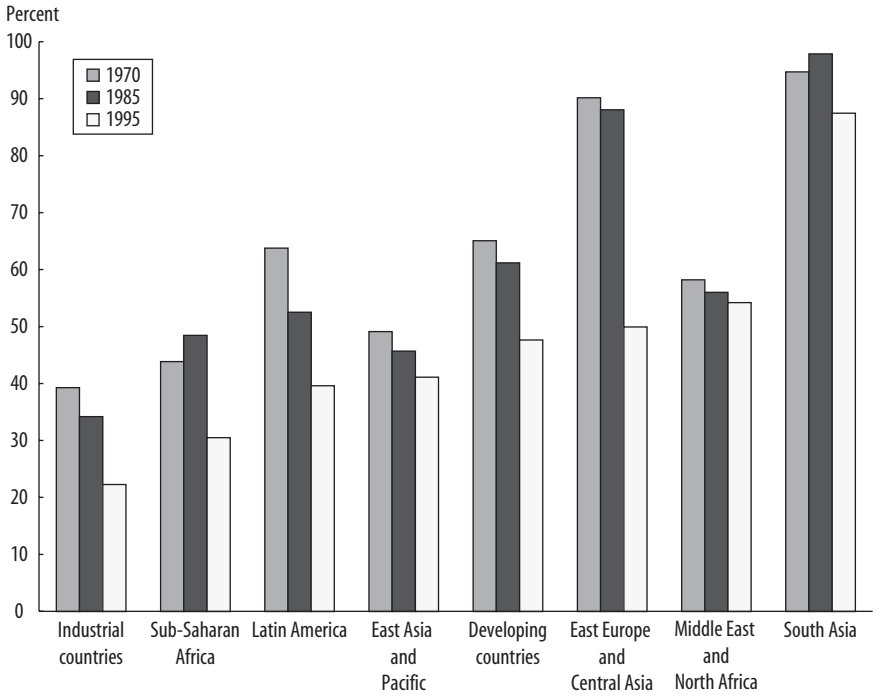
Figure 1 uses the data in La Porta, López-de-Silanes, and Shleifer to characterize the evolution of public participation prior to 1995. The figure shows that the public share of bank assets varies widely across countries. Industrial and sub-Saharan African countries exhibit the lowest prevalence of public banks (around 20 and 30 percent, respectively, in 1995). South Asia and the Middle East have the largest public share (close to 90 percent in the former group of countries and over 50 percent in the latter). The transition economies of eastern and central Europe moved from almost full state ownership of banks (90 percent in 1985) to intermediate levels in 1995, following the massive privatization programs earlier that decade.[10]

8. La Porta, López-de-Silanes, and Shleifer (2002); Micco, Panizza, and Yañez (2007). Barth, Caprio, and Levine (2002) also report recent data on bank ownership.

9. These differences are much smaller if we focus on commercial banks in both data sets. According to La Porta, López-de-Silanes, and Shleifer (2002), in 1995 the public sector owned 7 percent of assets of commercial banks in Bolivia and 14 percent of commercial bank in Mexico.

10. For details on bank privatization in transition countries, see Bonin, Hasan, and Wachtel (2003).

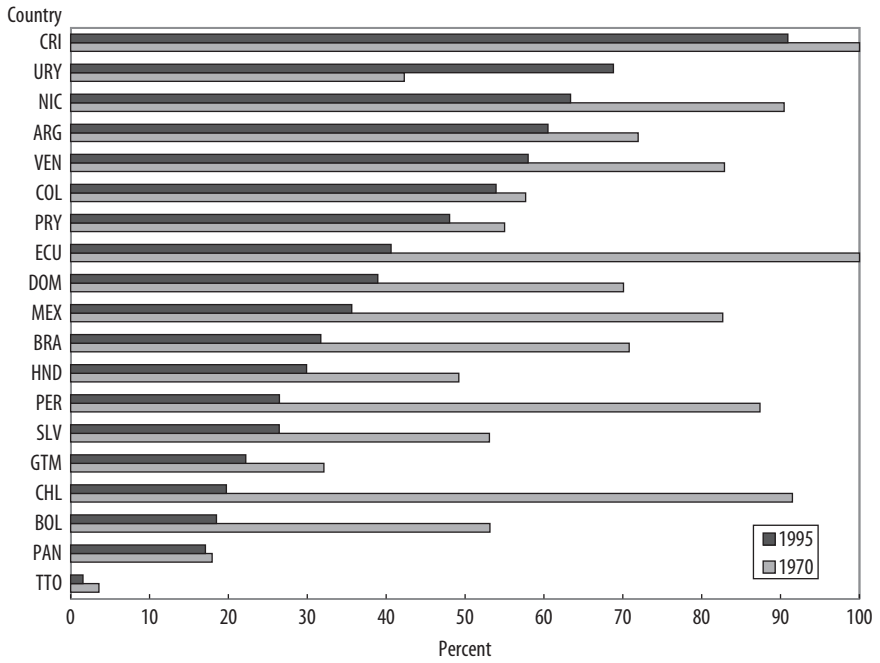
FIGURE 1. State Ownership of Banks across the World



Source: Authors' calculations, based on data from La Porta, López-de-Silanes, and Shleifer (2002).

Latin America has a level of state ownership of banks similar to the developing country average. The region displays large differences across countries, however, with Costa Rica recording the largest share of government ownership of banks (90 percent in 1995, down from 100 percent in 1970) and Trinidad and Tobago the smallest (1.5 percent) (see figure 2). Most countries in the region privatized aggressively in both the 1970s (when average state ownership of banks dropped from 64 percent in 1970 to 55 percent in 1985) and the early 1990s (when average state ownership of banks dropped from 55 percent in 1985 to 40 percent in 1995). Chile, Ecuador, and Peru privatized the most, moving from levels of state ownership that were over (or, in the case of Peru, close to) 90 percent to public shares below 40 percent (below 30 and 20 percent for Peru and Chile, respectively). Uruguay is the only country that increased state ownership of banks, moving from 42 percent in 1970 to 69 percent in 1995. Other countries experienced large swings in the bank

FIGURE 2. State Ownership of Banks in Latin America



Source: Authors' calculations, based on data from La Porta, López-de-Silanes, and Shleifer (2002).

privatization and nationalization process. Mexico, for instance, moved from 82 percent state ownership in 1970 to 100 percent in 1985 and then dropped to 35 percent in 1995. A similar pattern holds for several other countries in the region. In Nicaragua, state ownership went from 90 percent (1970) to 100 percent (1985) to 63 percent. In Colombia, state ownership went from 57 percent (1970) to 75 percent (1985) and then back to 53 percent (1995). In El Salvador, state ownership went from 53 percent (1970) to 100 percent (1985) to 26 percent (1995). In Bolivia, state ownership went from 53 to 69 percent and then to 18 percent (1995).

Privatization in the Second Half of the 1990s

La Porta, López-de-Silanes, and Shleifer's data stop just before the big privatization wave of the second half of the 1990s.[11] Although we do not have

11. La Porta, López-de-Silanes, and Shleifer (2002).

data that are exactly comparable with those of figure 2, we can use homogeneous data to compare the evolution of commercial public banks in ten Latin American countries over the 1995–2002 period (table 1). According to these data, Costa Rica has the largest share of assets in the hands of the public sector (well above 60 percent, down from 80 percent in 1995), while Nicaragua had the deepest privatization process (state ownership went from 50 percent of total commercial bank assets in 1995 to nil in 2002). The three largest privatization processes of the 1990s, however, took place in Argentina, Brazil, and Mexico. The remainder of this section examines these three cases in detail.

ARGENTINA. Most of the privatization process in Argentina involved banks owned by provincial governments. Of the thirty-four public banks operating in Argentina before the privatization process, twenty-five were owned by the provincial governments, which controlled about 22 percent of the country's bank assets. In 1999, only ten provincial banks were left, holding about 13 percent of the total assets of the Argentine banking system. The number of national and municipal banks fell from nine in 1993 (representing 23 percent of bank assets) to five in 1999 (representing 15 percent of total bank assets).

The first privatization push was related to the structural reform process implemented by President Carlos Menem. These reforms included provisions that prevented the Central Bank of Argentina from guaranteeing the deposits of commercial banks and limited its ability to lend to commercial banks. This restricted provincial banks' access to cheap credit from the Central Bank, and it hampered their ability to provide unremunerated services to the provincial governments, to buy provincial government bonds, and to maintain a large branch network. In practice, the new regulatory framework removed a subsidy from the central government (via the Central Bank and Banco de la Nación, a large commercial bank owned by the federal government) to the provincial governments (via the provincial banks). The tequila crisis of 1994–1995 severely hit the already weakened provincial banks. This experience induced the Argentine government to strengthen bank regulation and supervision and implement measures aimed at promoting the entry of foreign banks and pushing the provinces to privatize their banks.[12] The privatization process was supported by the creation of an institution (a trust fund called the Fondo Fiduciario) that split the assets of the old provincial banks into two components: new banks endowed with the healthy assets of the old provincial banks and ready for privatization; and residual institutions endowed

12. Clarke and Cull (1999).

TABLE 1. Share of Public Bank Assets[a]

Percent

Year	*Argentina*	*Bolivia*	*Brazil*	*Chile*	*Costa Rica*	*Dominican Republic*	*Guatemala*	*Honduras*	*Mexico*	*Nicaragua*	*El Salvador*
1993	n.a.	n.a.	51.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1994	n.a.	n.a.	52.7	13.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1995	40.9	n.a.	53.4	12.8	81.0	n.a.	6.7	n.a.	n.a.	49.9	8.8
1996	35.6	0.0	51.4	11.4	81.6	29.6	6.5	4.9	4.6	29.9	8.1
1997	29.9	0.0	53.3	10.9	78.2	26.2	5.1	3.8	0.0	14.3	7.2
1998	30.0	0.0	50.0	11.1	74.9	21.7	3.6	3.1	0.0	13.3	7.0
1999	26.6	0.0	49.1	10.0	75.8	20.8	3.7	2.4	0.0	1.0	6.0
2000	25.6	0.0	43.6	9.0	71.7	19.3	4.0	2.3	0.0	0.4	5.6
2001	20.1	0.0	39.4	9.5	68.9	20.1	4.0	2.0	0.0	0.0	4.3
2002	n.a.	0.0	n.a.	n.a.	67.6	n.a.	3.3	1.8	0.0	0.0	4.4
2003	n.a.	0.0	n.a.	n.a.	65.3	n.a.	3.9	1.7	n.a.	n.a.	n.a.

