

The Impact of Changes in Bank Ownership Structure on the Allocation of Capital

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ABSTRACT

A new wave of bank privatizations has significantly changed the ownership structure of banking systems around the world. This paper explores how these changes affect the efficiency of capital allocation. I show that the decline in government ownership of banks by itself does not have any impact on capital allocation efficiency. What matters, however, is whether foreigners or large domestic shareholders acquire the stakes relinquished by the government. Increases in domestic blockholder ownership of banks adversely affect the allocation of capital, while increased foreign presence improves capital allocation efficiency, especially in countries with good protection of minority shareholders. Finally, I find that increased foreign (domestic) blockholder presence has a positive (negative) impact on financial development.

1. Introduction

Over the past ten years, a new wave of bank privatizations has significantly altered bank ownership structure in many countries. While governments have reduced their ownership stakes in banks, foreigners, and, to a lesser extent, large domestic blockholders, including local companies and individuals, have stepped in. Given the importance of the banking sector in the capital allocation process (e.g. allocating resources to increase investments in growing industries), this paper examines whether these structural changes in the banking sector's ownership have a significant impact on capital allocation efficiency. Results show that increases in domestic blockholder ownership of banks have negative consequences for the allocation of capital, suggesting that these large domestic blockholders are taking over the stakes being relinquished by the government and pursuing their own interests, ignoring the interests of other stakeholders. In contrast, the increased presence of foreign banks appears to have a positive impact on the allocation of capital, although this effect is limited to countries with good shareholder protection. Furthermore, although the time period is too short to reveal its full impact, increased foreign presence in the banking sector appears to spur financial development and economic growth, while increased domestic blockholder presence reduces the availability of private credit in countries with poor protection of minority shareholders. Surprisingly, while prior findings document a negative impact of government ownership of banks on subsequent economic growth and financial development (Barth, Caprio and Levine, 2004; La Porta, Lopez-de-Silanes and Shleifer, 2002a), the widespread declines in government ownership of banks do not produce the expected positive impact on either financial development or economic growth.

Bank privatizations in the former socialist countries, including Romania, Bulgaria, Hungary, and Poland, have led the way in the latest wave of bank privatizations around the world. While privatizations in these countries have led to an increase in foreign ownership of banks, other countries such as Tanzania, Taiwan, and Norway have experienced significant increases in domestic blockholder ownership of banks. While the impact of privatization on bank performance has received a lot of attention recently,² the consequences of the resulting changes in bank ownership structure on capital allocation have yet to be explored. Specifically, no study has examined whether there is a link between the banking sector's ownership structure and the efficiency of capital allocation.³ In addition, the role of large domestic blockholders has been ignored in most studies of bank ownership⁴ (Claessens, Demirgüç-Kunt and Huizinga, 2001; Demirgüç-Kunt and Huizinga, 1999; Micco, Panizza and Yañez, 2004). Large domestic blockholders, after all, may significantly affect bank performance, and their increased presence may, in turn, have consequences for capital allocation efficiency. Yet, there is no documented evidence of this. This paper contributes to the existing literature by examining how the changes in bank ownership structure affect the efficiency of capital allocation, incorporating the role of large domestic blockholders into the analysis. Additionally, the impact of these changes in bank ownership structure on financial and economic development will be explored.⁵

² Clarke, Cull, and Shirley (2005), and Megginson (2005) provide good summaries of the existing literature on the effects of bank privatization on bank performance.

³ Beck and Levine (2002) explore whether having a bank or market-based system matters for capital allocation efficiency. They do not find any evidence that this matters.

⁴ Caprio, Laeven and Levine (2003) study the link between governance and bank valuation, and find that larger cash flow rights by the controlling owners boost valuation.

⁵ I acknowledge that the time period is too short to fully examine the impact of these ownership changes on macroeconomic variables.

While the ownership of firms has been a much studied topic in the finance literature (Berle and Means, 1932; Faccio and Lang, 2002; La Porta, Lopez-de-Silanes and Shleifer, 1999), the ownership of banks had received little attention until recently. Among other things, banks can play a crucial role in jump starting financial development by providing credit to institutions that would otherwise not be able to raise funds on their own. This process may be hindered if the owners of banks do not pursue socially and economically optimal objectives (e.g. government-owned banks may pursue political objectives). Given the importance of the banking sector as a means for financial development, ever since La Porta et al's (2002a) study about government ownership of banks, several papers have explored the role of bank ownership on bank performance. These studies have for the most part focused on two types of ownership: government and foreign, ignoring an important ownership type: large domestic blockholders.

Most of the literature on government ownership of banks documents the poor performance (i.e. lower profitability, poor asset quality) of state-owned banks vis-à-vis their private counterparts (Berger, Bonime, Goldberg and White, 2004; Berger, Clarke, Cull, Klapper and Udell, 2005; Micco, et al., 2004). In addition, government ownership of banks has been associated with slower future economic growth and financial development (Barth, et al., 2004; Galindo and Micco, 2004; La Porta, et al., 2002a). In contrast, the studies on foreign ownership of banks have generally documented a positive impact of foreign ownership on bank performance, particularly in developing countries (Bonin, Hasan and Wachtel, 2005; Claessens, et al., 2001; Micco, et al., 2004). Foreign bank presence also appears to improve the competitiveness of domestic banks (Claessens, Demirgüç-Kunt and Huizinga, 2001; Micco, Panizza and Yañez, 2004). The next section

provides a more in depth review of the existing literature on government and foreign ownership of banks.

A neglected aspect in the studies of bank ownership structure has been the role played by large domestic blockholders. Stockholders with large ownership stakes have an incentive to closely monitor a firm's performance, which can help alleviate the principal-agent problems that exist between managers and shareholders (Jensen and Meckling, 1976). Several studies of nonfinancial firms have shown positive correlations between firm value and cash-flow ownership of large shareholders (Claessens, Djankov, Fan and Lang, 2002; La Porta, Lopez-de-Silanes, Shleifer and Vishny, 2002b). There is one such study in the banking literature; Caprio, Laeven and Levine (2003) document that larger cash flow rights by controlling owners boost bank valuations. On the other hand, there are potential costs associated with the presence of large shareholders (Shleifer and Vishny, 1997). Large shareholders may pursue their own interests, ignoring the interests of other stakeholders. Consistent with this view, evidence has shown that firm value falls when control rights exceed the cash flow rights of large shareholders (Claessens, et al., 2002). This study provides evidence consistent with this negative (entrenchment) view. Increased presence of large domestic blockholders is associated with inefficient capital allocation and with slower financial development. This is consistent with the idea that through their ownership of banks, large domestic blockholders may direct funding to particular industries in which they (or their friends) have a vested interest in. Such actions prove to be detrimental to the efficiency of capital allocation.

