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GOVERNMENT OWNERSHIP OF BANKS

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Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer
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ABSTRACT

In this paper, we investigate a neglected aspect of financial systems of many countries around the world: government ownership of banks. We assemble data which establish four findings. First, government ownership of banks is large and pervasive around the world. Second, such ownership is particularly significant in countries with low levels of per capita income, underdeveloped financial systems, interventionist and inefficient governments, and poor protection of property rights. Third, government ownership of banks is associated with slower subsequent financial development. Finally, government ownership of banks is associated with lower subsequent growth of per capita income, and in particular with lower growth of productivity rather than slower factor accumulation. This evidence is inconsistent with the optimistic “development” theories of government ownership of banks common in the 1960s, but supports the more recent “political” theories of the effects of government ownership of firms.

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I. Introduction.

This paper discusses a neglected aspect of financial systems of many countries: government ownership of banks. It shows that such ownership is pervasive around the world, especially in countries with poor institutions, and that it has significant consequences for resource allocation and economic development.

There are two broad views of the government's participation in financial markets. The first, basically optimistic, "development" view is associated with Alexander Gerschenkron (1962), who focuses on the necessity of financial development for economic growth. Gerschenkron argues that privately owned commercial banks have been the crucial vehicle of channeling savings to industry in several industrializing countries in the second half of the 19th century, especially Germany. However, in some countries -- most conspicuously Russia -- economic institutions were not sufficiently developed for private banks to play the crucial development role. "The scarcity of capital in Russia was such that no banking system could conceivably succeed in attracting sufficient funds to finance a large scale industrialization; the standards of honesty in business were so disastrously low, the general distrust of the public so great, that no bank could have hoped to attract even such small capital funds as were available, and no bank could have successfully engaged in long term credit policies in an economy where fraudulent bankruptcy had been almost elevated to the rank of a general business practice" (p. 19). In such countries, the government could step in and through its financial institutions jump start both financial and economic development. Thus in Russia in the 1890s, "it was the government that generally fulfilled the function of industrial banks" (p.22), with salutary effects.

Gerschenkron's view was part of a broader sentiment in development economics which

advocated government ownership of firms in the strategic economic sectors (see Shleifer 1998 for a summary). W. Arthur Lewis (1950), for example, explicitly advocates government ownership of banks, as part of the “commanding heights” approach whereby the government would develop certain strategic industries through both direct ownership and control over finance. Myrdal (1968) is sympathetic toward government ownership of banks in India and other Asian countries. A few days before the October Revolution, Lenin laid out his own perspective on banking: “Without big banks, socialism would be impossible. The big banks are the ‘state apparatus’ which we need to bring about socialism, and which we take ready-made from capitalism...” (Lenin 1917, quoted in Garvy 1977, p. 21). These ideas were widely adopted around the world, particularly in the 1960s and the 1970s, with governments nationalizing the existing commercial banks and starting new ones in Africa, Asia, and Latin America.

In contrast, a more recent “political” view of government ownership holds that government control of finance, through its banks or otherwise, politicizes resource allocation for the sake of getting votes or bribes for office holders, softens budget constraints, and lowers economic efficiency (see, e.g., Kornai 1979, Shleifer and Vishny 1994). This view is buttressed by considerable evidence documenting the inefficiency of government enterprises, the political motives behind public provision of services, and the benefits of privatization (e.g., Megginson et al. 1994, Barberis et al. 1996, Lopez-de-Silanes, Shleifer and Vishny 1997, Frydman et al. 1999, La Porta and Lopez-de-Silanes 1999). Gerschenkron has some sympathy for this view: “There is no doubt that the government as an *agens movens* of industrialization discharged its role in a far less than perfectly efficient manner. Incompetence and corruption of bureaucracy were great. The amount of waste that accompanied the process were formidable.” (p. 20). Still,

Gerschenkron considers government financing of industrialization in Russia a great success.

The government can participate in the financing of firms in a variety of ways: it can provide subsidies directly, it can encourage private banks through regulation and suasion to lend to politically desirable projects, or it can own financial institutions -- completely or partially -- itself. The advantage of owning banks -- as opposed to regulating banks or owning all projects outright -- is that bank ownership gives the government extensive control over the choice of projects being financed while leaving the implementation of these projects to the private sector. Ownership of banks thus promotes the government's goals in both the "development" and the "political" theories. In the development theories, ownership of banks enables the government both to collect savings and to direct them toward strategic long term projects. Through such project finance, the government overcomes institutional failures undermining private capital markets, and generates aggregate demand and other beneficial externalities fostering growth. In the political theories, ownership of banks enables the government to finance the inefficient but politically desirable projects. In both theories, the government finances projects that would not get privately financed. In the development theories, these projects are socially desirable. In the political theories, they are not.

Using data on government ownership of banks from 92 countries around the world, we address four related questions. First, how significant is government ownership of banks in different countries? Second, what types of countries have more government ownership of banks? Third, does government ownership of banks promote subsequent financial development? Fourth, does government ownership of banks promote subsequent economic growth and, relatedly, how does it effect factor accumulation, savings, and growth of productivity?

Both the development and the political view imply that government ownership of banks should be more prevalent in poorer countries, countries with less developed financial markets, and more generally, countries with less well functioning institutions. The development theories also imply that, other things equal, government ownership of banks should benefit subsequent financial and economic development, factor accumulation, and especially productivity growth. The political theories, in contrast, imply that, other things equal, government ownership of banks should displace (crowd out) the growth of private financing. Moreover, while government financing through its banks can encourage savings and capital accumulation, the projects the government finances are likely to be inefficient and have an adverse effect on productivity growth. By looking at financial development and productivity growth, we can thus attempt to distinguish the two theories of government ownership of banks.

Although our results support some elements of the development view, they are overall more favorable to the political view. We show, first, that government ownership of banks is common around the world: in an average country, 42 percent of equity of the 10 largest banks was still owned by the government in 1995. We also show that government ownership of banks is especially common in poor countries, as well as in countries with poorly defined property rights, heavy government intervention in the economy, and underdeveloped financial systems. The latter findings are consistent with Gerschenkron's idea of where governments are likely to own banks. However, our results on the effects of government ownership of banks on financial and economic development do not support Gerschenkron's optimism. We find that higher government ownership of banks is associated with slower subsequent development of the financial system, lower economic growth, and in particular lower growth of productivity. These results --

and particularly the finding of low productivity growth in countries with high government ownership of banks -- are broadly supportive of the political view on the effects of government interference in markets.

This research relates to a number of strands in the recent literature of financial development and economic growth. King and Levine (1993), Levine and Zervos (1998), Rajan and Zingales (1998), Beck, Levine, Loayza (2000), Levine (1999), and Wurgler (2000) all document the benefits of financial development for economic growth. Young (1995) shows that in several East Asian countries growth has taken the form of factor accumulation rather than productivity growth. Since the allocation of financial resources in East Asian economies is heavily politicized, our results suggest that the same problems that have influenced productivity growth in East Asia may be pervasive when the government controls the flow of capital.

Two recent papers consider government ownership of banks. Sapienza (1999) finds that Italian state-owned banks pursue political objectives in their lending policies, consistent with the political view. Barth, Caprio and Levine (1999) present a comprehensive data base on government regulation of banks around the world. Like our paper, they find that government ownership of banks is higher in countries with less developed financial systems. This result is consistent with both the political and the development views.

The next four sections deal with the four questions raised above: the pervasiveness of government ownership of banks, the characteristics of countries that have it, its effect on financial development, and its effect on the growth of output, factor accumulation, and growth of productivity. Section VI concludes.

II. How common is government ownership of banks?

Variable Definitions

All the variables used in this paper are summarized in Table 1. We describe them at the time we introduce them into the analysis.

We analyze government ownership of large banks in 92 countries. We use Polk World Banking Profiles and the Thomson Bank Directory for 1996 to determine the number of countries with sufficient data on banks. For each country in the sample, we identify the 10 largest commercial or development banks (in terms of assets) that lend money to firms, regardless of their ownership structure and of whether or not they take deposits. We include development banks because their function is precisely to provide long term finance to development projects where private finance may fail (Myrdal 1968), and hence they constitute one prominent form of government entry into bank lending. Below we discuss the role of development banks at some length. We do not include Central Banks, Postal Banks (which generally do not lend money to firms and are described as non-banking institutions), investment banks, other specialized financial intermediaries (trust companies, home loan banks) or world-wide development banks such as the World Bank. If a country has fewer than 10 banks in Polk and Thomson, we add information where we can from Europa Yearbook and Euromoney Bank Register 1996.

We identify ownership structures of banks in this sample using company reports as well as national and international sources (Appendix A lists the sources for each country). Identifying state versus private ownership is usually straightforward, but there are a few judgment calls. First, we classify ownership by foreign governments as private rather than state ownership. This reduces estimates of state ownership, but makes analytical sense since foreign governments are

less likely to support money-losing firms abroad. Second, we keep subsidiaries of foreign banks in the sample as long as they make loans and extend credit locally. Third, some development banks in the sample are regional, and owned by the governments of several countries. Some of these banks also have private owners, as well as ownership by multilateral agencies such as the World Bank. We take the equity ownership in a regional bank by a country's government as the estimate of the proportion of the bank's assets that are in that country. These steps give us estimates of government ownership of the 10 largest banks in each country.

Using these data, we compute five measures of government ownership of banks, each calculated to emphasize a somewhat different aspect of ownership. In all these calculations, we address the issue of indirect ownership by the government, i.e., governments owning shares in holding or other companies which in turn own shares in sample banks. The first measure, GB (government banking), is defined as follows. For each of the 10 largest commercial and development banks in a country, we first calculate the percentage of government ownership by multiplying the share of each shareholder in that bank by the share the government owns in that shareholder, and then summing the resulting shares:

$$GB_{ik} = \sum_{j=1}^J s_{ji} s_{gj}$$

where $k = 1 \dots 92$ indexes the countries in our sample, $i = 1 \dots 10$ indexes the ten largest banks in a country, $j = 1 \dots J$ indexes shareholders of a given bank, GB_{ik} stands for the government's share in bank i in country k , s_{ji} is the share of bank i owned by shareholder j , and s_{gj} is the share of equity the government owns in j ($s_{gj} = 0$ if j is a private individual). For example, the government of

Israel owns 86.2% of the shares in Bank Leumi. In this case, $J = 1$, $s_{ji} = .862$ and $s_{gi} = 1$ for this bank.

GB for a country k is computed by multiplying GB_{ik} of every sampled bank i by its total assets, summing the resulting numbers and dividing the sum by total assets of the top 10 banks:

$$GB_k = \frac{\sum_{i=1}^{10} GB_{ik} a_{ik}}{\sum_{i=1}^{10} a_{ik}}$$

where GB_k is the first measure of government bank ownership for country k , and a_{ik} are the total assets of bank i . GB is the simplest measure we use: it captures the share of the assets of the top 10 banks in a given country that is “owned” as opposed to “controlled” by the government.

GB reflects government ownership of banks in the mid 1990s, well after privatization of banks in many countries had gotten underway. Since we are ultimately interested in the effect of government ownership of banks on economic development, we need to estimate the percentage of banking assets owned by the government in the 1960s and 1970s, before privatizations. We could not determine fully the history of ownership of each bank back to 1960, but did come up with estimates of government ownership *in our sample banks* in 1985, roughly at the peak of government ownership around the world and before bank privatization had started in any country but Chile. Since we know which of the banks in our sample had been privatized after 1985, we can determine government ownership in these banks before privatization. This variable, GBBP -- government banking before privatization, is constructed like GB, except that if a bank was

privatized after 1985, we set $GBBP_{ik}$ equal to the percentage of that bank actually owned by the government before privatization. In the countries where we know that the entire banking system was owned by the government in 1985, including Sri Lanka, El Salvador, Nicaragua, Mexico and 12 socialist countries, we set $GBBP = 1$. A possible problem with $GBBP$ is that the top 10 list is taken in 1995, so we may underestimate government ownership in 1985 if large state owned banks circa 1985 were no longer the largest by 1995. We use $GBBP$ in the regressions. Since the correlation between GB and $GBBP$ is .78, it does not matter which variable we use.

GB does not take into account the possibility that the extent of government control of a bank, particularly when the government is a large shareholder, may exceed its equity ownership. The next 3 variables, all based on government ownership in the mid-1990s, classify banks as “government-owned” when the government’s equity ownership exceeds certain thresholds. We use these variables to make sure that our two basic variables do not produce a misleading answer.