Source: Authors calculations, based on balance sheet data.

n.a. Not available.

a. Only commercial banks are included.

with the provincial banks' "bad" assets. The Fondo Fiduciario helped finance the recovery and liquidation of the assets in these residual institutions.

BRAZIL. As in the case of Argentina, the Brazilian banking system was characterized in the early 1990s by a widespread presence of banks owned by local governments.[13] At the beginning of the 1990s, only two of the twenty-six Brazilian states (plus the Federal District) did not have a state bank, and several states had multiple state banks (for a total of thirty-five institutions). The bank privatization process in Brazil went hand in hand with the process of macroeconomic stabilization. In the early 1990s, most Brazilian banks (both public and private) derived a large share of their income from the fact that short-term deposits were imperfectly protected from inflation: in an environment characterized by high inflation, banks could use these deposits to purchase securities that yielded an interest rate fully indexed to inflation. This source of profit disappeared with the stabilization program implemented in 1994 (the Plano Real). Banks reacted to this new environment by increasing their lending activity, often without proper risk analysis and bank supervision. This led to an increase in bank fragility and to a deterioration of the portfolio of Brazilian banks. By the mid-1990s, several Brazilian banks were technically bankrupt. The Brazilian authorities' first step was to deal with the emergency and avoid a collapse of the banking system. This involved liquidating twenty-six banks (one public and twenty-five private), putting four state banks under special administration, and intervening in another thirteen banks (three public and ten private).[14]

The next step was to devise a system that provided incentives to privatize and restructure the various state banks. This objective was advanced under the Program of Incentives for the Reduction of States' Participation in Banking Activities (PROES) introduced in 1995. Under this program, the various state governments faced five possible options: liquidation of their state banks; sale of the state banks to the federal government, with the understanding that the federal government would either liquidate or privatize the bank; privatize the bank; restructure the state bank with a limited contribution (up to 50 percent of the cost) from the federal government and continue to operate it as a state bank under new management; or transform the state bank into a nonfinancial institution or development agency. If we exclude the two states that

13. Our description of the privatization of the Brazilian banking system draws on Beck, Crivelli, and Summerhill (2003) and Baer and Namzi (2000).

14. The largest recapitalization (approximately U.S.$8 billion) corresponds to Banco do Brasil in 1996 (Baer and Namzi, 2000).

did not have public banks, only two local governments opted out of the program (Paraiba and the Federal District). The other twenty-three states participated in the program, with the following outcomes: ten banks were liquidated, five were restructured by the state and kept as public banks, fifteen were privatized or are now being prepared for privatization, and two banks were converted into development agencies.

In addition to the five small state banks that were not privatized, the Brazilian public sector still owns three very large banks: Banco do Brasil, Caixa Economica Federal, and Banco Nacional de Desenvolvimento Econômico e Social (BNDES). The first of these three is a retail commercial bank. The second is a mixed institution that has both retail and second-tier activities, handles the government social payments, and is very active in the mortgage market. The third is a development bank that acts mostly as a second-tier institution. Until 2001, the balance sheets of both Banco do Brasil and Caixa Economica Federal were characterized by a large amount of nonperforming loans; these were absorbed by the federal government with a net cost of approximately 6 percent of GDP (three-quarters of which stemmed from the restructuring of Caixa Economica Federal). BNDES had a sound balance sheet and did not need any restructuring.

MEXICO. In 1982, President José López Portillo nationalized the entire Mexican banking system, incorporating the nationalization into the constitution. In 1990, the Mexican congress amended the constitution to allow the privatization of the banks nationalized in 1982.[15] The privatization process was formulated to maximize the sale price of the privatized banks. To compensate investors, the Mexican government signaled to potential bidders that the newly privatized banks would be operating in a system characterized by low competitive pressure and lenient regulatory and accounting standards. One of the key characteristics of the privatization process was that foreign bidders could not participate; protection from foreign competition was even stipulated in the North American Free Trade Agreement (NAFTA). The privatization process succeeded in maximizing privatization revenues, and the Mexican government raised more than U.S.$12 billion from the privatization process. However, as owners had very little capital invested in the institutions, they adopted particularly risky—and in some cases fraudulent—behavior. This created an environment characterized by very fragile banks, which led to a

15. Our description of the evolution of the Mexican banking system is based on Haber (2004).

collapse of the Mexican banking system when the tequila crisis erupted in 1994–95. The share on nonperforming loans grew to 36 percent at the end of 1995 and 53 percent at the end of 1996 (with bank directors systematically looting bank assets by engaging in related-lending activities).[16] The Mexican government responded to the crisis by implementing new regulations that limited the risk of related-lending activities and allowed the entry of foreign banks. Foreign ownership of banks grew from 5 percent of total assets in 1995 to 82 percent of total assets in 2003, while state ownership of commercial banks completely disappeared.[17]

Should the State Be in the Banking Business? Theory

Absent any market imperfection, a no-intervention stance does not need to be justified a priori—hence the emphasis on the rationale for proactive policies that characterizes this and other policy debates. In particular, the public bank debate has been dominated by arguments related to a trade-off between market failures (notably, social externalities and imperfect information and enforceability) and government failures (especially political lending and other agency problems). The presence of market failures per se does not imply that government interference is warranted: the relevant policy question should evaluate whether the benefits of intervention outweigh its costs.

This section revisits the analytical arguments behind this trade-off. To explore whether and under what conditions the state should be in the banking business, we decompose the issue into the following two questions: whether market failures justify state intervention in the banking sector, and whether these market failures are better addressed through subsidies and regulations or through direct state ownership.

The Rationale for State Intervention

Standard arguments for state intervention in the banking sector can be broadly classified according to four objectives: maintain the safety and soundness of the banking system; mitigate market failures that stem from the presence of asymmetric information; finance socially valuable (but financially unprof-

16. La Porta, López-de-Silanes, and Zamarripa (2003).

17. The state maintained ownership of several development financial institutions, the largest of which is Nacional Financiera.

itable) projects; and promote financial development by giving access to competitive banking services to residents of isolated areas.

The first concern addresses the fact that banks are inherently fragile institutions because of their maturity transformation role (namely, the funding of illiquid loans through short-term deposits), a situation that can lead to self-fulfilling bank runs and widespread bank failures. Bank fragility alone, however, would not justify government intervention aimed at guaranteeing the stability of the banking system, unless bank failures generate large negative externalities. It is precisely in this sense that banks are special, because in addition to intermediating credit, they provide two services that have the nature of public goods: they are the backup source of liquidity for all other institutions and the transmission belt for monetary policy.[18] The need for state intervention also arises from the fact that the large leverage ratios that generally characterize financial institutions may give bank managers and owners strong incentives to pursue investment activities that are riskier than depositors would prefer.[19] This would not be a problem if depositors could effectively monitor banks' managers. Bank monitoring exhibits a free-rider problem, however, because banks' liabilities are mostly held by small depositors who have very limited incentives and ability to monitor banks' activities. The same problem underlies the banks' role as delegated monitors of depositors' investments.[20] Regardless, these arguments are usually invoked to highlight the need for more stringent prudential regulation, rather than for direct state participation in banking activities.

The second concern centers on the fact that financial markets in general, and banking in particular, are information-intensive activities. 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, since information has some public-good characteristics (namely, nonrivalries in consumption and costly excludability), it would be undersupplied by competitive markets and, to the extent that information entails a fixed acquisition cost, would lead to imperfect competition in the banking system. Moreover, information can be easily destroyed, increasing the cost of bank failures as customers of the failed bank may lose access to credit. Asymmetric information may lead to credit rationing, that is, a situation in which good

18. Corrigan (1982).

19. See Jensen and Meckling (1976). For a textbook treatment, see Freixas and Rochet (1997).

20. Diamond (1984).

projects are underfinanced (or not financed at all) owing to the lack of verifiable information.[21] 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 in which long-standing customer relationships are still to be built.

The third concern has to do with the fact that private lenders may have limited incentives to finance projects that produce externalities. In this case, 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, whereby private banks fail to internalize the positive externalities of their lending on economic activity. A related argument is that private banks tend to underreact to countercyclical monetary policy, as they do not internalize the fact that increasing lending contributes to pushing the economy out of a recession (a hypothesis that may be labeled the macroeconomic view).[22] If this is the case, state intervention could solve a coordination problem and make monetary policy more effective. Government intervention may thus be warranted as a complement to private bank lending in the absence of developed capital markets that provide alternative sources of financing, which is the case in most developing countries.

A last concern, often invoked by supporters of 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 to provide banking services to residents of these areas. Underlying this argument are the beliefs that, first, granting access to banking services may increase financial development, with positive externalities on growth or poverty reduction, and, second, that access to financial services is a right that the state should make an effort to guarantee.[23] The presence of public banks has also been advocated as a means to guarantee 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.

21. Rationing may occur as an adverse selection phenomenon when, by pooling good and bad projects, the lender increases 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).