The rest of this paper is organized as follows. Section 2 expands on the discussion on the existing literature on bank ownership. Section 3 describes the data and methodology used in the study. Section 4 describes the current state of bank ownership structure around the world, and explores the characteristics of countries that have experienced the most drastic changes in bank ownership structure. Section 5 explores the link between bank ownership structure and the allocation of capital. Section 6 briefly examines whether changes in bank ownership structure have an impact on financial and economic development. Section 7 concludes.

2. Literature Review

2.1. Empirical Evidence on Government Ownership of Banks

The existing literature on government ownership of banks has documented that this form of ownership was pervasive around the world as of 1995, is more prevalent in poorer countries (Barth, Caprio and Levine, 1999), and in countries with more interventionist and less efficient governments and less secure property rights (La Porta, et al., 2002a). The bulk of the evidence supports the *political view* of government ownership of banks, which argues that government control of banks politicizes resource allocation for the sake of advancing certain political agendas (e.g. obtaining votes, bribing office holders), and by pursuing such objectives, economic efficiency is hampered (Kornai, 1979; Shleifer and Vishny, 1994). Consistent with the political view, several papers document that government ownership of banks inhibits financial development and economic growth (Barth, et al., 2004; Galindo and Micco, 2004; La Porta, et al., 2002a). La Porta et al. (2002a) show that higher government ownership of banks in 1970 is associated with slower subsequent financial development and lower

economic growth. Barth et al. (2004) examine the relationship between state ownership and banking sector development measures. They find that government ownership of banks is negatively related to favorable banking outcomes, and positively related with corruption. Micco, Panizza, and Yañez (2006) and Sapienza (2004) provide further support for the political view. Micco et al. (2006) find that the difference in public and private banks' performance widens during election years, supporting the hypothesis that political considerations drive these results. Sapienza (2004) finds that lending behavior of state-owned banks in Italy is affected by electoral results of the party affiliated with the bank. In addition, Dinç (2005) shows that government-owned banks in emerging markets significantly increase their lending in election years relative to private banks. The author interprets this as evidence that politicians can reward their allies and punish their opponents through their influence on government-owned banks. Megginson (2005) has a more complete review of this literature.

Another well-documented finding is the poor performance of state-owned banks relative to their domestic or foreign-owned counterparts (Berger, Clarke, Cull, Klapper and Udell, 2005; Mian, 2006b; Micco, et al., 2004). Berger et al. (2005) use data from Argentina in the 1990s to analyze the static, selection, and dynamic effects of domestic, foreign, and state ownership on bank performance. They find that state-owned banks have poor long-term performance and that those banks undergoing privatization have poor performance beforehand, and dramatically improve their performance after privatization. Mian (2006b) studies 1,600 banks in 100 emerging markets and documents that government banks perform poorly and only survive due to government support. Micco et al. (2004) examine the relationship between bank ownership and bank

performance for banks in 119 countries. They find that in developing countries, state-owned banks have lower profitability, higher costs, higher employment ratios, and poorer asset quality than their domestic counterparts. With the exception of state-owned banks having higher costs than their domestic counterparts, they do not find evidence of significant differences between state and domestic private banks' performance in industrial countries. Cornett, Guo, Khaksari, and Tehranian (2003) examine the differences in performance between state-owned and private banks in 16 Far East countries between 1989 and 1998. They also find that state-owned banks are significantly less profitable, have lower capital ratios, greater credit risk, lower liquidity, and lower management efficiency.

The bulk of the evidence on state-ownership of banks suggests that it is associated with poor bank performance and with negative economic outcomes. There is little evidence supporting the more optimistic development view (Gerschenkron, 1962) of government ownership of financial institutions, which argues that governments can play a major role in the financial and economic development of countries in which economic institutions are not sufficiently developed. With this in mind, the vast reductions in government ownership of banks that have occurred over the past ten years should in theory be associated with positive consequences for economic growth and financial development. An intriguing finding in this paper is the failure to observe positive economic outcomes stemming from the reduction in government's stakes in banks; however, the short time period may be the reason why this is not observed.

2.2. Empirical Evidence on Foreign Ownership of Banks

While government ownership of banks is associated with poor bank performance, the bulk of the literature documents a positive impact of foreign ownership on bank performance. Barth et al. (2001) provide data on the share of banking assets held by foreign-controlled banks in 91 countries as of 1998. Foreign-controlled banks hold widely differing shares of assets across countries, but there is no obvious pattern based on level of development. The data show that foreign-controlled banks hold the largest shares in countries where the rule of law is well established, but where the financial sector is less developed. There is evidence that banks' size, efficiency and performance, and home country restrictions play a role in determining which banks expand abroad.

Several studies find a positive correlation between bank size and internationalization (Focarelli and Pozzolo, 2000; Grosse and Goldberg, 1991; Tschögl, 1983). Clarke, et al. (2003) provide a detailed summary of the evidence on foreign bank entry.

In terms of individual bank performance, Claessens et al. (2001) document that foreign banks are more profitable than their domestic counterparts in developing countries, but the opposite is true in developed markets. Demirgüç-Kunt and Huizinga (1999) study banks in 80 countries over the 1988-1995 period and find that foreign banks have higher margins and profits than domestic banks in developing countries, but the opposite is true for industrial countries. Micco et al. (2004) also document that foreign banks have higher profitability, lower costs, and lower employment ratios than their domestic counterparts in developing countries, although they exhibit higher non-performing loans than their private counterparts. Bonin et al. (2005) examine bank performance in six Eastern European transition economies and find that foreign banks are

more efficient in terms of cost and profit than domestic and state-controlled banks. They also find support for the importance of privatizing banks by selling them to strategic foreign investors. Banks privatized in such manner are more cost and profit efficient than state-owned banks. Majnoni, Shankar, and Varhegyi (2003) study the dynamics of foreign bank ownership in Hungary between 1994 and 2000 and find that foreign banks, while pursuing similar lending policies, achieve greater profitability than their domestic counterparts.