To construct the next variable, $GB20$, we start with government ownership measures for each of the 10 largest banks. We then classify a bank as government-owned if $GB_{ik} > .2$ and the government is the largest known shareholder or if $GB_{ik} > .5$ (in case we do not know the percentage ownership by the largest shareholder). $GB20$ is the sum of assets of all government-owned banks using this definition (among the 10 largest) divided by the total assets of 10 largest banks in the country. This approach is in line with our earlier work which suggests that 20% ownership is typically sufficient for control (La Porta, Lopez-de-Silanes, and Shleifer 1999). Along similar lines, we construct $GB50$ as a ratio of the assets of the banks in which the government holds over 50% of equity to the total assets of the 10 largest banks; and $GB90$ as a corresponding measure for banks where government equity ownership exceeds 90%. Before

presenting the results, we note that these measures of government ownership of banks are highly correlated with each other: the correlation between GB and GB20 is .95; the correlation between GB and GB50 is .97, and the correlation between GB and GB90 is .92. The correlations between these variables and GBBP are in the .7-.8 range.

Findings

Table 2 presents our basic findings on the extent of government ownership of banks. We divide countries into groups by the origin of their commercial laws (common law, French civil law, German civil law, Scandinavian law and socialist law). Our previous research shows that the nature of both financial markets and government involvement in economic life differs significantly across legal origins (La Porta et al., or LLSV, 1997, 1998, 1999).

Government ownership of banks is large and pervasive around the world. Even looking at the 1995 data, after bank privatization had been completed in many countries, the world mean of government ownership is 41.7 percent, and a somewhat lower 38.7 percent if we exclude the former socialist countries. The corresponding number for pre-privatization ownership is an even higher 55 percent (and 48.3 percent if we exclude the former socialist countries). The magnitude of the post-privatization number suggests that, while privatization has made a dent in government ownership of banks, it has not reduced it to negligible levels.

Our adjustments for government control relative to cash flow ownership also increase the world average compared to the basic variable. Using GB20 to measure government control, the world average share of banking assets controlled by the government is 48 percent (43.9 percent without former socialist countries). As we illustrate below, these magnitudes are considerably

higher than the measures of government participation in more general economic activity such as production or investment. These findings establish our first proposition: government ownership of banks is very large -- even after the wave of privatizations.

It is also pervasive across continents and legal origins of commercial laws. Outside of the few rich common law countries and Japan (at the time we took the measurement), governments nearly everywhere own a respectable share of bank equity. The common law average is a high 28.5 percent (37.2 percent before privatization), though still statistically significantly lower than the French civil law origin average of 45.5 percent (56.3 percent before privatization). As is often in these comparisons of financial structures, the German and the Scandinavian averages are between the English and French ones, and close to each other. The former socialist countries still have the highest average share of equity of the largest banks owned by the government (61.8 percent), although this share is down sharply from 100 percent 10 years ago. The corrections for government control change these numbers somewhat, but do not alter the general picture of high and pervasive government ownership of banks, occurring nearly everywhere but especially in French civil law and socialist law countries.

Table 2B examines the importance of development banks in our sample. Its first column shows, by legal origin, how much of the government ownership of top 10 banks is accounted for by government ownership of development banks. On average, about 5.3 percent out of 41.7 percent overall level of government ownership is accounted for by development banks. Development banks are particularly prevalent in French legal origin countries (largely in Latin America), and utterly uncommon in German, Scandinavian, and socialist origin countries.

The second column of Table 2B reproduces the averages of GB from Table 2, and the

third column shows how these averages change when we take development banks out of the sample (i.e., both the numerator and the denominator in the definition of GB). The corrected variable, government ownership of commercial banks or GBC, has a worldwide average of 38.4 percent (compared to 41.7 percent for GB). The difference between French and English origins remains large, though not longer statistically significant.

Conceptually, we believe it is appropriate to include development banks in the sample, since in some countries these are precisely the banks allegedly addressing the Gerschenkron-Myrdal development problems. We therefore keep these banks in the results we present. To be safe, we have redone every regression excluding them. The statistical significance of some results falls a notch, but the important results presented below remain statistically significant.

The results on the differences in government ownership of banks among legal origins are in principle consistent with both the development and the political view. Earlier research (LLSV 1997, 1998) shows that countries with French legal origin laws have less investor protection and less developed private financial markets than do common law countries, which on the development view would increase the demand for government provision of finance. Other research (LLSV 1999) shows that French legal origin countries in general intervene more in economic life. Consistent with the political view, then, government ownership of banks may be a reflection of the greater politicization of economic activity in French legal origin (and socialist) countries than in common law countries. In the subsequent sections, we present further evidence that attempts to distinguish the two theories. Importantly, all the results presented below have been rerun excluding socialist countries, and none of the conclusions we draw depend on them.

III. Which countries have high government ownership of banks?

In this section, we ask which characteristics of countries predict high government ownership of banks. We do so by first considering the correlations between various country characteristics and our first two measures of government ownership of banks (after and before privatization). Because these correlations may be influenced by the fact that poorer countries generally have higher GB and GBBP, we also present the coefficients from regressions of government ownership of banks on country characteristics, a constant, and the log of 1960 per capita GDP. These results crudely correct for the differences in per capita incomes.

Table 1 describes all the data used in this paper, including the country characteristics we examine. An important point should be noted. Due to data availability, most of the country characteristics we examine come either from the 1990s, or alternatively are averages of the data from 1975 to 1995, i.e., either at the same time as GB or later than GBBP. We cannot therefore argue that these country characteristics in some ways cause high government ownership of banks. Rather, we are only looking at correlations, without structural interpretations. For one important set of measures, namely those of the level of private financial development, we have data starting in 1960 and in 1970, and hence can ask more dynamic questions.

We begin the analysis with the 1960 level of per capita income, simply to point out that poorer countries indeed have more government ownership of banks. We then examine a number of indicators of the quality of government, some of which we have studied in an earlier paper (LLSV 1999). These include measures of government intervention in economic life (such as regulation, price controls, black market premium, political rights, and government spending), measures of the efficiency of government (such as tax compliance, corruption and bureaucratic

quality), measures of the security of property rights, rule of law, and investor protection, measures of the importance of state-owned firms in the overall economy as opposed to just in banking, measures of initial levels of financial development, and finally, measures of the incidence of political and financial crises in the economy.

Table 3 focuses on post-privatization government ownership of banks. Panel A establishes that such ownership is higher in countries that were poorer in 1960. In the subsequent panels, in addition to correlations, we present the coefficients from regressions controlling for (the logarithm of) 1960 per capita income. Panel B shows that countries with more interventionist governments also have higher government ownership of banks. Heavier regulation, higher frequency of price controls, heavier banking regulation, and higher black market exchange rate premiums are all associated with greater government ownership of banks, even controlling for initial per capita income. These correlations are high and statistically significant. At the same time, there is no relationship between the size of government, as measured by government consumption or government transfers and subsidies relative to GDP, and government bank ownership. This may be partly due to the fact that these measures of government spending are high in developed market economies, which generally have both big and good government (LLSV 1999). Finally, the evidence shows that government ownership of banks is lower in countries that have wider political rights or are more democratic. Social as well as economic interventionism is associated with higher government ownership of banks.

Panel C considers government efficiency, which is related to interventionism but is not necessarily the same thing. Countries with less efficient governments have greater government ownership of banks. Higher tax compliance, higher bureaucratic quality, and lower corruption are

all associated with lower government ownership of banks. The corruption index is not statistically significant in a regression controlling for income, but other variables are.

Panel D focuses on the security of property rights. The first three variables -- the property rights index, rule of law, and the likelihood of government repudiation of contracts -- all show that countries with greater security of property rights have lower GB. This result is consistent with Gerschenkron's emphasis on poor protection of property rights in Russia as the reason why government participation in financial markets was necessary. There is also weak evidence that countries with higher LLSV (1998) indices of shareholder and creditor rights have lower government ownership of banks.

Panel E examines the relationship between government ownership of banks and measures of the importance of state owned enterprises (SOEs) in the economy, including an index of their prevalence as well as measures of relative output, investment, and employment of SOEs. Not surprisingly, countries with greater roles of SOEs in the economy also have higher government ownership of banks. Perhaps a more interesting question is how the government ownership of large banks compares to the measures of the importance of SOEs. Figures 1 and 2 present the relevant plots. On average, government ownership of banks is higher than the measures of the relative size of the SOEs in the economy. The numbers presented here are not, however, directly comparable, since we do not consider the smaller banks, where government ownership may be lower.

Panel F examines the relationship between government ownership of banks and measures of financial, particularly banking, development. Our preferred measures of banking development follow Beck, Levine, and Loayza (2000). These authors choose and defend theoretically three

variables: credit by financial intermediaries to the private sector relative to GDP, liquid liabilities of the financial system relative to GDP, and a ratio of commercial bank domestic assets to commercial plus central bank domestic assets. We also agree with Beck et al. that the first of these measures is theoretically the most satisfactory. For the period starting in 1970, we have further measures of financial development: the ratio of quasi-liquid liabilities to GDP, the ratio of domestic credit to the banking sector to GDP, and the ratio of claims on the private sector to GDP. The data on the first three variables in Panel F are for 1960, and on the second three for 1970 (in which case we control for 1970 log per capita GDP in the regressions.)

The data in Panel F show negative correlations between these measures of financial development and government ownership of banks, though the results are only occasionally significant. This evidence is consistent with both the development view that the government steps in to help in the underdeveloped financial systems, and the political view that the government displaces private financial institutions when it politicizes resource allocation.

Finally, in Panel G we examine the question of whether government ownership of banks is associated with economic and political instability, as measured by inflation, the incidence of political crises and coups, as well as the incidence and depth of banking crises. The data on banking crises pertain to the period 1970-1990. Here causality is a particularly thorny issue, since government ownership may be a cause of instability because of politicized lending, but may also be a response to instability through nationalizations. Ironically, except for some weak evidence that countries with higher inflation have higher government ownership of banks, the association between such ownership and the available measures of instability is weak. This may be because of the timing problems in the data. Alternatively, such factors as the general interventionist stance of

the government, its efficiency, and the security of property rights may be more important correlates of government bank ownership than are the assorted crises.

We have redone this analysis using the pre- rather than post-privatization measure of government ownership of banks. The results are extremely similar both in terms of the coefficients and in terms of the patterns of statistical significance. In our growth analyses in the following sections, we use GBBP, since it stands a better chance of being predetermined relative to the growth experiences we study. Recall that the correlation between GB and GBBP is .78.

The evidence in this section is consistent with both the development and the political views of government ownership of banks. Countries with high government ownership of banks are indeed more backward and more statist: they are poorer, have more interventionist and less efficient governments, as well as less secure property rights. There is weak evidence that countries with less developed financial systems have higher government ownership of banks. Are these interventionist and inefficient governments able to step in and, through their ownership of banks, jump start the financial system and accelerate development, consistent with the development view? Alternatively, do such governments simply politicize resource allocation without much benefit to growth, consistent with the political view? In the next two sections, we attempt to address these questions.

IV. Does government ownership of banks speed up financial development?

Gerschenkron suggests that the government, by participating in the financial sector, can encourage the subsequent development of private lending, as it evidently did in Russia at the end of the 19th century. The government may help to develop the institutions of lending such as

standardized contracts or specialized courts, show by example that long term lending is possible and profitable, or simply subsidize private banks. In this section, we consider the growth of the measures of financial development introduced in Panel F of Table 3 as a function of initial levels of financial development and per capita income as well as of our measure of pre-privatization government ownership of banks.

The results are presented in Table 4. The first panel considers the growth in Beck, Levine and Loayza's (2000) measures of financial development between 1960 and 1995 as a function of 1960 initial conditions and GBBP; note that we have extended their sample to cover 89 countries. The second panel considers the growth in all six measures of financial development between 1970 and 1995 as a function of 1970 conditions and GBBP. Two results stand out in this Table. First, the initial level of financial development is negatively correlated with its own subsequent growth. This may be a statistical artefact, or simply reflect some convergence in financial development. Second, government ownership of banks *ceteris paribus* reduces subsequent financial development. Using growth since 1960, this effect is only statistically significant at the 10 percent level for our preferred variable -- the growth in the ratio of private credit to GDP. However, for the post-1970 period, this effect has some statistical significance for 4 out of 6 measures of financial development.