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

23. On positive externalities, see, for instance, Burgess and Pande (2004).

With the notable exception of prudential standards, the banking aspects mentioned in this section are clearly less "contractible" (in that their quality is less readily verifiable) than, say, utilities or telephone services, where private provision is generally accepted. Nevertheless, these imperfections could in principle be largely mitigated directly by regulation. Ultimately, the arguments in favor of intervention rely on how intervention and regulation are implemented in practice.[24] To this we turn next.

When and How Should the State Intervene?

While most economists would agree that market failures in the banking system warrant some degree of government intervention, they differ regarding the specific nature of this intervention and, in particular, the dilemma between the regulation and contracting of private agents, on the one hand, and direct state ownership, on the other. Under what conditions would state ownership be justified?

The 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 out to a private provider.[25] Hart, Shleifer, and Vishny analyze the more realistic case in which the good or service to be provided has some "noncontractible" quality.[26] They show that if cost reductions lead to a deterioration of the noncontractible quality, then private provisions may have benefits in terms of cost reduction, but may yield lower quality. Their main findings are that the noncontractible quality will depend on the effect of cost reduction activities on the quality of the good or service provided and that public ownership is preferable when there is limited potential for quality improvement or when the adverse effect of cost reduction on quality is likely to be substantial.

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, owing to

24. This involves a trade-off between government failure in direct participation and government failure in regulation, which is different from the trade-off between market and government failure at the core of the public bank debate.

25. From the government's perspective, there is no difference between providing the right set of incentives to private versus public managers; this holds even in the presence of moral hazard and adverse selection (Hart, Shleifer, and Vishny, 1997).

26. Hart, Shleifer, and Vishny (1997).

the presence of important externalities. The government could either establish a public development bank or contract with a private provider. According to Hart, Shleifer, and Vishny, the private provider will have an incentive to reduce costs, but since economic development cannot be easily monitored (at least in the short term), the bank could take cost-saving actions that would reduce its long-term development impact.[27] For instance, it could eliminate (or understaff) its research department, thereby reducing its ability to identify and target projects that generate large externalities. This seems to suggest a theoretical rationale for direct ownership of development banks—indeed, most development banks are either public or have a mixed (public-private) structure. By contrast, the objective of providing banking services to isolated areas could be readily met by contracting with a private bank to open branches in specific locations. This solution dominates direct ownership if the latter involves the creation of a new public institution.

The claim that public banks may be more efficient than private sector institutions in achieving objectives that cannot be clearly contracted or monitored may seem paradoxical. After all, if the state cannot clearly write a contract with a private sector provider, how can it provide incentives to the bureaucrats? The claim, however, is in line with Holmstrom and Milgrom's result that increasing incentives along a measurable performance dimension (such as costs or profitability) reduces incentives along nonmeasurable dimensions.[28] Because public banks assign a smaller weight to performance, they may be more responsive to the development mandate. This argument also provides one possible explanation for the finding that public banks tend to be less profitable than their private counterparts. In this context, a finding of profitable public banks may signal the failure of the incentive scheme, rather than its success. Pressures for profitability (whether 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 Augusto de la Torre calls the Sisyphus syndrome. If so, public banks, although efficient, would become redundant.

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.[29] Once one deviates from the assumption of a benevolent government, however, the impact of corruption, patronage,

27. Hart, Shleifer, and Vishny (1997).
28. Holmstrom and Milgrom (1991).
29. Kane (1977).

and, more generally, a weak state on the costs and benefits of state ownership is not straightforward. State ownership may increase the opportunities for corruption and patronage, but a weak state makes contracting and regulation more difficult and thus may increase the benefits of state ownership. In particular, corruption may weaken the case for private contracting, as privatization maximizes the private rents (bribes) that can be collected by politicians.[30]

Market failures in the banking sector involve not only the underprovision of certain goods or services, but also the inherent fragility of the banking system. The traditional view is that regulation and supervision, together with deposit insurance, can reasonably contain banking fragility without eliminating the incentives to reduce costs and innovate that arise from private ownership. This is the avenue followed by most industrial countries. Nevertheless, deposit insurance and regulation do not work satisfactorily in poor developing countries that are plagued by high levels of corruption and poor institutional quality.[31] In this context, direct state ownership could increase the trust of the public in the banking system and lead to deeper financial markets. This view was originally put forth by Alexander Gerschenkron. It has recently been formalized by Adrianova, Panicos, and Shortland based on the case 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 placed with the largest state savings bank.[32] 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. If regulation and supervision are ineffective, however, the cost in terms of insurance outlays may outweigh the agency costs of direct state ownership. The case for direct intervention motivated by the mistrust of private bankers thus 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.

What Should Public Banks Do?

Evaluating the performance of public banks requires a clear idea of what public banks are expected to do a priori, in line with the alternative motivations

30. Hart, Shleifer, and Vishny (1997).

31. Demirgüç-Kunt and Detragiache (2002); Barth, Caprio, and Levine (2002). These authors do not advocate state ownership as a solution to this problem, but rather view market discipline as the best way to address the problems of poor regulation and ineffective supervision.

32. Adrianova, Panicos, and Shortland (2002).

discussed above.[33] The social view holds that public banks should be most active in sectors where market failures are likely to be most prevalent, namely, those associated with information asymmetries, intangible assets, large external financing needs, and significant spillovers. Candidates include agriculture, which is plagued by asymmetric information and aggregated shocks; sectors with intensive research and development, which have a large share of intangible assets and potentially large spillovers (like the pharmaceutical industry); and capital-intensive industries characterized by long start-up periods with negative cash flows (such as the aerospace industry). Politicians may also want to use public banks to limit employment volatility. These banks can therefore be expected to lend to labor-intensive sectors, particularly during recessions and in the presence of high unemployment rates.

This discussion suggests that public banks should not be competing with the private sector to finance either firms with alternative sources of credit or the public sector. There are, however, two exceptions to this general statement. The first is stressed by the development view: in a context of poor institutional development and a general mistrust of private banks, public banks could be the only viable financial institutions and a fundamental stepping-stone in the creation of a country's financial system. Furthermore, well-structured public financial institutions may disseminate their experience to private sector partners and hence promote financial development. This was the case for the development banks created in Europe in the nineteenth century.[34] Thus, commercial (as opposed to development) public banks may play a role at the very early stages of financial development.

The second exception has to do with the fact that private bank lending may 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. A public bank manager that internalizes the benefits of increasing credit during recessions may play a useful role in smoothing credit cycles.[35]

Some policymakers argue that public sector banks could also be used as a tool to nontransparently address a whole class of problems that may arise at times of crisis. For instance, public sector banks could be used as a crisis res-

33. The appendix provides a taxonomy of public banks.

34. Armendáriz de Aghion (1999).

35. This 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.

olution vehicle (absorbing bad loans of restructured banks) or as an instrument to quickly distribute subsidies (hiding their fiscal cost or overcoming political economy constraints) to politically sensitive sectors or industries particularly hard hit by the 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, they increase the opportunities for waste, corruption, and patronage and may generate a series of contingent liabilities that are not properly accounted for in the fiscal accounts.

What Do the Data Say?

This section reviews the empirical evidence and presents new results on the performance of public banks and their economic impact. We divide this empirical literature into two parts. The first comprises firm-level microeconomic studies on public bank performance and externalities, while the second focuses on macroeconomic studies based on cross-country comparisons.

Evidence from Bank-Level Data

Most studies that use bank-level data center on profitability and costs, although a few papers try to explicitly test some of the channels reviewed in the previous sections. For ease of exposition, we start with a survey of studies that focus on bank performance and then move to studies that test specific channels.

BANK PERFORMANCE. A few studies look at the relative efficiency of public banks, with mixed results. Altunas, Evans, and Molyneux investigate scale economies, inefficiencies, and technical progress for a sample of private, mutual, and public banks in the German market.[36] They find little evidence that private banks are more efficient than public and mutual banks. Indeed, efficiency measures indicate that public and mutual banks have slight cost and profit advantages over their private commercial banking counterparts, a feature that may be explained by their lower cost of funds. At the same time, their results suggest that public banks do not play the subsidizing role that the social view typically assigns to them.

36. Altunbas, Evans, and Molyneux (2001).

Micco, Panizza, and Yañez compare public bank performance with that of private (domestic and foreign) banks.[37] They find that while public banks located in developing countries underperform their private counterparts in terms of profitability, nonperforming loans, and overhead costs, the performance of public and private banks located in industrial countries does not differ significantly.[38] The sample of developing countries displays substantial heterogeneity in profitability across regions (table 2). In particular, underperfomance is not especially strong in the Middle East, North Africa, eastern Europe, and central Asia, but it is large in south Asia and (particularly) Latin America. In this section, we look at the experience of Latin America in greater detail using data from bank superintendencies.[39]

Figure 3 characterizes public bank performance in the ten Latin American countries included in table 1. The values plotted are the coefficients of the public bank dummy obtained by running a bank-level regression, controlling for size (expressed as the log of total assets) and including a dummy that takes the value of one for public banks and a dummy that takes the value of one for foreign-owned banks. Hence, the graph plots the performance of public banks relative to that of private domestically owned banks. The figure shows that public banks charge lower interest rates than their private counterparts and also pay lower interest rates on their deposits (90 basis points lower than private banks). Public banks tend to lend more to the public sector (the difference in the share of public sector loans in the portfolios of private and public banks is 8 percentage points) and have a higher share of nonperforming loans (about 8 percentage points). Finally, public banks have a lower profitability than their private counterparts (for example, the difference in returns on assets is 0.4 percentage points).

Table 3 complements these results, reporting the coefficient for the public sector dummy in country-by-country regressions of performance indicators. We again find substantial heterogeneity within the region. The relative profitability of public banks is particularly low in Colombia and Honduras, but Costa Rican public banks are more profitable then their private counterparts.