Overall, the evidence shows that in developing countries foreign banks are more efficient than their domestic counterparts, while the opposite is true for developed countries.

Several studies document the impact that foreign banks have on domestic banks. Micco et al. (2004) find that foreign bank presence is associated with increased competitiveness of the domestic banks (lower margins and lower overhead costs). Claessens, et al. (2001) show that foreign bank entry diminishes the profitability of domestic banks and reduces their non-interest income and overall expenses. When other factors are controlled for, high profits reflect a lack of competition, while high overhead costs, a lack of efficiency. They argue that their findings are consistent with foreign banks improving the efficiency of domestic banks. Unite and Sullivan (2003) study how foreign bank entry and foreign ownership of banks affect the banks in the Philippines. They show that foreign bank entry and penetration reduces interest spreads and operating expenses of domestic banks, making them more efficient. Barajas, Salazar, and Steiner (2000) show that foreign entry appears to improve the efficiency of Colombian domestic banks by reducing nonfinancial costs. They find that domestic and foreign entry

combined deteriorates the domestic banks' loan portfolios. Finally, Clarke, Cull, and Martínez-Peria (2001) find that foreign bank penetration improves access to credit. Enterprises in countries with larger foreign presence rate interest rates and access to long-term loans as smaller constraints on operations and growth than do enterprises in countries with less foreign presence.

More recently, Detragiache et al. (2006) develop a model that predicts that credit to the private sector should be lower in countries with more foreign bank penetration. They find support for their model's predictions using a sample of 89 low and lower middle income countries. Their results are explained by the "cream-skimming" argument. Foreign banks are better than domestic banks at monitoring "hard" information (e.g. accounting information, collateral value), but have a disadvantage in monitoring "soft" information (e.g. entrepreneurial ability). This leads foreign banks to lend to safer and more transparent customers (Mian, 2006a). Once these hard information customers are separated from the pool of other borrowers, the remaining soft information borrowers are left in a worse pool of borrowers, which causes them to either pay higher interest on their loans, or not borrow at all. This leads to an overall reduction in credit to the private sector.

In summary, the bulk of the evidence supports the view that foreign banks outperform their domestic counterparts and exert a positive influence on the competitiveness of domestic banks. There is mixed evidence as to whether foreign bank entry improves or reduces access to credit in the banking system. The impact that foreign bank presence has on capital allocation efficiency has not been adequately explored. This paper sheds some light on the latter and documents that increased foreign presence in the banking

sector improves capital allocation efficiency in countries with good protection of minority shareholders. This is consistent with Giannetti and Ongena (2007) who document that foreign presence can help mitigate connected lending problems and improve capital allocation. They study firms in Eastern European countries and document that foreign lending stimulates growth in firm sales and assets, and that it is the younger firms that benefit the most from foreign bank presence.

As described in this section, the literature on bank ownership focuses primarily on either state ownership or foreign ownership of banks. Only three of the papers discussed above look at state, foreign, and domestic ownership of banks. Berger, et al. (2005) examine the effects of domestic, foreign, and state ownership on bank performance. However, this paper is limited in scope, as it is a case study of Argentine banks, and it does not differentiate between domestic bank's ownership structures. This paper expands on Berger's study by using a more comprehensive data set covering 90 countries. Mian (2006b) examines the behavior of foreign, private domestic, and government banks in 100 emerging markets, and Micco et al. (2004) take a more comprehensive look at the role of bank ownership on performance. While they study the role of state, domestic, and foreign ownership of banks on bank performance, they also do not account for differences in domestic banks' ownership structure (closely-held and widely-held), and thus fail to explore the role played by large domestic shareholders. In addition, other than the studies on government ownership of banks (Barth, et al., 1999; La Porta, et al., 2002a), only one of the above studies (Detragiache, et al., 2006) examines the broader impact of bank ownership on economic outcomes, and that study is limited to studying the impact of foreign bank presence in poor countries. This paper expands on these

studies by analyzing how changes in the overall bank ownership structure (including the presence of large domestic blockholders) affect the efficiency of the allocation of capital. In addition, the impact of changes in bank ownership structure on financial and economic development is explored.

3. Data and Methodology

To analyze the role of bank ownership structure on financial and economic development, I follow La Porta et al.'s (2002a) strategy and use a hand-collected database on the ownership structure of the top 10 banks in 90 countries as of 1995, 2000, and 2005. This methodology provides adequate coverage of banking system assets.⁶ To determine the top 10 banks (commercial and development banks) from each country I use various sources, including Bureau Van Dijk's Bankscope,⁷ Accuity's The Global Banking Resource (TGBR), The Bankers' Almanac, and Thomson Bank Directory. Ownership information is also obtained from the aforementioned sources as well as from Mergent Online and individual bank websites and annual reports. These sources provide measures of cash flow ownership. The extent of domestic, government, or foreign blockholder control of a bank may exceed their respective equity ownership (e.g. via golden shares). Following La Porta et al. (La Porta, et al., 2002a), I use various alternate ownership measures that attempt to indirectly capture control of banks. These measures classify banks as domestic private, government, or foreign-owned when their equity ownership exceeds certain thresholds.

⁶ The top ten banks give adequate coverage of the banking system assets. On average, the top ten banks' assets represent 88% of the total commercial banks' assets as of 2005. The lowest coverage is for Japan, in which the top ten banks' assets represent 51% of the assets of all commercial banks.

⁷ I thank Jose F. Alvarez, and Banco Sabadell's management for providing access to the data.

The measures of financial development used in this study are the same ones introduced by Beck, Levine, and Loayza (2000b) and subsequently updated in Beck, Demirgüç-Kunt, and Levine (2000a). The updated measures were obtained from Ross Levine's website. Finally, I follow Wurgler's (2000) approach to measure the efficiency of capital allocation using data on value added and gross fixed capital formation from UNIDO's Industrial Statistics database (2006). The other variables used in the study will be described as they come up during the analysis.

Given the consolidations in the banking industries of several countries as well as data availability issues, some countries in the sample have less than 10 banks.⁸ All countries in the sample have at least four banks with available ownership information, with the exception of Iraq (with only two banks as of 1995).⁹ The final 2005, 2000, and 1995 sample includes 873, 860, and 798 banks, respectively, from 90 countries. The sample of countries in this paper is similar to the sample of 92 countries used in (La Porta, et al., 2002a).¹⁰ The differences are due to data availability issues.