These results are inconsistent with the development view of government ownership of banks. They are, however, consistent with the political view.

V. Does Government Ownership of Banks Speed Up Economic Growth?

In this section, we examine the effects of government ownership of banks on capital

accumulation, savings, and productivity growth.

Table 5 presents growth regressions for the periods 1960-1995 and 1970-1995, where the dependent variable is the growth in per capita income. In Panel A, we include only the initial per capita income and GBBP. The results confirm the standard “convergence” finding, namely that initially poorer countries grow faster (Barro 1991). In addition, for both time periods, higher GBBP is associated with statistically significantly slower economic growth. A parameter estimate of around -2.5 suggests that, as ownership rises by 10 percentage points, growth falls by .25 percent per annum -- by no means a small effect. Although this result requires a number of qualifications and robustness checks, taken up below, on its face it does not support the development view that government participation in finance promotes economic development.

In Panel B, we control for average years of schooling, as is standard in growth regressions. The coefficient on GBBP falls by about 20%, but remains statistically significant. In Panel C, we add alternatively the three measures of initial financial development from Beck, Levine and Loayza (2000). For two out of three measures, including the initial private credit relative to GDP, the initial level of financial development exerts a positive influence on future growth, consistent with the work of Levine and his co-authors. Yet holding initial financial and economic development as well as schooling constant, GBBP continues to exert a large and statistically significant negative effect on subsequent growth. The coefficient remains between -1.5 and -2. Controlling for the traditional variables in the growth regressions, government ownership of banks has a negative impact on subsequent economic growth.

One concern with these specifications is that GBBP may simply proxy for some alternative measure of distortionary economic policies or poorly protected property rights. These policies,

rather than government ownership of banks per se, may retard economic growth (Knack and Keefer 1995). After all, we have already shown that government ownership of banks is more prevalent in countries with interventionist and inefficient governments, as well as poorly protected property rights. In Table 6, we include some of the standard measures of government intervention, using to the extent possible the earliest data available so that we can interpret these variables as having a possible causal effect on growth. The inclusion of some of these variables may spuriously reduce the effect of GBBP. In all these regressions, we include initial private credit relative to GDP, initial economic development, average years of schooling, as well as a number of geographic controls to address the spurious correlation issue.

Measures of government distortions do not eliminate the statistical significance of the effect of GBBP on subsequent growth. The coefficient stays at around -1.5 indicating a large effect on growth. In contrast, the distortions we measure do not themselves have statistically significant effects on future growth when included in the regression with GBBP.

Following Beck, Levine and Loayza (2000), we next consider specific channels through which government ownership of banks can influence economic growth. Panel A of Table 7 focuses on savings and capital accumulation. There is some evidence that initial per capita income exerts a negative influence on capital accumulation, and a positive influence on savings. There is also evidence that higher years of schooling are associated with higher capital accumulation. Finally, there is some unsurprising evidence that greater initial financial development is associated with faster subsequent capital accumulation, consistent with Beck et al.(2000). However, there does not appear to be much evidence that government ownership of banks has a significant influence on either capital accumulation or savings. The tiny positive (but insignificant) effect of

government ownership of banks on savings provides mild support for the development view, although the increased savings -- to the extent that there are any -- do not seem to go into capital formation.

Panel B of Table 7 focuses on the growth in productivity. Following Beck, Levine and Loayza (2000), we consider three measures of productivity growth (see Table 1 for exact definitions). The first measure derives productivity growth as output growth adjusted for capital accumulation. The second and third measures also adjust output growth estimates by the growth of human capital. We have been able to expand the Beck et al. sample from 61 to 77 countries for their first two measures of productivity growth, but not for the third one, since the data needed for the last productivity measure were not available for the extra countries. As in the various specifications, we also use the controls introduced earlier.

The results on productivity growth are striking. GBBP exerts a negative and, in most specifications, statistically significant effect on future productivity growth, even controlling for initial financial development and schooling. The coefficients, depending on the specification, are between -1 and -2, indicating that a 10 percentage point higher measure of government ownership is associated with .1 to .2 percent per annum lower rate of productivity growth. The bottom line of these results is that productivity is the place where government ownership of banks negatively impacts growth.

This evidence is broadly consistent with the political view according to which government ownership creates resource misallocations that are detrimental to productivity growth and ultimately economic growth itself. The evidence on resource misallocation is also consistent with Sapienza's (1999) findings for Italian banks, as well as with a large literature on state firms.

Finally, the data support Young's (1995) interpretation of Asian growth. The evidence is not, however, consistent with the development view of the beneficial effects of government ownership of banks on productivity growth.

Table 8 presents some additional tests of the political theory, by asking what effects government ownership of banks has on two rough proxies of the efficiency of resource allocation. First, does the share of private credit that goes to firms outside the top 20 depend on government ownership of banks? If that share is lower when GBBP is higher, it may suggest that when a government controls banks it allocates a lion share of the credit to the largest firms, thereby depriving the smaller firms of credit. Second, is the spread between the lending and the deposit rate increasing with government ownership of banks? If it is, government ownership may reduce the efficiency of the banking sector itself.

Table 8 shows that countries with higher GBBP allocate a lower share of private credit to firms outside the top 20. Countries with a higher GBBP also have higher markups in the banking sector. This evidence is consistent with the view that government ownership of banks is associated with a misallocation of resources in the economy.

One possible concern about our growth analysis is the endogeneity of government ownership of banks. We have presented in Table 3 some evidence indicating that financial and economic crises do not appear to be good predictors of government ownership. But there remains a concern that some deeper structural factors both cause government ownership of banks and slow down the growth of productivity and output. Although there is no perfect way to address this concern, we can try to address it in part by using instrumental variables to predict government ownership of banks. As instruments, we use the variables that have been introduced

in our earlier work (LLSV 1997, 1998, 1999), and have been previously used in a similar context by Beck, Levine and Loayza, namely legal origins and religious compositions of the populations in different countries. These variables have the advantage of being historically predetermined, correlated with government ownership of banks (see Table 2), and possibly uncorrelated with the residual.

Table 9 presents the results of these instrumental variable regressions for the growth of income, growth of capital, savings rates, and productivity growth, using various control variables. In most specifications, the instrumental variable results are similar to the OLS results, although the magnitude of the coefficients on GBBP in some instances increases sharply. The predicted component of GBBP exerts a sharp negative effect on both the growth in income and the growth in productivity, although not on capital accumulation and savings. In some productivity specifications, the coefficient rises by a factor of 3 from its OLS levels, implying very large effects on productivity growth. The last column in Table 9 presents the results of Lagrange Multiplier tests of the null hypothesis that our instruments are uncorrelated with the residuals. The tests do not reject the null hypothesis that the instruments are appropriate at the 5 percent or the 1 percent significance levels. The instrumental variable results corroborate our earlier findings and support the political view of government ownership of banks as detrimental rather than helpful to economic development. There always remains a possibility, however, that some omitted factor both increases the desirable level of government ownership of banks and reduces economic growth.

Finally, Table 10 presents a somewhat different perspective on the development thesis. In principle, it could be argued that the benefits of government ownership of banks appear only in

backward countries with extremely poorly developed economic, financial, and property rights regimes. By grouping all countries into a regression, we may have failed to test this theory correctly. In Table 10, we reproduce some of our analyses by dividing the sample into the relatively rich and relatively poor countries as of 1960, relatively financially developed and relatively financially underdeveloped countries as of 1960, and countries with good and poor protection of property rights, for which an assessment is only available for the 1990s. The results do not support the development thesis: GBBP has a particularly adverse effect on the growth of income in the more backward countries, namely those with lower initial income, lower initial financial development, and weaker property rights protection. In the more advanced countries, the effect of GBBP on growth is still negative but often statistically insignificant. Perhaps the richer countries can get around the distortions associated with heavy government involvement in the financial sphere, whereas the more backward countries cannot, and pay with a sharply lower rate of growth of output and productivity.

VI. Conclusion.

In this paper, we investigated a neglected aspect of financial systems of many countries around the world: government ownership of banks. The data shed light on four issues. First, government ownership of banks is large and pervasive around the world. Second, such ownership is larger in countries with low levels of per capita income, underdeveloped financial systems, interventionist and inefficient governments, and poor protection of property rights. Third, government ownership of banks is associated with slower subsequent financial development. Finally, government ownership of banks is associated with lower subsequent growth of per capita

income, and in particular with lower productivity growth rather than slower factor accumulation. These retarding effects of government ownership of banks appear to be especially significant in the less developed countries.

Some aspects of the empirical story are consistent with the 1960s development economics view that government ownership of banks may arise as a response to institutional and financial underdevelopment. However, the results reject the optimistic assessment inherent in this view of the beneficial consequences of such ownership for subsequent development, advanced by Gerschenkron (1962), Myrdal (1968) and others. In contrast, the results are consistent with the political view of government ownership of firms, including banks, according to which such ownership politicizes the resource allocation process and reduces efficiency. Ultimately, and in line with the latter theories, government ownership of banks retards financial and economic development, especially in poor countries.

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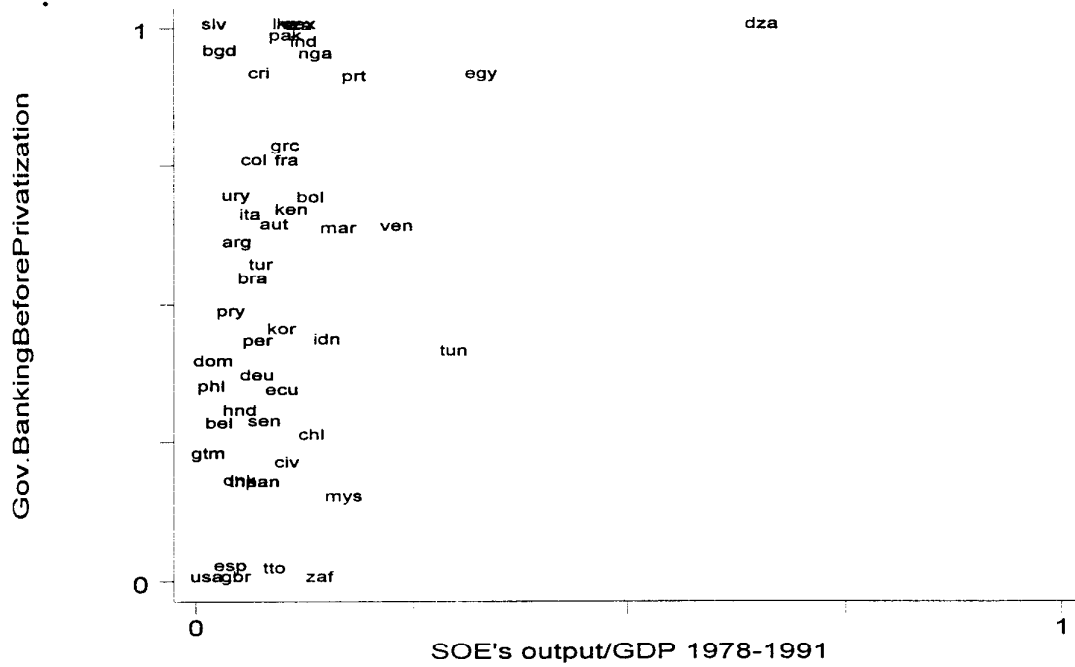