37. Micco, Panizza, and Yañez (2007).

38. Mian (2005), who focuses on banks located in emerging markets, finds that public banks are significantly less profitable than private foreign banks, but he does not provide a direct test of the difference in profitability between public and domestic private banks.

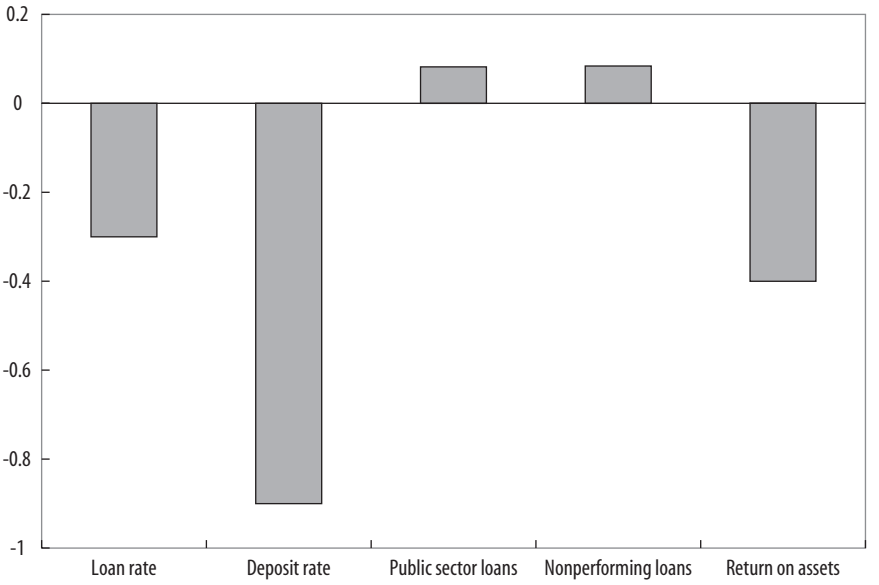
39. These data tend to be of higher quality than, but not directly comparable with, the BankScope data used in table 2.

TABLE 2. Region-Specific Regressions[a]

	East Asia and the Pacific		*Eastern Europe and Central Asia*		*Latin America*		*Middle East and North Africa*		*South Asia*	
Explanatory variable	*ROA* (1)	*ROE* (2)	*ROA* (3)	*ROE* (4)	*ROA* (5)	*ROE* (6)	*ROA* (7)	*ROE* (8)	*ROA* (9)	*ROE* (10)
Public ownership	−0.479	−4.493	−0.559	−3.288	−1.214	−6.447	0.089	−1.976	−0.211	−6.604
	(0.170)***	(3.754)	(0.307)*	(2.324)	(0.253)***	(1.901)***	(0.107)	(1.176)*	(0.072)***	(1.270)***
Foreign ownership	0.271	1.235	0.594	5.280	−0.226	−0.905	0.084	0.789	0.027	−4.155
	(0.149)*	(1.795)	(0.261)**	(2.186)**	(0.127)*	(1.135)	(0.085)	(1.009)	(0.163)	(2.454)*
Noninterest income / total assets	−0.130	−1.920	−0.020	−0.351	−0.013	−0.106	0.099	0.062	0.151	2.361
	(0.148)	(1.284)	(0.069)	(0.521)	(0.044)	(0.272)	(0.079)	(0.706)	(0.058)***	(0.893)***
Demand deposits / total deposits	0.005	0.026	0.018	0.066	0.011	0.128	0.002	0.000	−0.003	−0.163
	(0.003)	(0.041)	(0.006)***	(0.040)	(0.007)*	(0.050)***	(0.004)	(0.037)	(0.005)	(0.070)**
Log total assets (ln)	0.152	2.015	0.021	0.536	0.129	2.112	−0.191	1.132	−0.123	0.212
	(0.070)**	(0.893)**	(0.144)	(1.130)	(0.086)	(0.707)***	(0.040)***	(0.434)***	(0.040)***	(0.680)
Log share of bank assets over total assets	−1.756	−10.642	−1.770	−3.893	1.187	3.487	1.320	3.241	0.148	3.099
	(0.686)**	(9.260)	(1.499)	(9.001)	(0.968)	(7.850)	(0.298)***	(3.291)	(0.540)	(8.096)
Summary statistic										
No. observations	912	913	737	726	1,958	1,912	732	723	702	696
R^2	0.3693	0.3301	0.3331	0.4173	0.4166	0.4819	0.5356	0.4292	0.6059	0.5601

Source: Authors' calculations, based on data from Micco, Panizza, and Yañez (2007).
ROA = return on assets; ROE = return on equity
* Statistically significant at the 10 percent level.
** Statistically significant at the 5 percent level.
*** Statistically significant at the 1 percent level.
a. All regressions are weighted by asset share. Public ownership is a dummy variable that takes a value of 1 if more than 50 percent of a bank's assets are owned by the public sector; foreign ownership is a dummy variable that takes a value of 1 if more than 50 percent of a bank's assets are owned by foreign shareholders. Robust standard errors are in parentheses.

FIGURE 3. Relative Performance of Public Banks Located in Latin America[a]



Source: Authors' calculations, based on balance sheet data.

a. The values plotted are the coefficients of the public bank dummy obtained by running a bank-level regression, controlling for size (expressed as the log of total assets) and including a dummy that takes the value of 1 for foreign-owned banks. Hence, the graph plots the performance of public banks relative to that of private domestically owned banks.

Public banks in Brazil and Honduras pay and charge the lowest interest rates (again relative to domestically owned private sector banks), with a difference in interest rates close to two percentage points in the case of loans in Brazil. Nonperforming loans are particularly high for public banks in Costa Rica, Guatemala, and Honduras, and public sector loans are particularly high in Chile and Costa Rica. These findings suggest that despite their lower efficiency (as evidenced in higher nonperforming loans and overhead costs and lower returns) and greater exposure to sovereign risk (from a larger share of loans to the public sector), public banks are still perceived to be safer. This results in lower borrowing rates, which in turn allow the banks to extend credit at lower lending rates.[40]

40. An alternative explanation for this last result is that public banks may benefit from indirect subsides from government deposits paying no or low interest rates. This is the case of Chile, where the Banco del Estado de Chile manages the central government checking account.

TABLE 3. Public Bank Performance Indicators Relative to Private Domestic Banks

Country	*Return on assets*	*Interest rate (loans)*	*Interest rate (deposits)*	*Nonperforming loans*	*Loans to public sector*
Argentina	–0.0037	–0.0045	–0.0023	n.a.	0.0876
Brazil	–0.0026	–0.0194	–0.0176	0.0644	0.0009
Chile	–0.0001	–0.0034	–0.0094	0.0090	0.1725
Colombia	–0.0098	0.0078	0.0001	0.0703	0.0734
Costa Rica	0.0014	0.0039	–0.0013	0.2337	0.1661
El Salvador	–0.0052	–0.0070	–0.0041	0.1219	0.0636
Guatemala	–0.0010	–0.0042	–0.0021	0.2465	–0.0031
Honduras	–0.0058	–0.0162	–0.0147	0.2620	0.0428
Mexico	–0.0035	0.0013	0.0312	0.0158	–0.0150
Nicaragua	–0.0111	0.0185	0.0056	0.1163	n.a.

Source: Authors' calculations, based on Bankscope data.
n.a. Not available.

Clark, Cull, and Shirley report evidence that is somewhat at odds with the better individual performance of private banks.[41] They find that in seven out of eighteen episodes surveyed, privatization did not lead to an improvement in overall bank performance. In six cases, it yielded a small improvement, while only five cases resulted in substantial improvement. Another survey concludes that while bank privatization does lead to improvement in profitability and stock performance in developed economies, these improvements are smaller than what is typically found in the case of privatization of nonfinancial companies.[42]

Argentina is a well-documented case of bank privatization for which there is limited consensus on the final outcome of the process. Berger and others find a net reduction in the share of nonperforming loans in privatized banks, but they argue that this is probably due to sample selection bias (specifically, the cleaning process at the time of privatization, which typically coincides with individual or systemic financial problems).[43] They find a much weaker effect on increased profitability (the coefficient in their regressions is often not significant) and no effect on cost reduction (although some of the new banks were prevented from reducing personnel). They further report that the newly privatized banks reduced their amount of loans (which, again, may be due to the cleaning process) and allocated less of their lending to the agricultural sector. At the same time, they find no significant difference in loan

41. Clark, Cull, and Shirley (2003).
42. Megginson (2003).
43. Berger and others (2004).

composition, in terms of public sector, consumer, and manufacturing loans. Clarke, Cull, and Shirley argue that the drop in loans by privatized banks was temporary and that the mixed findings described above are due to the short period of observation.[44] They suggest that the loans returned to their preprivatization levels following an adjustment period and that they are likely to increase over time, although no supporting evidence is reported.

In the case of Mexico, the bank privatizations of the early 1990s produced disastrous effects, whereas the privatization process that followed the tequila crisis fared better in terms of asset quality (once again, aided by a government bailout). However, Haber and Musacchio find that the newly privatized Mexican banks (particularly foreign-owned banks) reduced credit to the private sector by more than 2 percent a year.[45] Bank lending as a share of GDP therefore dropped substantially, reaching approximately 14 percent at the end of 2003. Credit to the private sector dropped even more substantially to about 8 percent of GDP, or less than one-third of the average for Latin America in the 1990s.

POLITICAL VERSUS DEVELOPMENT VIEW. The findings described above are of limited help in evaluating whether public banks can play a useful role in economic development, given that both the development and political view of public banks are consistent with low bank profitability. A set of recent papers provides a direct test of the political channel of public banks.