To construct the ownership variables, I follow La Porta et al.'s (2002a) methodology.¹¹ The first measure identifies large domestic blockholder ownership of banks. A large domestic blockholder is any domestic shareholder (a company, or an individual) owning more than 10 percent of the shares in a bank. I use the 10 percent

⁸ For example, while ten commercial banks are identified for Singapore as of 1995, mergers and acquisitions reduce this number to 8 and 6 as of 2000 and 2005, respectively. As a robustness test, I replicate the main results excluding all countries that don't have information for all top 10 banks.

⁹ This does not represent a big problem, given that the Iraqi banking sector was state-owned as of 1995.

¹⁰ My sample does not include Afghanistan, Ecuador, Syria, and Iceland, which are part of the La Porta et al. (2002) paper. In addition, my sample includes two countries that are not included in their study: FYR Macedonia, and Macau. My sample differs from La Porta et al.'s due to data availability issues.

¹¹ While La Porta et al. (2002) constructed government ownership measures, I construct private, and foreign ownership measures following their methodology.

threshold following La Porta et al. (1999).¹² I first calculate the total share of each bank that is owned by large domestic blockholders (DB_i) as follows:

$$1) \quad DB_{ik} = \sum_{j=1}^J s_{j_d,i}; \quad \text{where } s_{j_d,i} > 0.1.$$

where $s_{j_d,i}$ is the share of bank i , owned by shareholder j (a domestic shareholder); DB_{ik} is the total share of bank i in country k that is owned by large domestic blockholders. For country k , the total domestic blockholders' stake in the top ten banks (DB_k) is computed by multiplying DB_{ik} of each bank by the bank's total assets (TA), summing this number across all banks in a country, and dividing by the total assets of the top 10 banks.

$$2) \quad DB_k = \frac{\sum_{i=1}^{10} DB_{ik} TA_{ik}}{\sum_{i=1}^{10} TA_{ik}}$$

DB_k is thus the share of total assets of the top 10 banks in each country that is owned by large domestic blockholders. Given that domestic blockholder control of a bank may exceed equity ownership, the next set of variables classifies banks as controlled by domestic blockholders if the domestic blockholders' equity stake exceeds a minimum threshold.

The next set of variables (DC10, DC20, DC50, DC90) attempt to capture the extent of domestic blockholder control of the top ten banks, where control is defined using different thresholds (10%, 20%, 50%, and 90%). Using the 10% threshold, a bank is classified as being owned by a large domestic blockholder if the largest shareholder

¹² As robustness tests, I also construct measures of domestic blockholder ownership of banks using a 5%, and a 3% threshold to define a large domestic blockholder. Results are unchanged when these alternate measures are used.

owning more than 10% of the shares is a local company or individual. To compute DC10, the assets of those banks classified as large domestic blockholder-owned using this definition are added together and divided by the total assets of the top 10 banks in a country. The other measures (DC20, DC50, and DC90) are constructed in similar fashion, using the respective thresholds. All of these ownership measures are highly correlated.¹³ To conserve space, I will only present the results using the DB measure in the remainder of the paper, following La Porta et al. (2002). The results are unchanged when any of the other measures are used.

I also follow La Porta et al. (2002) in constructing the government ownership variables (GB, GC10, GC20, GC50, and GC90). The first variable, GB, is the share of the assets of the top ten banks that is owned by the government. It is computed as follows:

$$3) \quad GB_{ik} = \sum_{j=1}^J s_{ji} s_{gj}$$

where $k=1\dots 90$ indexes the 90 countries in the sample, $j=1\dots J$ indexes the banks' shareholders, $i=1\dots 10$ indexes the 10 largest banks in the country, s_{ji} is the share of bank i that is owned by shareholder j , and s_{gj} is the share of shareholder j that is owned by the government, and GB_{ik} is the total government's share in bank i in country k .¹⁴ There are several regional development banks (owned by various governments and private owners) in the sample, and some of these banks have stakes in various banks. Following La Porta et al. (2002a), the equity ownership in the regional bank by the local government is

¹³For 1995 (2005), the correlation between DB and PC10 is 0.91 (0.89); the correlation between DB and PC20 is 0.94 (0.93); the correlation between DB and PC50 is 0.93 (0.92), and the correlation between DB and PC90 is 0.86 (0.87).

¹⁴ If a bank's shareholder was a nonfinancial institution, various sources were used to determine that shareholder's ownership structure. These sources included Mergent Online, as well as company websites.

estimated as the proportion of the bank's assets that are in the country. The government's ownership stake in the top ten banks (GB) is computed by multiplying each bank's government stake (GB_{ik}) by its total assets (TA_i) and dividing by the sum of the total assets of the top ten banks in the country:

$$4) \quad GB_k = \frac{\sum_{i=1}^{10} GB_{ik} TA_{ik}}{\sum_{i=1}^{10} TA_{ik}}$$

The second variable, GC10 captures the extent of government control of the top ten banks in the country at the 10% threshold. A bank is classified as government-owned if the government's share, GB_{ik} , exceeds 10 percent, and the government is the largest known shareholder. GC10 is then computed as the sum of the assets all government-owned banks using this definition divided by the sum of the assets of the top ten banks in the country. GC20, GC50, and GC90 are constructed in a similar manner, where a bank is classified as government-owned when $GB_{ik} > 0.2$, $GB_{ik} > 0.5$, or $GB_{ik} > 0.9$, respectively. All of these measures are highly correlated.¹⁵ The analysis will thus focus on the first measure, GB.

A similar approach was used to compute the foreign ownership variables. A large foreign blockholder is any foreign shareholder owning more than 10 percent of the shares in a bank.¹⁶

$$5) \quad FB_{ik} = \sum_{j=1}^J s_{ji} s_{jf}, \text{ where } s_{ji} * s_{jf} > 0.1;$$

¹⁵ For the 1995 (2005) measures, the correlation between GB and GC 10 is 0.96 (0.95); the correlation between GB and GC20 is 0.96 (0.97); the correlation between GB and GC50 is 0.97 (0.98), and the correlation between GB and GC90 is 0.92 (0.93).