Figure 1: Government Banking and SOEs' Output

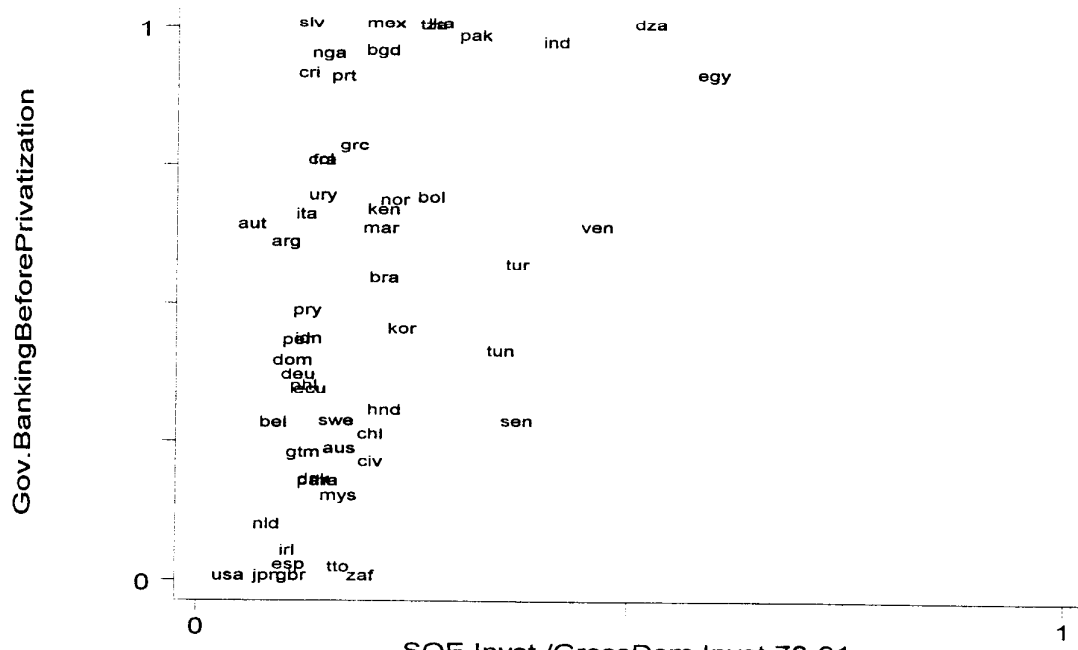


Figure 2: Government Banking and SOEs' Investment

Table 1
Description of the variables

Variable name	Description and source	Number of observations
<i>Government banking</i>		
Government ownership of banks [GB]	Share of the assets of the top 10 banks in a given country owned by the government of that country in 1995. The percentage of the assets owned by the government in a given bank is calculated by multiplying the share of each shareholder in that bank by the share the government owns in that shareholder, and then summing the resulting shares. <i>Source: Authors calculations based on various sources described in Appendix A.</i>	92
Government ownership of banks before privatization [GBBP]	Share of the assets of the top 10 banks in a given country owned by the government of that country in 1985. Used as a proxy for the percentage of banking assets owned by the government before the privatizations in the 1960s and 1970s. The percentage of assets owned by the government in a given bank is calculated following the same methodology outlined for GB. <i>Source: Authors calculations based on various sources described in the Appendix A.</i>	92
Government ownership of banks at 20% [GB20]	Share of assets of the top 10 banks in a given country controlled by the government at the 20 percent level in 1995. A bank is controlled by the government if GB is larger than 20 percent and the state is the largest shareholder. <i>Source: Authors calculations based on various sources described in the Appendix A.</i>	92
Government ownership of banks at 50% [GB50]	Share of the assets of the top 10 banks in a given country controlled by the government at the 50 percent level in 1995. Government ownership at the 50 percent level is defined as the government having at least 50 percent ownership. The percentage of assets owned by the government in a given bank is calculated following the same methodology outlined for GB. <i>Source: Authors calculations based on various sources described in the Appendix A.</i>	92
Government ownership of banks at 90% [GB90]	Share of the assets of the top 10 banks in a given country controlled by the government at the 90 percent level in 1995. Government ownership at the 90 percent level is defined as the government having at least 90 percent ownership. The percentage of assets owned by the government in a given bank is calculated following the same methodology outlined for GB. <i>Source: Authors calculations based on various sources described in the Appendix A.</i>	92
Government ownership of development banks [GBD]	Share of the assets of the top 10 banks in a given country owned by the government and reported to be development banks in 1995. The percentage of assets owned by the government is calculated following the same methodology outlined for GB. <i>Source: Authors calculations based on various sources described in the Appendix A.</i>	92
Government ownership of Commercial banks [GBC]	Same definition as GB except that it excludes development banks from the calculation of both government ownership and total assets of the top 10 banks in a given country. <i>Source: Authors calculations based on various sources described in the Appendix A.</i>	92
Government ownership of commercial banks before privatization [GBBPC]	Same definition as GBBP except that it excludes development banks from the calculation of both government ownership and total assets of the top 10 banks in a given country. <i>Source: Authors calculations based on various sources described in the Appendix A.</i>	92
<i>Initial level of development</i>		
Log of GDP per capita	Logarithm of GDP per capita expressed in current US dollars in 1960 and in 1970. <i>Source: International Financial Statistics and World Bank Indicators.</i>	91 (1960) 92 (1970)
<i>Government intervention</i>		
Business regulation index	An index of regulation policies related to opening a business and keeping open a business (on a scale from 1 to 5). A high score indicates that regulations are straight-forward and applied uniformly to all businesses and that regulations are less of a burden to business. The score refers to the index in 1997. <i>Source: 1997 Index of Economic Freedom.</i>	87
Frequency of price controls index	An index of frequency of price controls imposed by the government that interfere with the freedom of buyers and sellers to undertake exchanges even though the terms of trade are mutually agreeable. Indicates the extent to which companies can set prices freely: 0=not at all, 10=very much so. Average of indices for 1989 and 1994, which are the only available. <i>Source: Economic Freedom of the World 1975-1995.</i>	74
Government intervention in the banking sector index	An index of the degree of openness of a country's banking system. Specifically, the index accounts for the following: how difficult it is to open domestic banks; how heavily regulated the banking system is; the degree of government influence over the allocation of credit; whether banks are free to provide customers with insurance, sell real estate, and invest in securities; and whether foreign banks are able to operate freely. The scale is from 1 to 5. A high score means that: there are very few restrictions on banks, that they can engage in all types of financial services, that governments controls few commercial banks and that there is no government deposit insurance. The score refers to the index in 1997. <i>Source: 1997 Index of Economic Freedom.</i>	87
Black market premium	Natural logarithm of 1 plus the average exchange rate black market premium measured for the 1960s and the 1980s <i>Source: Easterly and Levine (1997) and own calculations.</i>	90 (1960s) 75 (1980s)

Variable name	Description and source	Number of observations
Government consumption / GDP	Government consumption expenditures as a percentage of GDP (scale from 0 to 100). Average for the years 1971-1995. Government consumption expenditures “include all spending on goods and services purchased by the government -things like national defense, road maintenance, wages and salaries, office space, and government owned vehicles. Since it is obtained from the national income accounts, it includes all levels of government spending. It does not include direct transfers and subsidies since these do not enter into the national income accounts”. <i>Source: Economic Freedom of the World, 1975-1995 (with data from the World Bank and the International Monetary Fund).</i>	87
Transfers and subsidies / GDP	Total government transfers and subsidies as a percentage of GDP (scale from 0 to 100). Average for the years 1974-1994. <i>Source: Economic Freedom of the World, 1975-1995 (with data from the World Bank and the International Monetary Fund).</i>	70
Top marginal tax rate	The top marginal tax rate imposed by the government on high income levels. Average of the 1975-1995 period. <i>Source: Economic Freedom of the World, 1975-1995.</i>	54
Index of government intervention in the economy 1975	A composite index constructed from all the government intervention measures in <i>Economic Freedom of the World</i> : government consumption to GDP, SOE in the economy index, frequency of price controls index, entry regulation index, legal system (equality of citizens under the law and access to non-discriminatory judiciary), government intervention and regulation causing negative interest rates. Scale ranging from 0 to 10, 10 indicating minimal or no government intervention. <i>Source: Economic Freedom of the World, 1975-1995.</i>	52
Index of Liberty 1980s	Index calculated following principal component techniques for a set of 15 liberty indicators including: foreign exchange regime, military draft freedom, freedom of property, freedom of movement, freedom of information, civil rights freedom, economic systems, freedom of print media, freedom of broadcast media, freedom to travel domestically, freedom to travel abroad, freedom to peaceful assembly, no permit required to work, public search without warrant, and arbitrary seizure of property. Different years for the different indicators, all of them for the 1980s. <i>Source: Rating Global Economic Freedom, 1992.</i>	82
Political rights index	Index of political rights. Higher ratings indicate countries that come closer “to the ideals suggested by the checklist questions of: (1) free and fair elections; (2) those elected rule; (3) there are competitive parties or other competitive political groupings; (4) the opposition has an important role and power; and (5) the entities have self determination or a very high degree of autonomy”. <i>Source: Freedom House, 1996.</i>	91
Democracy index	Average of democracy score for the period 1970-1994. Scale from 0 to 10, with lower values indicating a less democratic environment. <i>Source: Polity III: Regime Type and Political Authority, 1800-1994.</i>	90
<i>Government efficiency</i>		
Tax compliance index	An index of the assessment of the level of tax compliance. Scale from 0 to 6, where higher scores indicate higher compliance. The score refers to the index in 1995. <i>Source: The Global Competitiveness Report 1996.</i>	47
Bureaucratic quality index	High scores indicate “autonomy from political pressure” and “strength and expertise to govern without drastic changes in policy or interruption in government services”. Scale from 0 to 10, with higher score indicating greater efficiency. Average of the month of April and October of the monthly index between 1982 and 1995. <i>Source: International Country Risk Guide, 1996.</i>	86
Corruption index	An index of corruption in government. Scale from 0 to 10. Low ratings indicate “high government officials are likely to demand special payments” and “illegal payments are generally expected throughout lower levels of government” in the form of “bribes connected with import and export licenses, exchange controls, tax assessment, policy protection, or loans.” Average of the months of April and October of the monthly index between 1982 and 1995. <i>Source: International Country Risk Guide, 1996.</i>	86
<i>Property rights</i>		
Property rights index	An index of property rights in each country (on a scale from 1 to 5). The more protection private property receives, the higher the score. The score is based, broadly, on the degree of legal protection of private property, the extent to which the government protects and enforces laws that protect private property, the probability that the government will expropriate private property, and the country’s legal protection to private property. <i>Source: Freedom House, 1996.</i>	90
Rule of law index	Assessment of the law and order tradition in the country produced by the country-risk rating agency <i>International Country Risk Guide</i> . Average of the month of April and October of the monthly index between 1982 and 1995. Scale from 0 to 6. Lower scores indicate less tradition for law and order. <i>Source: International Country Risk Guide, 1996.</i>	86
Government repudiation of contracts index	An index of ICRG’s assessment of the “risk of a modification in a contract taking the form of a repudiation, postponement, or scaling down” due to “budget cutbacks, indigenization pressure, a change in government, or a change in government economic and social priorities.” Average of the months of April and October of the monthly index between 1982 and 1995. Scale from 0 to 10, with lower scores indicating higher risks. <i>Source: International Country Risk Guide, 1996.</i>	86