Khawaja and Mian, who use loan-level data for more than 90,000 firms in Pakistan, find that firms with politically connected directors have more access to credit from public banks, even though they have higher default rates.[46] They also provide evidence that this behavior is not justified by a social mandate, but reflects purely political motivations. Sapienza also finds evidence in support of the political view of public banks, based on the comparative performance of private and public banks in Italy.[47] In particular, she shows that public banks tend to display the following pattern: they charge lower interest rates than their private counterparts to similar firms, even if the firms have access to financing from private banks; they allocate credit according to the electoral results of the party affiliated with the bank; they favor mostly large firms; and they 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.

44. Clarke, Cull, and Shirley (2003).
45. Haber and Musacchio (2004).
46. Khawaja and Mian (2005).
47. Sapienza (2004).

Micco, Panizza, and Yañez test whether the differential performance between public and private banks is driven by political considerations by checking whether this differential widens during election years.[48] They find strong support for this hypothesis. Moreover, election years are associated with more aggressive lending coupled with a decrease in prices, which indicates the presence of a supply shock consistent with the political lending hypothesis.

MACROECONOMIC STABILIZATION. As noted above, one rationale for the existence of public banks is that they could play a useful countercyclical role by stabilizing credit. Using macroeconomic data, Cecchetti and Krause find evidence in the opposite direction.[49] Specifically, they find that the effectiveness of monetary policy is lower in countries that have a large share of public banks. One problem with Cecchetti and Krause's results is that state ownership of banks may be capturing other factors (such as lower levels of financial development) that are related to the effectiveness of monetary policy and are not controlled for in their tests. Micco and Panizza address this problem by using bank-level data to look at whether bank ownership affects credit growth in different parts of the business cycle.[50] If public banks play a useful stabilization role, then public bank lending should be less responsive to macroeconomic shocks than private bank lending (that is, it should decrease by less during recessions and increase by less during expansions). Micco and Panizza find that credit extended by public banks is indeed less procyclical than credit extended by private banks, and that the smoothing effect of public banks is particularly strong in periods in which the growth of domestic deposits is slow and credit growth lags the growth of demand deposits.[51]

Micco and Panizza's results suggest that public banks may play a useful role in reducing credit procyclicality and, through that channel, business cycle fluctuations. A skeptic might note that weaker procyclicality may reflect inadequate risk management by "lazy" public bank managers who lack incentives to maximize profits and therefore do not look for lending opportunities during expansions and do not limit risk exposure during recessions. This hypothesis,

48. Micco, Panizza, and Yañez (2007). Along similar lines, Dinc (2005) finds that bank lending increases substantially in election years.

49. Cecchetti and Krause (2001).

50. Micco and Panizza (2006).

51. More precisely, they run a panel regression of bank-specific loan growth rates on output growth, estimating a different coefficient for growth depending on whether the bank is public (including interactions with foreign ownership, bank size, and election years); they find that the coefficient is 50 percent lower for public banks than for domestic private banks.

however, is at odds with the finding that other earning assets held by state-owned banks—as well as noninterest income—are never less procyclical than for private domestic banks, which supports the interpretation of the results in terms of credit smoothing.[52]

Cross-Country Evidence

This section reviews the existing cross-country evidence on the effects of state ownership of banks and presents some new results. We first look at how the presence of state-owned banks affects financial development and GDP growth. Next, we present new results on how state ownership of banks affects the efficiency and competitive behavior of private banks. Finally, we look at the relation between state ownership of banks and access to banking services.

FINANCIAL DEVELOPMENT AND GDP GROWTH. On examining the correlation between public participation in the banking sector and financial development, Barth, Caprio, and Levine in a recent survey indicate that greater state ownership of banks tends to be associated with more nonperforming loans. After controlling for bank regulation, however, they find that government ownership of banks is no longer robustly linked with other indicators of bank development and performance.[53] These results contrast somewhat with their previous work.[54] Using a sample of fifty-nine developed and developing countries, they find a negative association between state ownership and financial depth as measured by the ratios of bank and nonbank credit to the private sector to GDP and by the value of securities traded domestically. This finding holds even after they control for economic development and the quality of government.

The interpretation of these findings in terms of causality is rather difficult. The results do not help clarify whether the existence of public banks is justified by development and social objectives or whether state ownership reflects purely political motivations. In fact, the correlations between state ownership of banks and poor institutional quality (as measured by lack of property

52. Micco and Panizza (2006) look at bank-level variables and not at total credit. The benign effect of public banks on credit procyclicality may be weakened or strengthened according to whether public and private bank lending behave as strategic substitutes or complements.

53. Barth, Caprio, and Levine (2002). They also study the relation between banking crises and state ownership of banks, but they do not find a significant link. Caprio and Martínez Pería (2002) find some evidence for such a relation, but 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.

54. Barth, Caprio, and Levine (2001).

rights), low financial development, government intervention in the economy, and low GDP per capita are consistent with all theories aimed at explaining state intervention in the banking sector.

La Porta, López-de-Silanes, and Shleifer focus more specifically on the determinants and implications of state ownership of banks.[55] Their original data on public ownership, covering about ninety countries, show that a higher share of public banks is associated with a slower subsequent development of the financial system and slower economic growth. Their tests, while controlling for initial conditions (including financial and economic development and the share of public banks), are still limited to cross-section correlations and, as they themselves note, "are not conclusive evidence of causality." This is particularly true in light of the strong persistence of both credit shares and state ownership levels.[56] As noted, a negative contemporaneous link between government ownership and financial development is not at odds with Gerschenkron's development view.[57]

La Porta, López-de-Silanes, and Shleifer group together very different countries, including former socialist economies where state ownership was the rule prior to democratization and for which data for earlier periods are less reliable. A revision of their results may thus shed additional light on these issues. Tables 4 through 6 revisit their findings using their own measures of public shares in the banking sector and updating and extending in time the private credit and GDP data following their definitions and sources.

Table 4 focuses on the relation between state ownership of banks and subsequent financial development. Column 1 reproduces La Porta, López-de-Silanes, and Shleifer's results for ease of comparison.[58] Column 2 replicates the regression using the new data. The original results remain virtually unchanged, indicating that state ownership of banks depresses subsequent

55. La Porta, López-de-Silanes, and Shleifer (2002) is perhaps the most influential and widely quoted paper in the public banks literature.

56. The correlation between state ownership of banks in 1970 and 1995 is 0.77; in 1970 and 1985, it is 0.88; and in 1985 and 1995, it is 0.79 (all the p values are 0.00). The correlation between private credit over GDP ratios in 1960 and 1995 is 0.68; in 1960 and 1985, it is 0.78; and in 1985 and 1995, it is 0.92.

57. Gerschenkron (1962). Galindo and Micco (2004) address the problem of causality. These authors use the methodology originally devised by Rajan and Zingales (1998) to show that the presence of public banks mitigates the positive effect of financial development. This result can be interpreted as evidence in favor of a negative link between growth and state ownership of banks only under the strong—and rather unrealistic—assumption that there is no correlation between the presence of public banks and the level of financial development.

58. La Porta, López-de-Silanes, and Shleifer (2002, table 4).

TABLE 4. The Effect of State Ownership of Banks on Financial Development[a]

Explanatory variable	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
GDP per capita (initial)	–0.056	–0.205*	–0.176	–0.030	–0.345
	(0.433)	(0.122)	(0.135)	(0.270)	(0.212)
Private credit (initial)	–0.056***	–0.037***	–0.036***	–0.083***	–0.051***
	(0.019)	(0.009)	(0.009)	(0.025)	(0.015)
Public share (initial)	–0.039***	–0.021**	–0.019**	–0.015	–0.039**
	(0.011)	(0.008)	(0.009)	(0.015)	(0.017)
Constant	6.681**	6.651***	6.257***	7.040***	9.411***
	(2.616)	(1.225)	(1.305)	(2.601)	(2.276)
Summary statistic					
No. observations	82	66	70	66	77
R^2	0.21	0.26	0.20	0.17	0.21
Period	1960–99	1960–99	1970–2002	1970–85	1986–2002

Source: Authors' calculations. Public share is from La Porta, López-de-Silanes, and Shleifer (2002); all other data are from the World Bank, *World Development Indicators*.

* Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

a. The dependent variable is the average annual growth rate of private credit over GDP. Robust standard errors are in parentheses.

financial development even after we control for initial GDP and the initial level of financial development. This holds when 1970 (the earliest year for which they compute the state ownership ratio) is used as the initial period (column 3). Columns 4 and 5, however, reveal substantial heterogeneity across periods, with the negative effect of state-owned banks being much stronger in the late 1980s than in the 1970s.

We complement the analysis of La Porta, López-de-Silanes, and Shleifer by using more recent data that allow for a more complete set of controls. Table 5 studies the determinants of bank credit to the private sector (measured as a share of GDP) in the late 1990s by controlling for bank ownership (using the share of both state-owned and foreign-owned banks), GDP per capita, inflation, the level of corruption, the cost of contract enforcement, creditor information, and bank concentration. The specification is borrowed from Detragiache, Tressel, and Gupta, who estimate this regression only for low-income countries.[59] We start by reproducing La Porta, López-de-Silanes, and Shleifer's basic specification, before introducing the set of additional controls. Column 1 shows that when we use more recent data, there is no

59. Detragiache, Tressel, and Gupta (2006).

TABLE 5. Bank Ownership and Credit to the Private Sector[a]

Explanatory variable	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Public share (initial)	7.012	1.404	8.032	6.741	13.080	2.248
	(0.77)	(0.15)	(0.84)	(0.64)	(1.14)	(0.07)
Foreign share (initial)	10.212	−31.460	−17.220	−19.537	−11.416	−12.352
	(5.43)***	(2.43)**	(1.41)	(1.39)	(0.78)	(0.67)
GDP per capita (initial)		−2.275	−0.737	−0.054	−2.949	−10.174
		(0.78)	(0.33)	(0.02)	(0.64)	(1.14)
C3 index (initial)		−35.687	−53.641	−54.180	−55.553	−74.016
		(1.55)	(3.72)***	(3.24)***	(3.14)***	(2.02)*
Constant	−37.229	97.191	101.860	101.771	90.847	226.713
	(2.88)***	(2.78)***	(3.94)***	(3.29)***	(2.70)**	(2.48)**
Summary statistic						
No. observations	129	112	90	76	39	20
R^2	0.24	0.39	0.38	0.39	0.44	0.59
Sample	All countries	All countries	Developing countries	Low- and low-middle-income countries	Low-income countries	Latin America and the Caribbean

Source: Authors' calculations.

* Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

a. The dependent variable is bank credit to the private sector measured as share of GDP (source: World Bank, *World Development Indicators*). Regression 1 is based on La Porta, López-de-Silanes, and Shleifer (2002); regressions 2 through 6 draw on Detragiache, Tressel, and Gupta (2006). Public share and foreign share are the share of total assets held by state- and foreign-owned banks, respectively (source: Micco, Panizza, and Yañez, 2007); GDP per capita is the log of GDP per capita (source: World Bank, *World Development Indicators*); and the C3 index is a measure of bank concentration (the share of assets controlled by the three largest banks; source: Micco, Panizza, and Yañez, 2007). The regressions also control for log inflation, a measure of the lack of corruption, the number of days that it takes to enforce a contract, and a measure of the cost to banks of obtaining information on borrowers. Credit to the private sector is measured as the 1995–2005 average; all other variables (with the exception of the control of corruption and the cost to banks of obtaining information) are averages for 1995–2002. Robust *t* statistics are in parentheses.

statistically significant correlation between state ownership of banks and the size of the domestic credit market (and, if anything, the correlation is positive). Column 2 includes the new set of controls and, again, reveals no statistically significant correlation between state ownership and credit to the private sector. Countries that have more foreign-owned banks tend to have smaller credit markets, which may reflect the fact that foreign entry is more prevalent in developing economies that have gone through episodes of financial distress. In columns 3, 4, 5, and 6, we look specifically at developing countries, low- and low-middle-income countries (based on the World Bank's income classification), low-income countries, and Latin America and the

TABLE 6. Bank Ownership and Growth in Credit to the Private Sector[a]

Explanatory variable	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Private credit (initial)	−0.004	−0.004	−0.008	−0.010	−0.014	−0.006
	(2.22)**	(2.17)**	(3.24)***	(3.12)***	(1.84)*	(1.72)
Public share (initial)	−0.297	−0.427	−0.245	−0.468	−0.264	0.275
	(1.14)	(1.60)	(1.01)	(1.68)*	(0.59)	(0.55)
Foreign share (initial)		−0.423	−0.250	−0.443	−0.343	0.147
		(1.62)	(1.27)	(1.69)*	(0.60)	(0.42)
GDP per capita (initial)	−0.066	−0.072	−0.060	−0.116	−0.149	−0.426
	(1.73)*	(1.05)	(1.11)	(1.57)	(0.64)	(2.97)**
Constant	0.732	0.923	1.161	1.983	2.734	4.020
	(2.59)**	(1.39)	(2.06)**	(3.16)***	(1.50)	(2.98)**
Summary statistic						
No. observations	116	114	87	67	34	24
R^2	0.11	0.15	0.19	0.26	0.28	0.64
Sample	All countries	All countries	Developing countries	Low- and low-middle-income countries	Low-income countries	Latin America and the Caribbean

Source: Authors' calculations.

* Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

a. The dependent variable is the percentage change in bank credit to the private sector (measured as share of GDP) between 1995–98 and 1999–2005. Regression 1 is based on La Porta, López-de-Silanes, and Shleifer (2002); regressions 2 through 6 draw on Detragiache, Tressel, and Gupta (2006). Public share and foreign share are the share of total assets held by state- and foreign-owned banks, respectively (source: Micco, Panizza, and Yañez, 2007); GDP per capita is the log of GDP per capita (source: World Bank, *World Development Indicators*). Columns 2–6 include a set of controls similar to that used by Detragiache, Tressel, and Gupta (2006), as follows (coefficients not reported): log inflation, lack of corruption, inverse of the number of days that it takes to enforce a contract, cost to banks of obtaining information on borrowers, bank concentration, log of inflation, and two dummy variables for countries that had a banking crisis in 1990–93 and 1994–2004. All explanatory variables (with the exception of control for corruption and contract enforcement) are averages for 1995–98. Robust *t* statistics are in parentheses.

Caribbean, respectively. The coefficient for state-owned banks is positive but never statistically significant, while the coefficient for foreign-owned banks is always negative but not statistically significant.

Next, we replicate these exercises using the growth rate of credit to the private sector (namely, the percentage change between average credit to the private sector in 1995–98 and 1999–2005) as the dependent variable (see table 6). Again, we start by using La Porta, López-de-Silanes, and Shleifer's control and find that the coefficient of the variable measuring public ownership is negative but not statistically significant. In column 2, we use the same set of controls used in table 5 plus the initial stock of credit to the private

sector (all measured over 1995–98). In line with the results in table 5, we find that the coefficient for state ownership is negative (indicating that a large share of state-owned banks inhibits credit growth), but the coefficient is rarely statistically significant (it is marginally significant at the 10 percent confidence level only for the sample of low- and low-middle-income countries).

The estimates reported in tables 4 through 6 are likely to be plagued by causality and omitted-variable problems. In particular, if public banks are likely to arise in a context in which private financial intermediation is discouraged by institutional deficits, then the negative link between private financial intermediation and state ownership could be due to either reverse causality or to the omission of institutional variables.[60]

We also use panel data to test whether changes in state ownership are associated with the speed of financial development.[61] In this setting, the coefficient attached to the variable measuring state ownership captures how changes in the public share are correlated with changes in credit to the private sector. Our simple ordinary least squares (OLS) panel regression finds—contrary to most of the results discussed above—that increases in state ownership of banks are positively associated with credit growth (see table 7). However, the coefficient is statistically significant only when both developing and industrial countries are included. The estimation of table 7 presents two problems. First, using panel data mitigates, but does not solve, the endogeneity problems highlighted above.[62] Second, it is well known that fixed effects estimates are problematic in the presence of lagged dependent variables. System GMM estimators, which under certain conditions would help address both of these problems, again fail to find a significant link.[63] These negative results are in line with Detragiache, Tressell, and Gupta's findings for a different sample of countries.[64]

Summing up, while La Porta, López-de-Silanes, and Shleifer find strong evidence that state ownership of banks has a negative effect on the supply of bank credit to the private sector, we find no significant correlation between

60. See Rodrik (2005) for a discussion of this issue. In Levy Yeyati, Micco, and Panizza (2004), we instrument the state ownership variable using an index of public enterprises as a share of the economy, with mixed results.

61. As before, we follow Detragiache, Tressel, and Gupta (2006).

62. For example, bank privatization or nationalization could be the result of a banking crisis.

63. Results are available from the authors on request.

64. Detragiache, Tressel, and Gupta (2006).

TABLE 7. Bank Ownership and Credit to the Private Sector: Panel Estimates with Fixed Effects[a]

Explanatory variable	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*
Lagged dependent variable	0.536	0.549	0.558	0.555	0.414
	(6.41)***	(4.56)***	(2.76)***	(4.09)***	(1.64)
Public share (lagged)	15.851	4.680	3.647	3.830	5.318
	(2.46)**	(1.24)	(0.68)	(0.93)	(0.68)
Foreign share (lagged)	13.954	6.599	1.533	3.854	12.839
	(2.48)**	(1.36)	(0.26)	(0.68)	(1.61)
GDP per capita (lagged)	−2.965	−2.752	−8.515	−1.130	−6.868
	(0.78)	(0.75)	(1.90)*	(0.39)	(0.85)
Constant	49.855	40.019	61.905	25.396	80.438
	(1.54)	(1.42)	(2.00)**	(1.14)	(1.15)
Summary statistic					
No. observations	894	680	258	518	186
No. code	125	98	41	77	24
R^2	0.29	0.31	0.41	0.33	0.30
Sample	All countries	Developing countries	Low- and low-middle-income countries	Low-income countries	Latin America and the Caribbean

Source: Authors' calculations.

* Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

a. The dependent variable is bank credit to the private sector (measured as share of GDP). The estimation period is 1995–2002. All regressions include country fixed effects and year fixed effects. Public share and foreign share are the share of total assets held by state- and foreign-owned banks, respectively (source: Micco, Panizza, and Yañez, 2007); GDP per capita is the log of GDP per capita (source: World Bank, *World Development Indicators*). All regressions control for lagged log inflation and bank concentration (share of assets controlled by the three largest banks). Robust *t* statistics are in parentheses.

state ownership of banks and bank credit to the private sector using more recent data and more sophisticated statistical techniques.[65] The evidence that the prevalence of state ownership in the banking sector conspires against its ultimate development thus appears to be weaker than suggested by previous studies. On the other hand, we find no indication that state ownership has the positive catalytic effect that its advocates have proposed. A balanced read-

65. Clarke, Cull, and Martínez Pería (2004) provide another study of bank privatization in Latin America and the Caribbean. Their results are also mixed. On the one hand, they find no significant correlation between private credit growth and change in state ownership over the 1997–2002 period (if anything, they find that less state ownership led to lower credit growth, but the correlation is not statistically significant). On the other hand, they find that Latin America displays a marginally significant positive correlation between World Banks loans aimed at bank privatization and growth of financial development, but no significant correlation between

ing of these results indicates that public banks, at best, do not play much of a role in the development of their private counterparts.[66]

EFFICIENCY AND COMPETITIVE BEHAVIOR OF PRIVATE BANKS. Most of the public bank debate focuses on whether and how the presence of state-owned banks influences the supply of bank credit, but no studies to date assess whether the presence of state-owned banks affects the efficiency and competitive behavior of private banks. To this we turn next.