¹⁶ As robustness tests, I compute measures of foreign blockholder ownership of banks using a 5% and a 3% threshold to define a foreign blockholder. The results remain unchanged when these alternate measures are used.

where $k=1\dots 90$ indexes the 90 countries in the sample, $j=1\dots J$ indexes the banks' shareholders, $i=1\dots 10$ indexes the 10 largest banks in the country, s_{ji} is the share of bank i that is owned by shareholder j , and s_{jf} is the share of shareholder j that is owned by foreigners, and FB_{ik} is the total share in bank i in country k that is owned by foreigners. The foreign ownership stake in the top ten banks (FB) is computed by multiplying each bank's foreign stake (FB_{ik}) by its total assets (TA_i) and dividing by the sum of the total assets of the top ten banks in the country:

$$6) \quad FB_k = \frac{\sum_{i=1}^{10} FB_{ik} TA_{ik}}{\sum_{i=1}^{10} TA_{ik}}$$

The other measures of foreign ownership (FC10, FC 20, FC 50, and FC90) are constructed in the same manner as the government ownership measures.¹⁷ The widely-held measure (WIDELY) captures the share of assets of the top ten banks that are neither government, foreign, nor domestic blockholder-owned:

$$7) \quad WIDELY_k = 1 - GB_k - PB_k - FB_k$$

A similar measure is constructed at the 10%, and 20% thresholds. Banks in which neither the government, domestic blockholders, nor foreigners owns at least 10% (20%) are classified as widely-held at the 10% (20%) threshold. The respective widely-held measures are calculated by summing the assets of these widely-held banks, and dividing this number by the total assets of the top ten banks in a country.

¹⁷ For the 1995 (2005) measures, the correlation between FB and FC10 is 0.94 (0.94); the correlation between FB and FC20 is 0.95 (0.95); the correlation between FB and FC50 is 0.96 (0.98), and the correlation between FB and FC90 is 0.91 (0.86).

All of these ownership measures are constructed with data from 1995, 2000, and 2005. The ownership data does not allow me to identify the ultimate owners, given that I do not have data on multiple class shares or pyramidal structures. However, the data does allow me to determine whether a bank's largest shareholder is either: (1) the state, (2) foreigners, (3) or a large domestic blockholder, where a large domestic blockholder could be an individual, a family, or a local company. Appendix A provides a detailed example of the calculation of these ownership measures for three banks.

Finally, in the analysis of the role of bank ownership structure on capital allocation, I follow Wurgler's (2000) approach to measure the efficiency of capital allocation. Following Wurgler (2000), I assume that capital is allocated efficiently if there is an increase in investment in growing industries and a decrease in investment in declining industries.

The following regression is estimated for each country using data from 1995-2004:

$$8) \quad \ln \frac{I_{ict}}{I_{ict-1}} = \alpha + \eta_c \ln \frac{V_{ict}}{V_{ict-1}} + \varepsilon_{ict},$$

where I is real gross fixed capital formation, V is real value added, i indexes manufacturing industry, c and t index country and year, respectively.¹⁸ All of these measures were obtained from UNIDO's INDSTAT-3 database. Value added is the value of shipment of goods produced minus the cost of intermediate goods; gross fixed capital formation is the cost of fixed assets minus the value of the sale of used fixed assets; η_c is

¹⁸ The values for gross fixed capital formation and value added are in US\$. Following Wurgler (2000), the real gross fixed capital formation numbers (I) are obtained by deflating the nominal series by the US capital goods producer price index (base year 1982), and the real value added (VA) figures are computed by deflating the series by the US finished goods producer price index (base year 1982).

an elasticity that measures the extent to which country c increases investment in its growing industries and decreases investment in declining industries.

4. Changes in Bank Ownership Structure

4.1. Current State of Bank Ownership Structure around the World

Bank privatizations have significantly altered bank ownership structure around the world. This section describes the bank ownership structure around the world in 2005, and examines the relationship between country characteristics and the observed changes in bank ownership structure over the past ten years.

Table 1 shows descriptive statistics of the various measures of bank ownership by country as of 1995 (e.g. DB95), 2000, and 2005 (e.g. FB05), where countries are grouped by the origin of their commercial laws. As described earlier, these ownership measures represent the percentage of the assets of the top ten banks in each country that is owned by local domestic blockholders (DB), by the government (GB), or by foreigners (FB).

Table 1 shows that as of 2005, the world means of domestic, government, and foreign blockholder ownership of banks are 23.12%, 20.91%, and 22.71%, respectively. The results from Table 1 also show that government ownership of banks has been consistently declining, while foreign and domestic blockholder ownership of banks have been increasing. Most of the changes in bank ownership structure appear to happen in the latter part of the 1990s, as reflected in the ownership measures as of 2000. Figure 1 highlights the magnitude of the changes in bank ownership structure over the past ten years, comparing the declines in government ownership of banks from 1970 through 1995 to the decline over the last ten years. As Figure 1 illustrates government ownership of banks declined by 38% during the 1970-1995 period, compared to a 41 percent decline

over the subsequent 10 years. It is thus interesting to explore the consequences of the drastic changes that happened over the past 10 years.

Panels B and C of Table 1 reveal that large domestic blockholder ownership of banks is more common in developed markets, while government ownership of banks is more prevalent in emerging markets. Interestingly, although government ownership of banks is higher in civil law than in common law countries (Panel B), the difference is not statistically significant and the magnitude of the difference has declined over the past ten years. Panel D reveals that as of 1995 government (domestic) ownership of banks was higher (lower) in countries that subsequently experienced a banking crisis. At the end of the sample period, foreign ownership of banks was higher in countries that experienced a banking crisis over the 1995-2005 period. This latter result is expected given that after a crisis, foreigners may be the only ones with sufficient funds to take over the problem banks.

Table 2 documents the vast changes in bank ownership structure that have taken place over the past ten years. As shown in Table 2, average government ownership of banks (GB) experienced a 40.9% decline over the past ten years. GB dropped from 35.38% in 1995 to 20.91% in 2005.¹⁹ Panel B reveals that the decline in government ownership of banks was more pronounced in emerging markets, where GB declined by 16.1 percentage points, compared to a 9.9 percentage point decline in developed markets. As expected, Panel C shows a significant decline in GB (16.4 percentage points) in civil law countries,

¹⁹ In contrast, government ownership of banks declined by just 29% (from 58.9% to 41.6%) between 1970 and 1995, per La Porta et al. (2002). Their measure of government ownership of banks as of 1995 (GB95) was 41.6%, and differs from the GB95 measure used in this paper (35.38%) due to the differences in the sample of countries, as documented earlier. However, the correlation between both measures of government ownership of banks is 0.95.

where government ownership was higher as of 1995; the decline was not statistically significant in common law countries. The reduction in government ownership of banks has been accompanied by large increases in foreign, and to a lesser extent, in domestic blockholder ownership of banks. Foreign ownership of banks more than doubled in emerging markets (FB increased from 9.9% in 1995 to 23.9% in 2005). Although FB also increased by 9.6 percentage points in developed markets, the increase was not statistically significant. FB also increased by 15.6 (18.7) percentage points in civil law countries (countries with poor shareholder protection).²⁰ Finally, domestic blockholder ownership of banks (DB) increased by 7.5 percentage points in civil law countries.