Variable name	Description and source	Number of observations
Anti-directors rights index	An index aggregating the shareholder rights. The index is formed by adding 1 when: (1) the country allows shareholders to mail their proxy vote to the firm; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting or proportional representation of minorities in the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10 percent (the sample median); or (6) shareholders have preemptive rights that can only be waived by a shareholders' vote. The index ranges from 0 to 6. <i>Source: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).</i>	49
Creditor rights index	An index aggregating different creditor rights. The index is formed by adding 1 when: (1) the country imposes restrictions, such as creditors' consent or minimum dividends to file for reorganization; (2) secured creditors are able to gain possession of their security once the reorganization petition has been approved (no automatic stay); (3) secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; and (4) the debtor does not retain the administration of its property pending the resolution of the reorganization. The index ranges from 0 to 4. <i>Source: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).</i>	47
<i>State owned enterprises</i>		
SOEs in the economy index	An index of the prevalence of State-owned enterprises as a share of the economy (scale from 0 to 10). Higher scores given to countries with less government-owned enterprises which are estimated to produce less of the country's output. As the estimated size and breadth of the SOE sector increases, countries are assigned lower ratings. Computed both for 1975 and as the average of 1975-1995. <i>Source: Economic Freedom of the World, 1975-1995.</i>	76
SOE output / GDP	SOE value added of all non-financial SOEs as percentage of total GDP of the economy at market prices. SOE value added is estimated as the sales revenue minus the cost of intermediate inputs, or as the sum of operating surplus (balance) and wage payments Average for the period 1978-1981. <i>Source: Bureaucrats in Business, The World Bank (1995).</i>	49
SOE investment / gross domestic investment	Investment (fixed capital formation) by all non-financial SOEs as a percentage of total gross domestic investment of the economy. Average for the period 1978-1991. <i>Source: Bureaucrats in Business, The World Bank (1995).</i>	55
Public sector employment / total employment	Average of the ratio of public sector employment in general government to total employment for the period 1976-1996. General government employment includes employment in "all government department offices, organizations and other bodies which are agencies or instruments of the central or local authorities whether accounted for or financed in, ordinary or extraordinary budgets or extra-budgetary funds. They are not solely engaged in administration but also in defense and public order, in the promotion of economic growth and in the provision of education, health, cultural and social services." <i>Source: Schiavio-Campo, de Tommaso and Mukherjee (1997).</i>	39
<i>Financial development</i>		
Private credit / GDP	Value of credits by deposit money banks and other financial institutions to the private sector divided by GDP. It excludes credit issues by the central bank, credit to the public sector and cross-claims of one of the group of intermediaries to another. The variable is constructed following the methodology of Beck, Levine and Loayza (2000) based on data from the International Financial Statistics. Private credit is calculated using lines 22d and 42d, GDP uses line 99b, and CPI comes from line 64 and the monthly statistics from the IFS database. For most countries, the data is available for the period 1960-1995. <i>Source: International Financial Statistics database and Beck, Levine and Loayza (2000).</i>	90
Liquid liabilities / GDP	Liquid liabilities of the financial system (currency plus demand and interest-bearing liabilities of the banks and non-banks financial intermediaries) divided by GDP. The variable is constructed following the methodology of Beck, Levine and Loayza (2000) based on data from the International Financial Statistics. Liquid liabilities is calculated using line 55l (liquid liabilities) or line 35l (money plus quasi money), if liquid liabilities is not available. If none of these two numbers are available, we use line 25 (time and saving deposits). Data for GDP uses line 99b, and data for CPI comes from line 64 and the monthly statistics from the IFS database. For most countries, the data is available for the period 1960-1995. <i>Source: International Financial Statistics database and Beck, Levine and Loayza (2000).</i>	89
Commercial bank assets / total bank assets	It is the ratio of commercial bank domestic assets divided by commercial banks domestic assets plus central bank domestic assets. The variable is constructed following the methodology of Beck, Levine and Loayza (2000). Based on data from the International Financial Statistics using lines 22a-d for the assets of deposit money banks, and lines 12a-d for the assets of the central bank. For most countries, the data is available for the period 1960-1995. <i>Source: International Financial Statistics database and Beck, Levine Loayza (2000).</i>	90
Claims on the private sector / GDP	Claims on the private sector as a percentage of GDP. Claims on the private sector refers to financial resources provided to the private sector --such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable-- that establish a claim for repayment. For a few countries these claims include credit to public enterprises when it is not available separately. Claims on the private sector include gross credit from the financial system to individuals, enterprises, nonfinancial public entities not included under net domestic credit, and financial institutions not included elsewhere. The data comes from line 32d of the International Financial Statistics. For most countries, the data is available for the period 1970-1995. <i>Source: World Development Indicators based on data from the International Financial Statistics.</i>	89
Quasi-liquid liabilities / GDP	Quasi-liquid liabilities as a percentage of GDP. Quasi-liquid liabilities are the sum of currency deposits in the central bank (M0), plus time and saving deposits, foreign currency transferable deposits, certificates of deposit, and securities repurchase agreements, plus travelers checks, foreign currency time deposits, commercial paper, and shares of mutual funds or market funds held by residents. They equal the M3 money supply less transferable deposit and electronic currency (M1). For most countries, the data is available for the period 1970-1995. <i>Source: World Development Indicators based on data from the International Financial Statistics.</i>	87

Variable name	Description and source	Number of observations
Domestic credit provided by banking sector / GDP	Domestic credit provided by the banking sector as a percentage of GDP. Domestic credit provided by the banking sector includes all credit to various sectors on a gross basis, with the exception of credit to the central government, which is net. The banking sector includes monetary authorities and deposit money banks, as well as other banking institutions where data are available (including institutions that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other banking institutions are savings and mortgage loan institutions and building and loan associations. Data for domestic credit comes from lines 32an, 32b, 32c, 32d, 32f and 32g of the International Financial Statistics. For most countries, the data is available for the period 1970-1995. <i>Source: World Development Indicators based on data from the International Financial Statistics.</i>	90
Interest rate spread	Interest rate charged by banks on loans to prime customers minus the interest rate paid by commercial or similar banks for demand, time or saving deposits. For most countries, the data is available for the period 1970-1995. <i>Source: World Development Indicators.</i>	59
Private claims-claims of top 20 / GDP	Total private claims in the country minus the claims of the top 20 firms in each country as a proportion of GNP in the period 1992-1994. <i>Source: World Scope Database (1996) and International Financial Statistics.</i>	32
<i>Crisis and instability</i>		
Log of inflation	Logarithm of the geometric average annual growth rate of the implicit price deflator for the time period 1970-1993. <i>Source: World Development Report 1995.</i>	68
Major government crisis	Any rapidly developing situation that threatens to bring the downfall of the present regime - excluding situations of revolt aimed at such overthrow. The data covers the 1960s, 1970s, and 1980s. <i>Source: Easterly and Levine (1997).</i>	75
Coups d'etat	The number of extraconstitutional or forced changes in the top government elite and/or its effective control of the nation's power structure in a given year. Unsuccessful coups are not counted. The data covers the 1960s, 1970s, and 1980s. <i>Source: Easterly and Levine (1997).</i>	75
Banking crisis dummy	Dummy variable equal to 1 if the country had a banking crisis in the period between 1970 and 1995. <i>Source: data constructed by the authors based on Caprio and Klingeliel (1996).</i>	92
Bank assets affected by crises	Percentage of financial or banking system assets affected by the crisis. The variable is set equal to 0 if the country did not have a banking crisis in the period between 1970 and 1995. <i>Source: data constructed by the authors based on Caprio and Klingeliel (1996).</i>	70
Bank nationalizations in crisis	Dummy variable equal to 1 if as a result of the banking crisis in the period between 1970 and 1995 the government nationalized any commercial banks. <i>Source: data constructed by the authors based on Caprio and Klingeliel (1996).</i>	64
Bank liquidation in crisis	Dummy variable equal to 1 if as a result of the banking crisis in the period between 1970 and 1995 the government liquidated some state owned banks or if some banks of the private sector were liquidated. <i>Source: data constructed by the authors based on Caprio and Klingeliel (1996).</i>	63
<i>Growth</i>		
GDP per capita growth, 1960-1995	The annual rate of GDP per capita growth for the period 1960-1995. Because of the short period for which there is data available, the variable is not constructed for those countries in our sample which emerged as a result of a breakup of another country (i.e. Czech Republic, Slovak Republic, Croatia, Slovenia, Russia and Kazakhstan). <i>Source: International Financial Statistics database and Beck, Levine and Loayza (2000).</i>	86
GNP per capita growth, 1970-1995	The annual rate of GNP per capita growth for the period 1970- 1995. Because of the short period for which there is data available, the variable is not constructed for those countries in our sample which emerged as a result of a breakup of another country (i.e. Czech Republic, Slovak Republic, Croatia, Slovenia, Russia and Kazakhstan). <i>Source: World Bank Indicators (1997).</i>	85
Physical capital per capita growth	The annual rate of physical capital per capita growth for the period 1960-1995 and the period 1970-1995. Because of the short period for which there is data available, the variable is not constructed for those countries in our sample which emerged as a result of a breakup of another country (i.e. Czech Republic, Slovak Republic, Croatia, Slovenia, Russia and Kazakhstan). The variable is constructed following Beck, Levine and Loayza (2000). <i>Source: International Financial Statistics and Beck, Levine and Loayza (2000).</i>	71
Savings / GDP	Index of total gross domestic savings as a percentage of GDP for the period 1960-1992. Gross domestic savings are calculated as the difference between GDP and total consumption. <i>Source: World Tables 1995.</i>	76
Productivity growth 1	The annual rate of total factor productivity per capita growth. Because of the short period for which there is data available, the variable is not constructed for those countries in our sample which emerged as a result of a breakup of another country (i.e. Czech Republic, Slovak Republic, Croatia, Slovenia, Russia and Kazakhstan). The variable is constructed following Beck, Levine and Loayza (2000). Productivity per capita growth equals the growth of GDP per capita minus 0.3 times the growth of physical capital per capita. <i>Source: International Financial Statistics database and Beck, Levine and Loayza (2000).</i>	71

Variable name	Description and source	Number of observations
Productivity growth 2	The annual rate of productivity of per capita growth considering human capital accumulation as proposed by Mankiw (1995). Because of the short period for which there is data available, the variable is not constructed for those countries in our sample which emerged as a result of a breakup of another country (i.e. Czech Republic, Slovak Republic, Croatia, Slovenia, Russia and Kazakhstan). The variable is constructed following the methodology suggested in Beck, Levine and Loayza (2000). Productivity per capita growth equals the growth of GDP per capita minus 0.3 times the growth of physical capital per capita, minus 0.5 times the average growth rate in years of schooling. <i>Source: International Financial Statistics database and Beck, Levine and Loayza (2000).</i>	63
Productivity growth 3	The annual rate of productivity of per capita growth considering human capital accumulation as proposed by Hall and Jones (1998). Because of the short period for which there is data available, the variable is not constructed for those countries in our sample which emerged as a result of a breakup of another country (i.e. Czech Republic, Slovak Republic, Croatia, Slovenia, Russia and Kazakhstan). The variable is constructed following Beck, Levine and Loayza (2000). Productivity per capita growth equals the growth of GDP per capita minus 0.3 times the growth of physical capital per capita, minus 0.7 times the product of the average number of years of schooling and the return to schooling estimated in a Mincerian wage regression (Mincer 1974) all divided by 0.7. Formally, productivity growth 3 = [GDP per capita growth - 0.3*Physical capital per capita growth - 0.7*(Years of Schooling*the return to schooling)]/0.7. <i>Source: International Financial Statistics and Beck, Levine and Loayza (2000).</i>	61
Average years of schooling	Average of years of schooling for the total population aged 15 and over for the period 1960-1990 and 1970-1990. <i>Source: Barro and Lee (1996).</i>	89
<i>Other variables</i>		
Legal origin	Identifies the legal origin of the Company Law or Commercial Code of each country. There are five possible origins: (1) English Common Law; (2) French Commercial Code; (3) German Commercial Code; (4) Scandinavian Commercial Code; (5) Socialist/Communist Laws. <i>Source: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and (1999).</i>	92
High inflation dummy	Equals 1 if the average rate of inflation during the period 1970-1995 exceeds 20% and 0 otherwise. <i>Source: World Bank Indicators 1997.</i>	92
Latitude	The absolute value of the latitude of the country, scaled to take values between 0 and 1. <i>Source: CIA Factbook.</i>	92

Table 2

The prevalence of government ownership of banks

Panel A of the table shows the data of government ownership of banks for all the 92 countries in the sample. The countries are classified according to the legal origin of their commercial laws. Panel B of the table shows the results of tests of means across legal origins.