We proxy banking sector efficiency by a standard indicator: overhead costs. Table 8 reports, for alternative country samples, a regression of average overhead costs (as a share of total assets) of private banks (both domestic and foreign) over a set of country characteristics that includes state ownership of banks, foreign ownership of banks, log GDP per capita, institutional proxies (namely, lack of corruption and contract enforcement cost), log inflation, and bank concentration.[67] The first four columns show that the coefficient attached to the state ownership variable is always negative and statistically significant for the low-income sample. This surprising finding goes against the current conventional wisdom that the presence of state-owned banks has a negative effect on the overall efficiency of the banking sector, and it seems to support the view that in very poor countries, the presence of state-owned banks can have positive spillovers on their private counterparts.

Figure 4 presents a partial scatter plot of this regression, which shows that the result does not seem to be driven by outliers. To test this hypothesis more formally, we reestimate the models of the first four columns using quantile regressions with bootstrapped standard errors, a methodology that reduces the weight of outliers. The results, reported in columns 5 through 8 of table 8, are even stronger, indicating that the presence of state-owned banks significantly reduces the overhead costs of private banks in all but one subsample (the exception is the low- and low-middle-income sample, for which the coefficient is large but not statistically significant).

If the presence of state-owned banks increases the efficiency of private banks, a natural question is whether this increase in efficiency is passed on to

World Banks loans aimed at bank privatization and growth of financial development in other developing countries.

66. The same conclusion can be extracted from the more elusive question on the impact of public banks on long-run economic growth, where a robust effect—and a specific channel—is even more difficult to identify empirically. See Levy Yeyati, Micco, and Panizza (2004).

67. We calculated average overhead costs using bank-level data from Bankscope. We adopted the following steps: (a) divided overhead costs by total assets; (b) dropped from our dataset all banks with state ownership above 50 percent; (c) computed country-year averages of overhead over total assets; and (d) computed country averages for the 1995–2002 period.

TABLE 8. Bank Ownership and the Overhead Costs of Private Banks[a]

Explanatory variable	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Public share	−0.014	−0.011	−0.016	−0.032	−0.031	−0.030	−0.028	−0.038
	(1.22)	(0.85)	(1.15)	(3.52)***	(3.29)***	(2.30)**	(1.43)	(3.39)***
Foreign share	0.018	0.025	0.019	0.020	−0.006	0.010	0.020	0.025
	(1.42)	(1.66)*	(1.07)	(1.50)	(0.40)	(0.59)	(0.95)	(1.43)
GDP per capita	0.004	0.005	0.003	−0.007	0.003	0.008	0.002	−0.015
	(1.31)	(1.16)	(0.61)	(1.31)	(0.98)	(1.66)	(0.27)	(1.50)
C3 index	−0.008	−0.011	−0.013	−0.040	−0.002	0.026	0.000	−0.074
	(0.51)	(0.55)	(0.58)	(2.15)**	(0.10)	(1.12)	(0.01)	(2.37)**
Constant	0.010	0.007	0.027	0.131	0.013	−0.053	0.011	0.216
	(0.29)	(0.15)	(0.53)	(2.77)***	(0.38)	(1.01)	(0.15)	(2.57)**
Summary statistic								
No. observations	115	93	79	39	115	93	79	39
R^2	0.36	0.32	0.30	0.58				
Sample	All countries	Developing countries	Low- and low-middle-income countries	Low-income countries	All countries	Developing countries	Low- and low-middle-income countries	Low-income countries

Source: Authors' calculations based on Bankscope data.

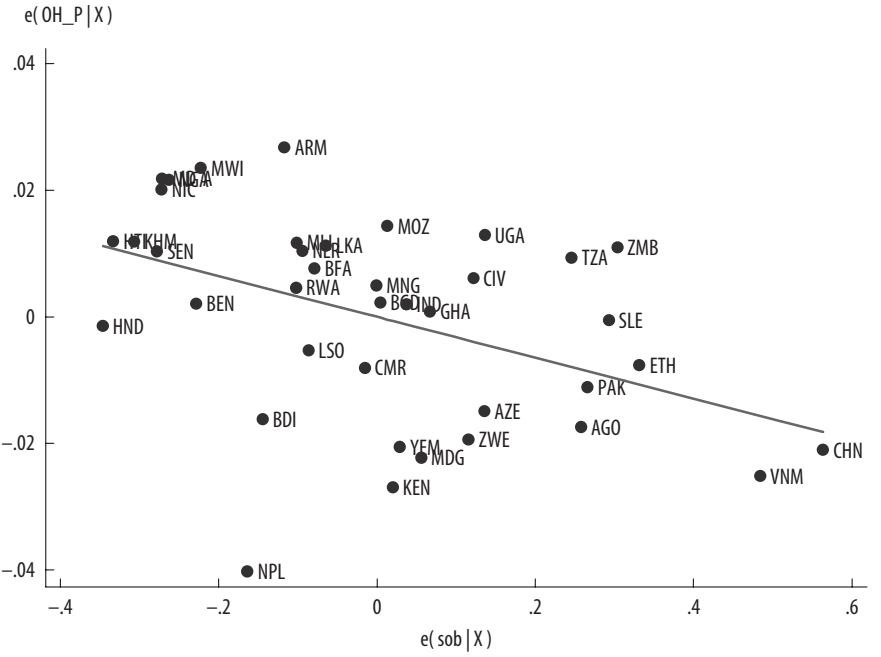
* Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

a. The dependent variable is average overhead costs of private banks. Regressions 1–4 use ordinary least squares (OLS); regressions 5–8 are quantile regressions with bootstrapped standard errors. Public share and foreign share are the share of total assets held by state- and foreign-owned banks, respectively (source: Micco, Panizza, and Yañez, 2007); GDP per capita is the log of GDP per capita (source: World Bank, *World Development Indicators*); and the C3 index is a measure of bank concentration (the share of assets controlled by the three largest banks (source: Micco, Panizza, and Yañez, 2007). All variables are averages for 1995–2002. All regressions control for log inflation, a measure of the lack of corruption, and the number of days that it takes to enforce a contract. Robust *t* statistics are in parentheses.

FIGURE 4. State-Owned Banks and Overheads of Private Banks in Low-Income Countries



coef. = −.03227378, (robust) s.e. = .00916223, t = -3.52

customers (and the economy as a whole) in the form of lower interest margins. We address this issue by regressing a proxy of the net interest margin of private banks (computed by dividing net interest revenues by total assets) over the same set of variables included in table 8.[68] We find that the share of state owned banks does have a negative effect on the net interest margin of private banks (see table 9). The effect is of comparable magnitude and statistically significant for all subsamples.[69] If the presence of public banks limits uncompetitive pricing in some concentrated banking sectors, lower margins could reflect a more competitive market structure. On the other hand, the correlation between private bank profitability and public participation is never statistically significant (table 10), which suggests that the lower margins

68. To compute the net interest margin of private banks, we also use bank-level data from Bankscope and follow a procedure similar to that used to compute overhead cost.

69. The results are somewhat weaker but still significant when we use quantile regressions.

TABLE 9. Bank Ownership and Interest Margins of Private Banks[a]

Explanatory variable	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Public share	−0.029	−0.032	−0.032	−0.024	−0.026	−0.026	−0.024	−0.030
	(2.98)***	(2.85)***	(2.63)**	(2.73)**	(2.27)**	(1.91)*	(1.80)*	(2.66)**
Foreign share	0.006	0.005	0.007	0.022	0.010	0.008	0.020	0.023
	(0.68)	(0.49)	(0.58)	(2.37)**	(0.95)	(0.54)	(1.16)	(1.35)
GDP per capita	−0.007	−0.008	−0.010	−0.014	−0.003	−0.006	−0.009	−0.015
	(1.74)*	(1.76)*	(1.88)*	(2.86)***	(1.24)	(1.32)	(1.55)	(2.34)**
C3 index	−0.010	−0.012	−0.013	−0.040	−0.013	−0.020	−0.027	−0.052
	(0.80)	(0.78)	(0.74)	(2.83)***	(1.10)	(0.99)	(1.31)	(2.72)**
Constant	0.090	0.103	0.118	0.171	0.064	0.093	0.121	0.189
	(3.05)***	(2.95)***	(2.76)***	(4.41)***	(2.49)**	(2.20)**	(2.18)**	(4.00)***
Summary statistic								
No. observations	115	93	79	39	115	93	79	39
R^2	0.46	0.38	0.42	0.69				
Sample	All countries	Developing countries	Low- and low-middle-income-countries	Low-income countries	All countries	Developing countries	Low- and low-middle-income-countries	Low-income countries

Source: Authors' calculations based on Bankscope data.

* Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

a. The dependent variable is average interest margin of private banks. Regressions 1–4 use ordinary least squares (OLS); regressions 5–8 are quantile regressions with bootstrapped standard errors. Public share and foreign share are the share of total assets held by state- and foreign-owned banks, respectively (source: Micco, Panizza, and Yañez, 2007); GDP per capita is the log of GDP per capita (source: World Bank, *World Development Indicators*); and the C3 index is a measure of bank concentration (the share of assets controlled by the three largest banks; source: Micco, Panizza, and Yañez, 2007). All variables are averages for 1995–2002. All regressions control for log inflation, a measure of the lack of corruption, and the number of days that it takes to enforce a contract. Robust *t* statistics are in parentheses.