Results thus far show that while the reduction in government ownership of banks has been widespread, the increases in foreign and domestic blockholder ownership of banks have been concentrated in less developed countries and in countries with weaker protection of minority shareholders (i.e. civil law countries). The increase in foreign ownership of banks in countries with poor protection of minority shareholders may be explained by the fact that these foreign banks are establishing a presence in these countries to exploit future profit opportunities, ignoring the current conditions prevalent in these countries. This view is summarized in a recent Wall Street Journal article:

Foreign banks are pouring into Turkey, spending billions to acquire stakes in local banks despite the country's potentially destabilizing elections, its stalled negotiations for European Union membership, and frequent complaints of unfair treatment for foreign investors in its courts... The attraction: Turkey is considered "underbanked." (Echikson, 2007)

Whether the increased foreign bank presence is beneficial for the host countries is a hotly debated issue. There is some evidence that foreign banking presence improves

²⁰ Countries with poor shareholder protection are those with an Anti-Self-Dealing Index below the median of all countries in the sample. The ASD Index was obtained from Djankov et al. (2007).

access to credit (Clarke, et al., 2001). On the other hand, there is some evidence that the opposite is the case (Detragiache, et al., 2006). This issue is explored further in the remaining sections of the paper.

The motivation behind the increase in large domestic blockholders' ownership stakes in banks is less clear. Large domestic blockholders may want to extract private benefits of control, and thus they may be increasing their stakes in banks precisely in countries where minority shareholders are least protected. If this is the case, an increase in DB should be associated with negative economic outcomes. On the other hand, the poor protection of minority shareholders in some countries may be forcing minority shareholders to either increase their stakes (thereby becoming large shareholders themselves), or to relinquish their stakes to the existing large shareholders, resulting in more concentrated ownership structures. This in turn could have a positive effect, as these large shareholders would have strong incentives to carefully monitor the bank's performance (Shleifer and Vishny, 1997), thus mitigating the manager-shareholder agency problems (Jensen and Meckling, 1976). If this view holds, there should be a positive relation between changes in DB and economic outcomes. These hypotheses are explored in the remaining sections of the paper. First, I examine the relation between country characteristics and the observed changes in bank ownership structure.

4.2. Changes in Bank Ownership Structure and Country Characteristics

The changes in bank ownership structure have not been uniform across countries. Here I explore the relation between country characteristics and the subsequent changes in domestic, government, and foreign blockholder ownership of banks. First, the analysis focuses on correlations between beginning country level characteristics of financial and

economic development, and governance, and the changes in ownership over the 1995-2005 period (ΔDB , ΔGB , ΔFB). The Kaufmann et al. (2006) governance indicators used in this study capture six dimensions of governance: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. All of these measures are scored on a scale from -2.5 to 2.5, with higher scores corresponding to better governance. One of the advantages of using these measures is that they provide a time series (the measures were published every other year since 1996).²¹

Panel A of Table 3 shows the correlations between the ownership measures and the various country characteristics. To control for differences in initial levels of development (given that poorer countries have higher government ownership of banks), I follow La Porta et al. (2002) and report the coefficients from regressions of changes in bank ownership measures on the respective country characteristics, an intercept, and the log of GDP per capita as of 1995. The results shown in Table 3 reveal that domestic blockholder ownership of banks increased more in civil law countries and in more financially developed countries (those with larger market capitalization/GDP). Government ownership of banks declined more in countries that experienced a systemic banking crisis over the period and in those that were less developed but had better governance as of 1995. In particular, government ownership of banks declined more in countries with more freedom of expression and political stability. Finally, Table 3 reveals that foreign ownership of banks (FB) increased primarily in less developed, politically stable, civil law countries, and in countries that experienced a systemic banking crisis during the period. Not surprisingly, FB also increased in countries with weaker

²¹ These measures were also used by Kho, Stulz, and Warnock (2006)

government effectiveness (i.e. poor quality of public services). Such countries present unexploited opportunities for foreign banks that may be able to provide better and broader ranges of financial services than their domestic counterparts.

Next, I explore more in depth the characteristics of countries that experienced the largest changes in bank ownership structure. To address this question, the following regression framework is used:

$$9) \quad \Delta OWNERSHIP = \alpha + \beta_1 CREDIT95 + \beta_2 COMMON + \beta_3 GOVERNANCE + \beta_4 FR + \beta_5 CRISIS$$

where $\Delta OWNERSHIP$ is the change in the respective ownership measures between 1995 and 2005 (e.g. DB05-DB95); $CREDIT95$ is the private credit/GDP as of 1995; $GOVERNANCE$ corresponds to Kaufmann et al.'s (2006) six governance indicators measured as of 1996, the earliest available date, and FR and $CRISIS$ are dummies which equal one if the country has any restrictions on foreign bank entry or if it experienced a systemic banking crisis during the period, respectively.²²

The results from Panel A of Table 4 show that civil law countries experienced larger increases in domestic blockholder ownership of banks (DB). Surprisingly, none of the governance indicators appear to explain changes in DB over the period. Neither foreign restrictions nor having a banking crisis appear to affect DB.

Panel B of Table 4 reveals that less financially developed countries experienced larger increases, or smaller declines in government ownership of banks (GB).²³ In contrast, countries with better governance (measured by freedom of expression, political

²² The data used to construct the foreign restriction dummy was obtained from Ross Levine's website. The data is used in Barth, Caprio, and Levine's forthcoming book, *Rethinking Bank Supervision and Regulation: Until Angels Govern*. If a country restricts foreign entry either through acquisition, a subsidiary, or a branch, the foreign restriction dummy is set to 1.