<i>Panel A: Means by legal origin</i>					
Country	Share of the assets of the top 10 banks owned or controlled by the government				
	GB	GBBP	GB20	GB50	GB90
Australia	12.33	22.97	20.99	20.99	
Bahrain	7.34	7.34	3.40	3.40	3.40
Bangladesh	95.00	95.00	100.00	100.00	89.79
Canada	0.00	0.00	0.00	0.00	0.00
Cyprus	0.00	0.00	0.00	0.00	0.00
Hong Kong	0.00	0.00	0.00	0.00	0.00
India	84.94	96.60	100.00	94.61	59.61
Ireland	4.48	4.48	4.50	4.50	4.50
Israel	64.64	64.64	79.81	82.25	0.00
Kenya	29.94	66.32	48.74	22.30	8.57
Malaysia	9.93	14.46	9.93	9.93	9.94
New Zealand	0.00	23.45	0.00	0.00	0.00
Nigeria	9.91	94.49	13.05	7.82	7.82
Pakistan	85.96	97.75	97.75	80.10	80.10
Saudi Arabia	29.10	29.10	43.30	22.14	22.14
Singapore	22.40	22.41	37.72	14.62	10.20
South Africa	0.00	0.00	0.00	0.00	0.00
Sri Lanka	71.39	100.00	76.29	68.64	68.64
Tanzania	94.95	99.72	95.22	95.23	93.94
Thailand	17.09	17.09	21.78	21.78	0.00
Trinidad and Tobago	1.54	1.54	1.54	1.54	1.54
United Arab Emirates	41.93	41.93	37.08	59.11	9.81
United Kingdom	0.00	0.00	0.00	0.00	0.00
United States	0.00	0.00	0.00	0.00	0.00
Zimbabwe	30.04	30.04	49.69	29.75	7.05
English origin average	28.52	37.17	33.63	29.55	19.22
Afghanistan	100.00	100.00	100.00	100.00	100.00
Algeria	99.96	99.96	99.96	99.96	99.96
Argentina	60.50	60.50	60.50	60.50	60.50
Belgium	27.59	27.59	22.29	22.29	16.64
Bolivia	18.48	68.48	17.70	17.70	17.70
Brazil	31.70	53.93	56.89	23.22	14.23
Chile	19.72	25.53	19.72	19.73	19.73
Colombia	53.92	75.15	52.47	52.47	52.47
Costa Rica	90.92	90.92	90.92	90.92	90.92
Cote d'Ivoire	20.60	20.60	20.46	15.96	13.56
Dominican Republic	38.93	38.93	38.93	38.93	38.93
Ecuador	40.61	33.78	40.61	40.61	40.61
El Salvador	26.43	100.00	39.03	39.03	13.90
Egypt	88.62	90.89	96.02	86.32	80.87
France	17.26	75.09	26.18	22.42	4.91
Greece	77.82	77.82	85.47	84.09	68.65
Guatemala	22.20	22.20	22.20	22.19	22.19
Honduras	29.90	29.90	29.90	29.90	29.90
Indonesia	42.90	42.90	42.90	42.90	42.90
Iran	100.00	100.00	100.00	100.00	100.00
Iraq	93.77	93.77	93.77	93.77	93.77
Italy	35.95	65.44	27.81	27.81	16.61
Jordan	26.03	26.03	28.96	28.96	21.61
Kuwait	32.84	32.84	46.19	31.67	18.43
Lebanon	7.18	7.18	7.40	7.40	7.40
Lybia	95.12	95.12	100.00	100.00	73.11

Share of the assets of the top 10 banks owned or controlled by the government

Country	GB	GBBP	GB20	GB50	GB90
Mexico	35.62	100.00	35.62	35.62	35.62
Morocco	37.90	62.99	50.89	42.23	24.03
Netherlands	9.20	9.20	10.30	10.30	6.67
Nicaragua	63.36	100.00	63.36	63.36	63.36
Oman	25.84	25.84	27.27	27.27	24.16
Panama	17.08	17.08	17.08	17.08	17.08
Paraguay	48.02	48.02	48.02	48.02	48.02
Peru	26.46	42.66	23.87	23.87	23.87
Philippines	27.23	34.41	34.41	34.42	17.69
Portugal	25.66	90.38	23.73	23.73	23.73
Qatar	33.74	33.74	58.87	8.61	8.61
Senegal	27.98	27.98	36.68	21.86	19.73
Spain	1.98	1.98	6.83	0.00	0.00
Syria	100.00	100.00	100.00	100.00	100.00
Tunisia	37.42	40.82	82.12	36.67	2.54
Turkey	56.46	56.46	55.90	55.90	55.90
Uruguay	68.79	68.79	68.79	68.79	68.79
Venezuela	57.98	63.36	63.36	53.41	53.41
French origin average	45.45	56.32	49.40	44.77	39.83
Austria	50.36	63.66	70.17	70.17	0.00
Germany	36.36	36.36	37.47	37.47	29.86
Japan	0.00	0.00	0.00	0.00	0.00
South Korea	25.41	44.70	41.56	21.64	13.16
Switzerland	13.35	13.35	14.92	14.92	10.37
Taiwan	76.51	80.87	100.00	100.00	47.84
German origin average	33.67	39.82	44.02	40.70	16.87
Denmark	8.87	17.37	10.60	8.87	8.87
Finland	30.65	30.65	30.65	30.65	30.65
Iceland	71.34	71.34	71.34	71.34	71.33
Norway	50.45	67.99	88.25	65.67	15.80
Sweden	23.20	27.89	29.61	29.61	12.07
Scandinavian origin average	36.90	43.05	46.09	41.23	27.74
Bulgaria	85.68	100.00	92.31	92.31	72.61
China	99.45	100.00	100.00	99.07	99.07
Croatia	1.04	100.00	1.29	0.00	0.00
Czech Republic	52.00	100.00	75.44	50.45	9.58
Hungary	36.56	100.00	82.50	14.64	0.03
Kazakhstan	56.13	100.00	80.72	44.76	44.76
Poland	84.29	100.00	94.16	83.19	76.13
Romania	62.68	100.00	87.77	87.77	24.61
Russia	32.98	100.00	49.90	49.90	13.18
Slovakia	73.93	100.00	89.57	82.77	57.52
Slovenia	57.29	100.00	57.29	57.29	57.29
Vietnam	99.06	100.00	99.06	99.06	99.06
Socialist origin average	61.76	100.00	75.83	63.43	46.15
Average with socialist	41.74	55.01	48.03	42.61	32.90
Average without socialist	38.74	48.27	43.86	39.49	30.92

Panel B: Test of means (t-statistics)

English vs. French	-2.20 ^b	-2.24 ^b	-1.94 ^c	-1.89 ^c	-2.65 ^a
English vs. German	-0.34	-0.15	-0.61	-0.67	0.17
English vs. Scandinav.	-0.52	-0.32	-0.69	-0.68	-0.57
English vs. Socialist	-2.92 ^a	-8.05 ^a	-3.47 ^a	-2.76 ^a	-2.32 ^b
French vs. German	0.94	1.22	0.40	0.30	1.76
French vs. Scandinav.	0.63	0.92	0.23	0.25	0.83
French vs. Socialist	-1.73 ^c	-9.35 ^a	-2.79 ^a	-1.87 ^c	-0.60
German vs. Scandinav.	-0.20	-0.19	-0.09	-0.02	-0.81
German vs. Socialist	-1.96 ^c	-4.87 ^a	-2.05 ^c	-1.32	-1.83 ^c
Scandinav. vs. Socialist	-1.67	-5.12 ^a	-1.90 ^c	-1.33	-1.01

a=Significant at 1% level; b= Significant at 5% level ; c=Significant at 10% level

Table 2B

Development banks and the prevalence of government ownership of banks

Panel A of the table shows the average of government ownership of banks by legal origin. Panel B of the table shows the results of tests of means across legal origins.

<i>Panel A: Means by legal origin</i>					
Country	Share of assets of the top banks owned or controlled by the government				
	GBD	GB	GBC	GBBP	GBBPC
	Development banks owned by the government		Commercial banks owned by the government after privatization		Commercial banks owned by the government before privatization
English origin average	4.36	28.52	27.04	37.17	36.76
French origin average	7.45	45.45	39.91	56.33	50.38
German origin average	2.19	33.67	31.78	39.82	38.43
Scandinavian origin average	1.11	36.90	36.36	43.05	42.52
Socialist origin average	2.87	61.76	60.80	100.00	100.00
Average with socialist	5.33	41.74	38.44	55.01	51.95
Average without socialist	5.70	38.74	35.06	48.27	44.74

<i>Panel B: Test of means (t-statistics)</i>					
English vs. French	-1.36	-2.20 ^b	-1.56	-2.24 ^b	-1.48
English vs. German	-0.73	-0.34	-0.32	-0.16	-0.10
English vs. Scandinav.	1.06	-0.53	-0.59	-0.32	-0.32
English vs. Socialist	-0.65	-2.93 ^a	-2.98	-8.06 ^a	-5.54 ^a
French vs. German	1.25	0.94	0.58	1.23	0.79
French vs. Scandinav.	1.39	0.63	0.23	0.92	0.48
French vs. Socialist	1.50	-1.73 ^c	-2.02 ^b	-9.36 ^a	-4.82 ^a
German vs. Scandinav.	-0.43	-0.21	-0.29	-0.19	-0.25
German vs. Socialist	-0.23	-1.97 ^c	1.99 ^c	-7.12 ^a	7.30 ^a
Scandinav. vs. Socialist	0.63	1.67	1.63	-5.12 ^a	8.45 ^a

a=Significant at 1% level; b= Significant at 5% level ; c=Significant at 10% level

Table 3
Which countries have more government ownership of commercial banks?

The first column shows the correlation between each variable and the extent of government ownership of commercial banks in 1995. The second column shows the coefficients and their significance resulting from ordinary least squares regressions of the cross-section of countries. The independent variables are classified into five different groups: (i) initial level of development; (ii) government intervention; (iii) government efficiency; (iv) property rights; (v) state owned enterprises; (vi) initial level of financial development; (vii) crisis and instability . Each regression controls for the log of GDP per capita in 1960. Robust standard errors are shown in parentheses.

<i>Independent variables</i>	<i>Dependent variable: GB</i>		Number of observations
	Raw correlations	Regression coefficients	
<i>Panel A: Initial level of development</i>			
Log of GDP per capita in 1960	-0.3525 ^a	-0.1119 ^a (0.0302)	91
<i>Panel B: Government intervention</i>			
Business regulation index	-0.4448 ^a	-0.1279 ^a (0.0376)	87
Frequency of price controls index	-0.5019 ^a	-0.0563 ^a (0.0162)	74
Government intervention in the banking sector	-0.5148 ^a	-0.1558 ^a (0.0273)	87
Black market premium 1980s	0.5205 ^a	0.2910 ^a (0.0835)	75
Government consumption/GDP	0.1023	-0.2232 (1.2317)	87
Transfers and subsidies/GDP	-0.0550	0.0111 ^b (0.0053)	70
Political rights index	-0.3404 ^b	-0.0339 ^c (0.0170)	90
Democracy score	-0.3566 ^b	-0.0183 ^b (0.0087)	90
<i>Panel C: Government efficiency</i>			
Tax compliance	-0.4880 ^a	-0.1161 ^a (0.0358)	47
Bureaucratic quality index	-0.4441 ^a	-0.0444 ^a (0.0138)	85
Corruption index	-0.2934 ^c	-0.0172 (0.0176)	85
<i>Panel D: Property rights</i>			
Property rights index	-0.5283 ^a	-0.1397 ^a (0.0301)	89
Rule of law index	-0.3136 ^c	-0.0338 (0.0261)	85
Government repudiation of contracts index	-0.4315 ^a	-0.0574 ^a (0.0180)	85
Antidirectors rights index	-0.2570	-0.0481 ^c (0.0258)	49
Creditors rights index	-0.1220	-0.0062 (0.0255)	47
<i>Panel E: State owned enterprises</i>			
SOEs in the economy index	-0.4612 ^a	-0.0557 ^a (0.0123)	76
SOE output/GDP	0.3511	0.0083 ^a (0.0027)	49
SOE investment/gross domestic investment	0.5491 ^a	0.0118 ^a (0.0022)	55

<i>Dependent variable: GB</i>			
<i>Independent variables</i>	Raw correlations	Regression coefficients	Number of observations
SOE employment/employment	0.2548	1.0363 ^c (0.6080)	40
<i>Panel F: Initial level of financial development</i>			
Private credit/GDP in 1960	-0.2330	-0.1751 (0.1520)	89
Liquid liabilities/ GDP in 1960	-0.2468	-0.1891 ^c (0.1093)	88
Commercial bank assets/total bank assets in 1960	-0.2679	-0.2154 (0.1726)	89
Quasi-liquid liabilities/GDP in 1970	-0.3757 ^a	-0.0041 ^a (0.0012)	87
Domestic credit by the banking sector /GDP in 1970	-0.1474	-0.0007 (0.0012)	90
Claims on the private sector /GDP in 1970	-0.0969	-0.5438 ^c [0.3193]	89
<i>Panel G: Crisis and instability</i>			
Log of inflation	0.2196	0.4536 ^c (0.2708)	68
Major government crises	-0.1262	-0.0560 (0.0493)	75
Number of coups d'etat	0.0648	-0.0082 (0.2875)	75
Banking crisis dummy	0.0533	-0.0409 (0.0629)	91
Bank assets affected by crises	0.2031	0.2216 (0.1400)	69
Bank nationalizations in crisis dummy	-0.0345	-0.0514 (0.0999)	63
Bank liquidations during crisis dummy	-0.0801	-0.1299 (0.0988)	62

a=Significant at 1% level; b=Significant at 5% level; c=Significant at 10% level.

Table 4
Government banking and financial development

Ordinary least square (OLS) regressions for the cross-section of countries. The dependent variables are the growth of various financial development measures. All variables are defined in Table 1. Robust standard errors are shown in parenthesis.