TABLE 10. Bank Ownership and Profitability of Private Banks[a]

Explanatory variable	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
Public share	−0.484	−0.324	0.670	1.631	−0.583	−0.256	0.159	0.590
	(0.48)	(0.28)	(0.57)	(1.27)	(0.91)	(0.30)	(0.21)	(0.39)
Foreign share	−0.635	−0.366	1.056	2.269	−0.591	0.312	0.982	1.549
	(0.68)	(0.33)	(0.96)	(1.70)*	(0.71)	(0.23)	(1.11)	(0.71)
GDP per capita	−0.419	−0.516	−0.476	−0.798	−0.159	−0.432	−0.568	−0.612
	(2.04)**	(2.15)**	(1.68)*	(1.51)	(0.88)	(1.43)	(2.42)**	(1.00)
C3 index	1.002	0.653	−0.076	−1.745	1.032	−0.423	−1.236	−1.115
	(1.04)	(0.56)	(0.06)	(1.04)	(1.11)	(0.26)	(1.28)	(0.61)
Constant	4.116	4.945	4.425	6.937	1.965	4.460	5.672	5.083
	(2.25)**	(2.29)**	(1.59)	(1.81)*	(1.14)	(1.40)	(2.20)**	(1.00)
Summary statistic								
No. observations	115	93	79	39	115	93	79	39
R^2	0.16	0.15	0.16	0.33				
Sample	All countries	Developing countries	Low- and low-middle-income countries	Low-income countries	All countries	Developing countries	Low- and low-middle-income countries	Low-income countries

Source: Authors' calculations based on Bankscope data.

* Statistically significant at the 10 percent level.

** Statistically significant at the 5 percent level.

*** Statistically significant at the 1 percent level.

a. The dependent variable is average return on assets (ROA) of private banks. Regressions 1–4 use ordinary least squares (OLS); regressions 5–8 are quantile regressions with bootstrapped standard errors. Public share and foreign share are the share of total assets held by state- and foreign-owned banks, respectively (source: Micco, Panizza, and Yañez, 2007); GDP per capita is the log of GDP per capita (source: World Bank, *World Development Indicators*); and the C3 index is a measure of bank concentration (the share of assets controlled by the three largest banks; source: Micco, Panizza, and Yañez, 2007). All variables are averages for 1995–2002. All regressions control for log inflation, a measure of the lack of corruption, and the number of days that it takes to enforce a contract. Robust *t* statistics are in parentheses.

(table 9) are compensated for by—and possibly the result of—cost reductions (table 8), with little impact on bank profits.

ACCESS TO BANKING SERVICES. Another important aspect of the public bank debate concerns the provision of banking services. The need to provide access to credit and savings instruments to small and medium-sized enterprises or residents in isolated areas is often invoked as a main goal of public banks. More generally, the provision of banking services across all income levels and geographical regions is one the most frequently used justifications for the presence of state-owned banks (despite the fact that the rationale for direct state ownership is rather weak; see the section above on how and when should the state intervene). To assess the value of public banks, then, we need to test whether their presence indeed improves access to credit services, for which we use a new dataset assembled by Beck, Demirgüç–Kunt, and Martínez Pería.[70]

We examine the relation between state ownership of banks and the geographic and demographic penetration of bank branches and automatic teller machines (ATMs). Our specification is similar to that of Detragiache, Tressell, and Gupta, but in addition we control for state ownership and the percentage of the population living in rural areas. We find no statistically significant relation between state ownership of banks and the two access proxies.[71]

Conclusions

Whereas 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 current conventional view is that state ownership of banks is not beneficial for economic development or, in the words of a recent World Bank report, that "whatever its original objectives, state ownership of banks tends to stunt financial sector development, thereby contributing to slower growth."[72]

70. Beck, Demirgüç–Kunt, and Martínez Pería (2005) use this dataset to show that there is either a negative correlation or no correlation between the presence of state-owned banks and access to banking services. Their cross-country regression only controls for regional dummies, however.

71. We also looked at this issue from an alternative perspective, using loan and deposit accounts per capita as a measure of the provision of bank services, a measure that reflects the interaction of supply and demand factors and is less clearly connected with bank outreach than ATM and branch penetration. Again, we found no significant link with state ownership. All results are available on request.

72. World Bank (2001, p. 123).

This paper has revisited the public banks debate and surveyed and expanded the existing empirical evidence, and tested its robustness. Although we found some support for the idea that public banks do not allocate credit optimally, we also showed that the results demonstrating that state ownership inhibits financial development and growth are far less robust than previously thought. We further reported new evidence indicating that public banks may play a useful role in reducing credit procyclicality.

One argument that is often invoked against state ownership of banks is that private banks tend to be more profitable than public banks. Evidence shows that this is the case, especially in developing countries. As we pointed out, however, it would be unfair to the development view to evaluate public banks by their financial profitability, rather than by their development and stabilizing effect. Since both financial development and institutional quality are closely related to economic growth, assessing the development role of public banks based on cross-country evidence requires first disentangling the causal relation between these variables and state ownership of banks. Our finding that public banks may have a positive effect on private bank efficiency and performance may explain the inconclusive results on the overall effect of public banks on the quality of the banking sector as a whole.

It is hard to make general statements on the desirability and past performance of public banks based on a cross-country analysis of aggregate data, for two reasons. First, the basic specification problems (namely, omitted variables and endogeneity) are in this case compounded by data restrictions (for example, the lack of good institutional measures for earlier periods). Second, public institutions are a heterogeneous family that may work satisfactorily in some countries and disappointingly in some others. Heterogeneity is also present within individual countries.[73] Thus, while cross-country studies tend to spread either a negative or a neutral light on the role of public sector banks, more detailed work using microeconomic data finds that, once provided with the right incentives, public sector banks may play a positive role in mobilizing savings or facilitating consumption smoothing during a crisis.[74]

73. For instance, Brazil has three large state owned banks: Banco do Brasil, Caixa Econômica Federal, and Banco Nacional de Desenvolvimento Econômico e Social. While all three institutions rely on a highly subsidized source of funds, the three institutions operate and carry out their mandate with very different degrees of efficiency, with Caixa Econômica Federal being the least efficient and Banco Nacional de Desenvolvimento Econômico e Social the most efficient and best managed.

74. On mobilizing savings, see Yaron and Charitonenko (2001); on facilitating consumption smoothing, see Alem and Townsend (2002).

Characteristics that may affect the success of a state-owned bank include the nature of the bank objective and mission; clear accounting of the subsidy component and constant evaluation of its mission; and the bank's governance structure.[75] By far, the main criticism levied at public banks is their poor management and political motivation, with emphasis on the importance of an appropriate governance structure. While no literature specifically aims to address the problems of the governance of public banks, it is possible to formulate some principles on how managers of public banks should be chosen by drawing parallels with the literature on central banking (for example, operational independence and a representative, nonpolitically appointed board of directors).[76]

While there is now widespread agreement on the fact that politics plays a role in the lending decisions of public banks, this does not necessarily imply that public banks play no role in development. On the contrary, one could easily envision situations in which political influences coexist with a development mandate. Precisely because of that, future empirical research should not focus on a simple good-or-bad approach, but rather should study the conditions under which the potential benefits of public banks can outweigh the potential inefficiencies generated by their political nature.

Appendix: Taxonomy of Public Banks

While it is difficult to precisely define the range of operations of public banks and financial institutions, a taxonomy can help clarify their role and possible objectives.[77] We can separate the various public financial institutions into four groups based on the type of operations they perform and on whether they act as first- or second-tier banks on the liability or asset side of the balance sheet.

The first group includes retail commercial banks. These are banks that may have an ultimate social or development objective, but whose operations are virtually indistinguishable in their nature from those of private commercial

75. See Levy Yeyati, Micco, and Panizza (2004) for a discussion.

76. The need to protect the bank's independence 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 that undertake no banking activities. Whereas a well-managed development bank has the potential of conducting its activities without direct government transfers, a development agency would depend on such transfers and, therefore, on the discretion and the influence of the executive that grants them.

77. Augusto de La Torre provided invaluable help in formulating this taxonomy.

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.[78] In addition to embracing typical retail activities such as credit card management and insurance, public banks in this category sometimes act as universal or near-universal commercial banks (either directly or through affiliates). This group includes institutions that were originally created with well-defined development purposes, but that have grown to incorporate commercial banking activities. These hybrid institutions play the role of both development bank and commercial bank, and they act as a government agent administering subsidies and various government programs. 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.[79]

The second group covers institutions that do not operate directly with the public on the liability side—that is, they do not take deposits. These institutions are funded by multilateral development agencies, bond issuance, or government transfers, and they either act as second-tier banks on the assets side (lending through other banks) or lend directly to firms operating in specific sectors of the economy (such as exports, agriculture, and sectors with a high innovative content). These institutions may act as a financial agent of the government or be assigned a key role in the structural reform process.

The third group encompasses institutions that act as first-tier banks on the liability side, but not on the asset side. These are institutions that collect deposits, invest all their assets in short-term government paper, and make no loans (in this sense, they operate as quasi-narrow banks). Their ultimate objective is to mobilize savings by supplying safe deposits. Postal offices in continental Europe and Japan traditionally played such a role.

The fourth group includes institutions that play the role of development agency through a potentially wide range of instruments, including providing technical assistance (directly or via the private sector), issuing partial guarantees, matching grants, and paying subsidies. These institutions do not explicitly make loans or issue liabilities. Since they neither lend nor borrow, they do not act as banks (either first or second tier) on either the liability or asset side of the balance sheet.

78. Some of these banks have a national charter, and others just operate in a given region or province.

79. This distinction is sometimes rather vague, as public retail banks also tend to hold a large amount of government deposits.