²³ Most countries (66 out of the 90 countries in the sample) experienced a decline in government ownership of banks over the past ten years.

stability, and rule of law) experienced a more significant decline in GB over the period. Countries experiencing a systemic banking crisis also experienced larger declines in GB, while the decline was lower in countries restricting foreign entry.

Finally, Panel C of Table 4 confirms that foreign ownership of banks increased more in countries that were less financially developed, but with better governance. In particular, foreign ownership of banks increased more in countries with better freedom of expression, with more political stability, and with better rule of law, regulatory quality, and control of corruption. The impact of these changes in bank ownership structure on the efficiency of capital allocation is explored next.

5. Bank Ownership Structure and the Allocation of Capital

Wurgler (2000) documents that financial markets improve the allocation of capital finding that more developed markets allocate capital more efficiently. He also finds that the efficiency of capital allocation is positively correlated with the legal protection of minority shareholders and with the amount of firm-specific information in the market, and negatively correlated with the extent of state-ownership in the economy. The banking sector plays a pivotal role in the allocation of capital. After all, bank loans are the main source of financing for many firms, even in countries with well-developed stock markets. With this in mind, in this section I explore whether the vast declines in government ownership of banks around the world over the last ten years have had a significant impact on the efficiency of capital allocation. I follow Wurgler's (2000) approach to estimate capital allocation efficiency, arguing that capital is allocated efficiently if investment increases in growing industries and decreases in declining industries.

To explore whether changes in bank ownership structure affect capital allocation efficiency, I use the following regression framework:

$$10) \eta_c = \alpha + \beta_1 \Delta OWNERSHIP_c + \beta_2 CREDIT95_c + \beta_3 COMMON + \beta_4 CRISIS + \varepsilon_c,$$

where η_c is the estimate of capital allocation efficiency for country c (from Equation 8); $\Delta OWNERSHIP_c$ refers to the changes in bank ownership structure in country c between 1995 and 2000; $CREDIT95_c$ is the private credit per GDP as of 1995; $COMMON$ is a dummy for countries with a common law origin, and $CRISIS$ is a dummy which equals one if the country experienced a systemic banking crisis during the period. These regressions use changes (rather than levels) in ownership as explanatory variables because the question of interest is whether these changes (e.g. increases in foreign presence) affect capital allocation efficiency. Data on value added and gross fixed capital formation after 1995 is available for only 50 out of the 90 countries in the sample. Thus, the analysis in this section focuses on this subset of countries.²⁴

The results from the above regressions are shown in Table 5. Panel A of Table 5 shows that after controlling for financial development and legal protection of minority shareholders, increases in domestic blockholder ownership of banks (DB) have a negative impact on capital allocation. Given that the importance of the banking sector differs by country, Panel B divides countries using the ratio of private credit provided by financial institutions/GDP-to-market capitalization/GDP as of 1995. Firms in countries with larger ratios of private credit by financial institutions-to-market capitalization would rely more

²⁴ To alleviate concerns of a potential bias in this sub sample, I replicate Wurgler's (2000) experiment for this subset of 50 countries and obtain similar results.

on banks for financing. The results from Panel B confirm that the negative impact of increases in DB applies to countries where the banking sector is more important.

Panel C splits the sample of countries by the quality of protection of minority shareholders using Djankov et al.'s (2007) Anti-Self Dealing Index. The results show that increases in DB adversely affect capital allocation efficiency, regardless of the quality of investor protection, although the magnitude is much larger in countries with poor protection of minority shareholders. On the other hand, foreign presence improves capital allocation efficiency only in countries with good investor protection. As reported in the previous sections, foreign ownership of banks has increased the most in countries with better governance. So, the results here show that in general foreign presence improves the efficiency of capital allocation. Finally, Panels D and E show that the negative impact of domestic blockholder on capital allocation is concentrated in developed markets and in countries that did not experience a systemic banking crisis during the period.

The evidence presented here appears to indicate that domestic blockholders hinder capital allocation efficiency. This is consistent with an argument has been used in the past by some governments as a reason for nationalizing the banking sector. Rather than allocating capital efficiently by increasing lending to perhaps underdeveloped but growing industries, large domestic blockholders, through their ownership stakes in banks, may have a vested interest in funding companies in industries in which they or their related parties may have large ownership stakes. This could leave profitable projects in growing industries unfunded, especially in countries where bank loans are the main source of funding. As an example, this type of behavior by domestic blockholders, which

eventually leads to larger concentration of wealth and income disparity, was cited as one of the reasons why banks in El Salvador were nationalized in 1980. Unfortunately, nationalization led to similar problems, as the government had complete control of banks, and consequently bank loans targeted sectors with greater political power. This led to the reorganization and privatization of El Salvador's banking sector in 1990, in which banks were privatized to a broad base of shareholders that included foreigners.

The negative impact of large domestic shareholders on capital allocation is thus consistent with the view that large shareholders are pursuing their own interests, ignoring the interests of other stakeholders (Shleifer and Vishny, 1997). An interesting finding here is the fact that a decline in government ownership of banks has no effect on the efficiency of capital allocation. It appears as though capital allocation improves (deteriorates) depending on who acquires the stakes relinquished by the government.

While the emergence of large domestic shareholders has detrimental effects, the evidence suggests that increased foreign presence has positive consequences for capital allocation efficiency, at least in countries with good shareholder protection. This is consistent with an argument raised by Detragiache et al. (2006) in which foreign banks have a competitive advantage in processing hard information vis-à-vis their domestic counterparts. Through the improved screening process provided by foreign banks, mostly profitable projects will be funded, which improves capital allocation efficiency. One plausible reason why this positive impact is not as persistent is the fact that the increase in foreign bank presence has been a recent occurrence. As has been shown, foreign banks tend to lend to safer and better qualified borrowers (Mian, 2006a), and this phenomenon could be magnified when banks are new arrivals to a country. As foreign

banks become more familiar and more comfortable operating in these host countries, they will likely expand their lending activities, and it will be then when the full benefits on capital allocation could be realized.

Through the positive (detrimental) effect on capital allocation efficiency, increased presence of foreign (domestic) blockholders, should favorably (adversely) affect financial development. This issue is explored in Section 6.