<i>Independent variables</i>	<i>Dependent variables</i>					
	Growth of private credit / GDP	Growth of liquid liabilities / GDP	Growth of commercial bank assets / total bank assets	Growth of claims on private sector /GDP	Growth of quasi-liquid liabilities/ GDP	Growth of domestic credit /GDP
<i>Panel A: Annual growth rates 1960-1995</i>						
GBBP	-0.0939 ^c (0.0475)	-0.0136 (0.0197)	-0.0099 (0.0075)			
Private credit / GDP in 1960	-0.0583 ^c (0.0345)					
Liquid liabilities/GDP in 1960		-0.0895 ^c (0.0451)				
Commercial bank assets / total bank assets in 1960			-0.0721 ^a (0.0173)			
Log GDP per capita in 1960	0.0203 (0.0182)	0.0039 (0.0093)	0.0024 (0.0026)			
Intercept	-0.0522 (0.1096)	0.0402 (0.0551)	0.0518 ^b (0.0218)			
Number of observations	89	88	89			
Adjusted R ²	0.07	0.07	0.37			
<i>Panel B: Annual growth rates 1970-1995</i>						
GBBP	-0.0545 ^b (0.0268)	-0.0067 (0.0175)	-0.0065 (0.0076)	-0.0766 ^b (0.0303)	-0.0180 ^c (0.0103)	-0.0680 ^b (0.0297)
Private credit / GDP in 1970	-0.0386 (0.0232)					
Liquid liabilities/GDP in 1970		-0.0826 ^c (0.0418)				
Commercial bank assets / total bank assets in 1970			-0.0490 ^c (0.0259)			
Claims on the private sector / GDP in 1970				-0.0007 ^b (0.0303)		
Quasi liabilities / GDP in 1970					-0.0007 ^a (0.0001)	
Domestic credit / GDP in 1970						-0.0009 ^a (0.0003)
Log GDP per capita in 1970	0.0149 (0.0128)	0.0076 (0.0065)	0.0023 (0.0019)	-0.0082 (0.0077)	-0.0062 ^b (0.0026)	0.0045 (0.0065)
Intercept	-0.0626 (0.1013)	0.0161 (0.0489)	0.0289 (0.0197)	0.1377 (0.0543)	0.1041 ^a (0.0220)	0.0586 (0.0536)
Number of observations	90	89	89	89	87	90
Adjusted R ²	0.07	0.19	0.11	0.14	0.29	0.24

a= Significant at 1% level; b= Significant at 5% level; c= Significant at 10% level.

Table 5
Simple growth regressions

Ordinary least squares (OLS) regressions of the cross-section of countries. The dependent variables are: (1) The average annual growth rate of GDP per capita for 1960-1995; and (2) the average annual growth rate of GNP per capita for 1970-1995. The independent variables are described in Table 1. Robust standard errors are shown in parenthesis.

<i>Dependent variables</i>	<i>Independent variables</i>							Adj. R ² [N]
	GBBP	Initial log of GDP per capita	Initial private credit/GDP	Initial liquid-liabilities/GDP	Initial commercial bank assets/total bank assets	Average years of schooling	Intercept	
<i>Panel A: Controls for initial development levels</i>								
GDP per capita growth 1960-95	-2.4864 ^a (0.7630)	-0.6924 ^b (0.3107)					7.0599 ^a (1.9992)	0.1370 [85]
GNP per capita growth 1970-95	-2.5366 ^a (0.8400)	-0.6836 ^a (0.2080)					7.8414 ^a (1.9001)	0.1475 [85]
<i>Panel B: Controls for initial development levels and average years of schooling</i>								
GDP per capita growth 1960-95	-2.2161 ^a (0.6715)	-1.5215 ^a (0.3283)				0.5525 ^a (0.1267)	8.9747 ^a (1.6568)	0.3289 [85]
GNP per capita growth 1970-95	-2.0236 ^a (0.6835)	-1.0340 ^a (0.2244)				0.4233 ^a (0.1154)	8.0036 ^a (1.6265)	0.2645 [84]
<i>Panel C: Controls for initial development and initial financial development and average levels of schooling</i>								
GDP per capita growth 1960-95	-1.8537 ^a (0.6744)	-1.7011 ^a (0.2890)	3.2812 ^a (1.0478)			0.5045 ^a (0.1170)	9.2660 ^a (1.5235)	0.4161 [83]
GNP per capita growth 1970-95	-1.5099 ^b (0.6700)	-1.1934 ^a (0.2046)	3.7304 ^a (0.8608)			0.3543 ^a (0.1048)	8.1922 ^a (1.4779)	0.3718 [83]
GDP per capita growth 1960-95	-1.7912 ^b (0.7090)	-1.5913 ^a (0.3122)		2.1111 ^a (0.7992)		0.5127 ^a (0.1268)	8.6833 ^a (1.6452)	0.3772 [83]
GNP per capita growth 1970-95	-1.7121 ^b (0.6699)	-1.1418 ^a (0.2154)		3.4698 ^a (1.0179)		0.3206 ^a (0.1096)	7.9364 ^a (1.5934)	0.3604 [83]
GDP per capita growth 1960-95	-2.0317 ^a (0.7560)	-1.5312 ^a (0.3684)			0.3750 (1.2289)	0.5604 ^a (0.1358)	8.5987 ^a (1.7732)	0.3097 [83]
GNP per capita growth 1970-95	-1.5459 ^b (0.7398)	-1.1397 ^a (0.2581)			2.0754 (1.5696)	0.4463 ^a (0.1240)	6.7457 ^a (1.6271)	0.2684 [82]

a=Significant at 1% level; b=Significant at 5% level; c=Significant at 10% level.

Table 6
Growth results with different combination of controls

Ordinary Least Square regressions of the cross-section of countries. The dependent variable is the average growth rate of GDP per capita for the period from 1960 to 1995. The independent variables are defined in Table 1. The regional dummies are for Africa, North America, South America, Europe, Oceania, Middle East and the rest of Asia. Robust standard errors are shown in parenthesis.

<i>Independent variables:</i>	<i>Dependent variable: Growth rate of GDP per capita 1960-1995</i>							
GBBP	-1.7455 ^b (0.7393)	-2.0481 ^a (0.7562)	-1.2338 (1.0179)	-1.6296 ^b (0.7960)	-1.7976 ^c (1.0016)	-1.3277 ^c (0.6830)	-1.5225 ^a (0.5487)	-1.3281 ^b (0.6185)
High inflation dummy 1970-1995	-0.7923 (0.6129)							
Black market premium 1960s		-0.3102 (0.5575)						
Index of government intervention in the economy 1975			-0.1973 (0.2136)					
Top marginal tax rate 1975				0.0205 (0.0194)				
Transfers and subsidies /GDP 1975					-0.0654 (0.1459)			
SOE in the economy index 1975						0.0298 (0.1025)		
SOE output / GDP 1978-91							0.0412 (0.0275)	
Index of Liberty 1980s								-0.0195 ^b (0.0088)
Latitude	-0.7293 (1.9165)	-0.4757 (1.9844)	-0.6414 (2.1916)	-0.7564 (2.3257)	-1.0889 (2.7995)	0.4568 (1.7836)	1.2722 (1.8387)	0.1754 (1.9102)
Log of GDP per capita in 1960	-1.6217 ^a (0.4041)	-1.5173 ^a (0.5070)	-0.6192 (0.5400)	-0.9503 ^c (0.4910)	-0.9439 (0.6659)	-0.6374 (0.4412)	-1.3635 ^a (0.4887)	-1.7058 ^a (0.4315)
Private credit/GDP in 1960	2.2747 ^b (1.0467)	2.1311 ^c (1.1331)	1.9111 (1.2526)	1.7097 ^c (1.0190)	1.5986 (1.0547)	1.1409 (0.9616)	3.2083 ^b (1.5475)	1.9837 ^c (1.1582)
Average schooling	0.4204 ^a (0.1531)	0.3320 ^b (0.1525)	0.1563 (0.1632)	0.2122 (0.1528)	0.1514 (0.1692)	0.2030 (0.1359)	0.2018 (0.1247)	0.3465 ^b (0.1527)
Intercept	10.6535 ^a (1.9631)	10.6179 ^a (2.4802)	8.1367 ^b (3.3687)	7.5708 ^a (2.2157)	9.1128 ^b (3.9865)	6.4360 ^a (2.0940)	8.9837 ^a (2.0698)	12.4030 ^a (2.3616)
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	83	82	52	54	52	73	49	81
Adjusted R ²	0.5190	0.4764	0.5475	0.5875	0.5620	0.4450	0.5462	0.5418

a= Significant at 1% level; b= Significant at 5% level; c= Significant at 10% level.

Table 7
Capital accumulation, productivity growth and government ownership of banks

Ordinary least square (OLS) regressions for the cross-section of countries. The dependent variables are: (1) the annual growth rate of physical capital per capita for the period 1960-1992; (2) the average of the savings to GDP ratio for the period 1960-1993; (3) the annual productivity per capita growth rate for the period 1960-1995 (Productivity growth 1); (4) the annual productivity per capita growth rate considering human capital accumulation, following Mankiw (1995) for the period 1960-1995 (Productivity growth 2); and (5) the annual productivity per capita growth rate considering human capital accumulation, following Hall and Jones (1998), for the period 1960-1995 (Productivity growth 3). The independent variables are defined in Table 1. Robust standard errors are shown in parenthesis.

<i>Dependent variables</i>	<i>Independent variables</i>					Adj. R ² [N]
	GBBP	Log of GDP per capita in 1960	Private credit / GDP in 1960	Average years of schooling,	Intercept	
<i>Panel A: Capital accumulation and savings rate</i>						
Physical capital per capita growth 0.5260	-0.5262 (0.9277)	-0.3814 (0.3454)			5.6024 ^b (2.4188)	0.0173 [77]
Savings / GDP	0.0360 (0.0278)	0.0383 ^a (0.0130)			0.0011 (0.0831)	0.1895 [76]
Physical capital per capita growth	0.1223 (0.9169)	-1.3036 ^a (0.4211)	3.0902 ^b (1.1795)	0.3920 ^b (0.1569)	7.9165 ^a (2.2806)	0.1561 [77]
Savings / GDP	0.0303 (0.0286)	0.0449 ^c (0.0231)	0.0383 (0.0612)	-0.0069 (0.0062)	-0.0103 (0.1074)	0.2122 [75]
<i>Panel B: Productivity growth</i>						
Productivity growth 1	-1.4555 ^b (0.5785)	-0.2745 (0.2118)			3.3554 ^b (1.3801)	0.0994 [77]
Productivity growth 2	-1.8944 ^a (0.6990)	-0.1292 (0.3282)			1.7094 (2.0459)	0.1155 [77]
Productivity growth 3	-1.7174 ^c (0.9335)	-0.2450 (0.2224)			3.2708 ^b (1.5862)	0.0792 [61]
Productivity growth 1	-0.9827 ^b (0.4615)	-0.9600 ^a (0.1993)	2.1721 ^a (0.7305)	0.2979 ^a (0.0784)	5.0781 ^a (0.9980)	0.3345 [77]
Productivity growth 2	-1.25791 ^b (0.4978)	-1.1744 ^a (0.3067)	2.1538 ^b (0.8421)	0.5150 ^a (0.0981)	4.3608 ^a (1.4231)	0.4565 [77]
Productivity growth 3	-1.1047 (0.7857)	-1.1912 ^a (0.3018)	2.7327 ^a (0.9651)	0.3421 ^a (0.1271)	5.9653 ^a (1.4725)	0.2637 [61]

a=Significant at 1% level; b=Significant at 5% level; c=Significant at 10% level.

Table 6
Evidence of distortions

Ordinary least squares regressions for the cross-section of countries. The exact definitions of all variables can be found in Table 1. The dependent variables are measured for 1995 or the most recent period for which information is available. Robust standard errors are shown in parenthesis.

<i>Dependent variables:</i>	<i>Independent variables</i>				Adjusted R2 [N]
	GBBP	Log GDP per capita in 1960	Private credit/GDP in 1960	Intercept	
Private claims-claims of top 20 / GDP	-0.3445 b (0.1553)	-0.0181 (0.0583)	0.6189 c (0.2938)	0.6091c (0.3413)	0.3734 [32]
Interest rate spread	24.3407a (8.3999)	4.2412 (4.1960)	-27.8036 c (14.6115)	-8.8076 (22.6723)	0.1716 [58]

a= Significant at 1% level; b= Significant at 5% level; c= Significant at 10% level.

Table 9
Instrumental variables: growth, capital accumulation and productivity growth

Instrumental variables (IV) regressions for the cross-section of countries in the sample. The first stage dependent variable is “Government ownership in banks before privatization (GBBP).” This variable is instrumented by dummy variables that reflect the legal origin of the country (Common law, French civil law, German civil law, Scandinavian civil law, and Socialist legal origin) and by variables that capture the percentage of the population in each country that belong to the largest religions in the world (protestant, catholic, muslim and the remaining religions grouped together). The second stage dependent variables are: (1) GDP per capita growth rate for 1960-1995; (2) GNP per capita growth rate for 1970-1995; (3) Physical capital per capita growth rate 1960-1995; (4) savings to GDP ratio for 1960-1992; (5) Productivity per capita growth rate 1 for 1960-1995; (6) Productivity per capita growth rate 2 for 1960-1995; and (7) Productivity per capita growth rate 3 for 1960-1995. Standard errors are shown in parenthesis. The last column shows the χ^2 results for a Hausman (1978) Lagrange Multiplier test. The null hypothesis is that the instruments used are not correlated with the residuals. Critical values of χ^2 for the L-M test (8 d.f.) are: 5 % = 15.5073; 1 % = 20.0902.

<i>Dependent variables</i>	<i>Independent variables</i>					N	LM-test χ^2
	GBBP	Log GDP per capita	Initial private credit/GDP	Average years of schooling	Intercept		
<i>Panel A: Economic growth</i>							
GDP per capita growth 1960-95	-4.7767 c (2.7001)	-1.3253 a (0.4263)	3.5597 a (1.2955)		11.0117 a (3.7746)	83	1.03
GDP per capita growth 1960-95	-2.6679 (2.3210)	-1.7822 a (0.3614)	3.1362 a (1.0822)	0.4912 a (0.1197)	10.2591 a (3.1266)	83	0.13
GNP per capita growth 1970-95	-3.5565 b (1.5208)	-1.0726 a (0.2355)	4.0194 a (1.2164)		10.1195 a (2.3326)	84	1.74
GNP per capita growth 1970-95	-2.3190 c (1.3195)	-1.2506 a (0.2231)	3.5137 a (1.0708)	0.3520 a (0.1084)	9.0508 a (1.9431)	83	0.52
<i>Panel B: Capital accumulation</i>							
Physical capital per capita growth	-2.7635 (2.4158)	-0.9615 b (0.4374)	2.7123 (1.6630)		9.4219 a (3.4730)	77	1.37
Physical capital per capita growth	-1.5536 (2.2312)	-1.4265 a (0.4580)	2.6641 c (1.5513)	0.3582 b (0.1686)	9.7417 a (3.1503)	77	0.55
Savings/GDP	0.0386 (0.0560)	0.0357 a (0.0121)	0.0273 (0.0539)		0.0072 c (0.0874)	75	0.02
Savings/GDP	0.0445 (0.0548)	0.0464 a (0.0135)	0.0391 (0.0540)	-0.0068 (0.0047)	-0.0269 (0.0867)	75	0.09
<i>Panel C: Productivity growth</i>							
Productivity growth 1	-4.6758 b (2.2642)	-0.8601 b (0.3331)	1.4714 (1.1690)		8.0041 a (2.9738)	77	2.54
Productivity growth 1	-3.1972 c (1.9477)	-1.1224 a (0.2803)	1.6091 a (0.9528)	0.2533 b (0.0997)	7.4898 a (2.4036)	77	1.21
Productivity growth 2	-6.6686 b (2.9877)	-0.8981 b (0.4395)	1.2107 (1.5425)		8.2628 b (3.9243)	77	2.99
Productivity growth 2	-3.8673 c (2.1795)	-1.3658 a (0.3137)	1.4903 (1.0662)	0.4623 a (0.1115)	7.2026 c (2.6896)	77	1.48
Productivity growth 3	-7.2304 b (3.2640)	-1.2660 b (0.5576)	1.6534 (1.6648)		11.3520 (4.5287)	61	3.40
Productivity growth 3	-5.3889 c (3.0233)	-1.4139 (0.4938)	1.9375 (1.4154)	0.1923 (0.1992)	10.2637 a (3.7038)	61	2.23

a=Significant at 1% level; b=Significant at 5% level; c=Significant at 10% level.

Table 10
Growth by groups of countries

Ordinary least square regressions (OLS) of different groups of countries classified according to country characteristics. The dependent variable in all regressions shown is the average annual growth of GDP per capita for the period 1960-1995. The independent variables are described in Table 1. The table has three panels corresponding to different classifications of the countries in the sample. Panel A divides the sample in those countries with initial GDP per capita in 1960 below the median and those above the median. Panel B divides the sample in those countries with initial level of financial development below and those above the median as measured by private credit as a proportion of GDP in 1960. Panel C divides the sample in those countries with property rights in the 1990s below the median and those above the median value for the sample.

<i>Dependent variable:</i> <i>growth rate of GDP per capita 1960-95</i>	<i>Independent variables:</i>					Adj. R2 [N]
	GBBP	Log GDP per capita 1960	Initial private credit/GDP	Average years of schooling	Intercept	
<i>Panel A: Countries ranked by initial level of economic development</i>						
Countries with Log GDP per capita in 1960 < median	-2.2328 c (1.2553)	-2.5290 a (0.8146)	3.5590 c (1.7563)	0.6290 c (0.3039)	13.0490 a (4.5905)	0.4399 [42]
Countries with Log GDP per capita in 1960 > median	-1.2970 c (0.7140)	-1.8264 a (0.4485)	3.0321 c (1.4800)	0.2933 b (0.1201)	11.5750 a	0.4884 [41]
<i>Panel B: Countries ranked by initial level of financial development</i>						
Countries with private credit/GDP per Capital in 1996 < median	-3.4856a (0.9432)	-2.0369 a (0.3486)	-6.6106 (7.0263)	0.7470 a (0.1742)	11.7581 a (1.8327)	0.5771 [41]
Countries with private credit/GDP per Capital in 1996 > median	-1.4294 (0.9430)	-1.1717 b (0.4560)	2.4402 b (1.1115)	0.2125 (0.1411)	8.1512 a (2.7431)	0.2706 [42]
<i>Panel C: Countries ranked by property rights index of the 1990s</i>						
Countries with property rights index < median	-2.6439 b (1.0577)	-2.4088 a (0.6468)	5.9947 a (1.4949)	0.6744 b (0.2766)	12.1181 a (3.3832)	0.4536 [37]
Countries with property rights index > median	-0.6025 (0.8916)	-1.7726 a (0.3647)	2.6081 a (0.9238)	0.3291 b (0.1395)	10.8791 a (2.2572)	0.4861 [44]

a=Significant at 1% level; b=Significant at 5% level; c=Significant at 10% level.

Appendix A

This appendix describes the data sources used to calculate government ownership of banks in each country.

<i>Country</i>	<i>Sources of ownership data</i>
Afghanistan	The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Algeria	Algerian Embassy. Jeune Afrique Economie N163, Special Banques, pg 79-88, Jan '93. The AED African Financial Directory, 1987, Middle East Economic Digest Limited, London, U.K. The Europa World Yearbook 1996, Europa Publications. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Argentina	America Economia, Latin America's Business Magazine, 500 Latin America's Largest Companies, Annual Edition 1995/96. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Australia	Annual Reports. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. World Scope Global Disclosure Inc. 1996.
Austria	Annual Reports. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Europa World Yearbook 1996, Europa Publications. World Scope Global Disclosure Inc. 1996.
Bahrain	Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. Telephonic Conversations. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Bangladesh	The Europa World Yearbook 1996, Europa Publications. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Belgium	Annual Reports. French Company Handbook 1996, Herald International Triune, SBF Paris Bourse, France. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Europa World Yearbook 1996, Europa Publications. World Scope Global Disclosure Inc. 1996.
Bolivia	Annual Reports. America Economia, Latin America's Business Magazine, 500 Latin America's Largest Companies, Annual Edition 1995/96. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Brazil	America Economia, Latin America's Business Magazine, 500 Latin America's Largest Companies, Annual Edition 1995/96. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.

<i>Country</i>	<i>Sources of ownership data</i>
Bulgaria	The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Canada	Annual Reports. Telephonic Conversations. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Chile	America Economia, Latin America's Business Magazine, 500 Latin America's Largest Companies, Annual Edition 1995/96. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
China	The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Colombia	America Economia, Latin America's Business Magazine, 500 Latin America's Largest Companies, Annual Edition 1995/96. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Costa Rica	The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Europa World Yearbook 1996, Europa Publications. Thomson Bank Directory 1996, Thomson Financial Publishing.
Cote D'Ivoire	Annual Reports. Faxed Information. Jeune Afrique Economie N163, Special Banques, pg 79-88, Jan '93. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Europa World Yearbook 1996, Europa Publications. Thomson Bank Directory 1996, Thomson Financial Publishing.
Croatia	The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Cyprus	The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Czech Republic	Essinger, James, <u>Eastern European Banking</u> , 1st Edition 1994, Published by Chapman & Hall, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Denmark	Annual Reports. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Dominican Republic	Hoover's Masterlist of Major Latin American Companies 1996-1997, The Reference Press, Tx, U.S.A. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Egypt	Annual Reports. Jeune Afrique Economie N163, Special Banques, pg 79-88, Jan '93. The AED African Financial Directory, 1987, Middle East Economic Digest Limited, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Europa World Yearbook 1996, Europa Publications.
El Salvador	Hoover's Masterlist of Major Latin American Companies 1996-1997, The Reference Press, Tx, U.S.A. Telephonic Conversations. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.

Country	Sources of ownership data
Finland	<p>Annual Reports. Electronic mail from the respective bank. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. Telephonic Conversations. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Europa World Yearbook 1996, Europa Publications. World Scope Global Disclosure Inc 1996.</p>
France	<p>Annual Reports. Telephonic Conversations. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. French Company Handbook 1996, Herald International Triune, SBF Paris Bourse. Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. World Scope Global Disclosure Inc 1996.</p>
Germany	<p>Annual Reports. Germany's Top 5,000, 1997 Edition, Frankfurter Allgemeine Zeitung Gmbh Information Services. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K.</p>
Greece	<p>Annual Reports. Telephonic Conversations. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.</p>
Guatemala	<p>Guia Bancaria Latinoamericana, 16th Edition 1996, Federacion Latinoamericana de Bancos, Bogota, Colombia. Hoover's Masterlist of Major Latin American Companies 1996-1997, The Reference Press, Tx, U.S.A. Thomson Bank Directory 1996, Thomson Financial Publishing.</p>
Honduras	<p>Hoover's Masterlist of Major Latin American Companies 1996-1997, The Reference Press, Tx, U.S.A. Telephonic Conversations. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.</p>
Hong Kong	<p>Annual Reports. Telephonic Conversations. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Asian Company Handbook, 1995/1996 Edition, Toyo Kenzai Inc., Tokyo, Japan . The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K.</p>
Hungary	<p>Essinger, James, <u>Eastern European Banking</u>, 1st Edition 1994, Published by Chapman & Hall, London, U.K. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.</p>
Iceland	<p>The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.</p>
India	<p>Bankers Handbook for Asia 1994-1995, Dataline Asia-Pacific Limited. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.</p>
Indonesia	<p>Annual Reports. The Europa World Yearbook 1996, Europa Publications. Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. World Scope Global Disclosure Inc 1996.</p>

<i>Country</i>	<i>Sources of ownership data</i>
Iran	The Europa World Yearbook 1996, Europa Publications. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Ireland	Annual Reports. Telephonic Conversations. Faxed Information. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. World Scope Global Disclosure Inc 1996. Financial Times' Companie Briefings, Internet .
Israel	Telephonic Conversations. Moody's International Company Data, Moody's Investors Service, 1994 Version, New York, U.S.A. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Italy	Annual Reports. Telephonic Conversations. Electronic Mail. Major Financial Institutions of Europe 1995/96, Graham & Whiteside. Financial Times' Companie Briefings, Internet. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Japan	Japan Company Handbook, Spring 1997, Toyo Kenzai Inc., Tokyo, Japan. The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K.
Jordan	The Euromoney Bank Register 1996, 11th Edition, Euromoney Publications, London, U.K. The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
Kazakhstan	The Banker's Almanac, January 1997 Edition, Reed Information Services, London, U.K. Thomson Bank Directory 1996, Thomson Financial Publishing.
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