Given that the capital allocation efficiency and the changes in ownership structure measures used in the previous regressions are contemporaneous, endogeneity is a valid concern, particularly for changes in foreign ownership of banks, and to a lesser extent, for changes in domestic blockholder ownership of banks. For example, changes in bank regulations (e.g. deregulation), which may have a positive impact on capital allocation efficiency, may also attract foreign banks. Thus, one could argue that it is these changes in banking regulation that improve capital allocation, and not the increased presence of foreign banks. To address this concern, I will use a Two-Stage-Least Squares regression approach, using instrumental variables for changes in foreign and domestic blockholder ownership of banks. I use a proxy for the size of the productive population (population ages 15-64 as a percent of the total population) as of the beginning of the period to forecast changes in foreign ownership of banks. Countries with potentially larger work forces could attract foreign banks; yet, this measure should not be correlated with the measure of capital allocation efficiency.²⁵ Similarly, I use Barth et al.'s (2005) financial statement transparency index to forecast changes in domestic blockholder ownership of banks. If domestic blockholders are indeed trying to extract private benefits of control by

²⁵ The correlation between the capital allocation measure, η_c , and the proxy for the size of the labor force as a percent of the total population is 0.2 and is statistically insignificant.

acquiring large stakes in banks, they would prefer countries with poor financial statement transparency. Both of these instruments work well in forecasting changes in foreign and domestic blockholder ownership of banks. The results of the first-stage regressions are shown in Panel A of Table 6.

The results of the Two-Stage Least Square regressions are shown in Panels B and C of Table 6. For brevity, only the results for the entire sample of countries and for the breakdown between bank-based and non-bank-based economies are presented. The results from Table 6 confirm prior findings. Even after mitigating endogeneity problems (albeit not perfectly), increased domestic blockholder ownership of banks has a negative impact on capital allocation efficiency; these results hold both for the entire sample of countries, and in particular, for economies that rely more heavily on banks to finance investment activities. Interestingly, the results on increased foreign presence are strengthened using this approach. While previous results show a positive, albeit statistically insignificant, impact of increased foreign presence on capital allocation for the entire sample of countries, the results in Panels B and C reflect a positive and significant effect of foreign presence on capital allocation efficiency, particularly in the non-bank-based economies.

5.1. Robustness Tests

Another way to deal with endogeneity concerns would be to estimate the capital allocation measure using data from 2000-2005, and to determine how changes in ownership structure between 1995 and 2000 affect this capital allocation efficiency measure. Unfortunately, data availability issues prevent me from conducting such an

experiment.²⁶ With this limitation in mind, in unreported results, I conduct an experiment that is similar in spirit, and use changes in the capital allocation efficiency measure pre- and post 1995 as the dependent variable.²⁷ Domestic blockholder ownership (DB) of banks continues to negatively affect capital allocation efficiency, at least in bank-based economies.

Another potential concern with the results shown in the previous section would be the reliance on the UNIDO INDSTAT3 database to compute the capital allocation efficiency measure. To mitigate this concern, I use different proxies for value added and gross fixed capital formation obtained from Thomson Financial's DataStream and WorldScope databases. The proxies for value added and gross fixed capital formation are the firm's Q measure (market value divided by total assets), and capital expenditure (WorldScope code WC04601), respectively. In unreported results, I replicate the main results from the prior section using these new proxies for value added and capital expenditure to estimate capital allocation efficiency.

6. Impact of Changes in Bank Ownership Structure on Financial Development

This section explores whether changes in bank ownership structure affect financial and economic development. To mitigate endogeneity concerns, I will use interim changes in ownership variables (i.e. changes between 1995 and 2000) to analyze their impact on the growth in financial development measures between 2000 and 2005. The following regression framework is used:

$$11) \text{Growth_in_Y} = \alpha + \Delta\text{OWN} + \beta_1 Y_{95} + \beta_2 FR + \beta_3 CR + \beta_4 CO$$

²⁶ There are only 17 countries with at least three years of available data to estimate the capital allocation measure after 2000.

²⁷ There are of course, problems with this approach as well, particularly because the changes in capital allocation efficiency are calculated using two variables that are estimated with error.

where growth in Y refers to the average annual growth rates in various measures of financial development and economic growth between 2000 and 2005; ΔOWN is the change in ownership variables between 1995 and 2000; $Y95$ is the beginning level of each financial/economic development measure; FR is a dummy which equals one if the country has any restrictions on foreign entry into the banking sector, and CR and CO are dummies for countries that experienced a banking crisis and those with common law origin of their commercial laws, respectively. The measures of financial development used in this study are the same ones introduced by Beck, Levine, and Loayza (2000b) and subsequently updated in Beck, Demirgüç-Kunt, and Levine (2000a).²⁸

Panels A and B of Table 7 examine the effects of changes in bank ownership structure on economic growth for the entire sample of countries, as well as for bank-based and non-bank-based economies. Interestingly, as the results from Panel A reveal, the changes in bank ownership structure do not appear to have any significant impact on economic growth. Despite prior evidence pointing towards the negative impact of government ownership of banks on subsequent financial development and economic growth, the declines in government ownership of banks have not had any impact on economic growth. The short time period used could potentially explain why there are no statistically significant results.

Panel B groups countries by the importance of the banking sector. The results show that increases in foreign presence have a positive impact on economic growth, at least in countries that rely more on the banking sector for private credit. In unreported results, I show that larger foreign bank presence also has a positive impact on some financial development measures (e.g. the growth of commercial bank assets-to-financial

²⁸ The updated measures were obtained from Ross Levine's website.

system assets). This suggests that foreign presence might have a positive long-term impact on economic growth, perhaps due in part to the improvements in capital allocation efficiency associated with increases in FB.

While foreign presence appears to have positive consequences for economic growth and financial development, the opposite appears to be true for increased domestic blockholder ownership of banks (DB). In unreported results, I document that increases in domestic blockholder ownership of banks (DB) stifle growth in private credit-to-GDP in countries with poor protection of minority shareholders. Additionally, there is a negative effect of increases in DB on the growth of commercial banking assets, mainly in bank-based economies. The results presented in this section should be interpreted with caution. Five years is too short a time period to examine the full macroeconomic consequences of the changes in bank ownership structure that have occurred over the past ten years.

7. Conclusion

This paper analyzes whether the efficiency of capital allocation has been affected by the vast changes in bank ownership structure throughout world. In addition, some preliminary evidence on the consequences of these structural changes for financial development and economic growth is presented. The data reveal several interesting results. The systematic decline in government ownership of banks by itself has not had any impact on the efficiency of capital allocation. The important issue is whether foreigners or large domestic blockholders take over the stakes that are relinquished by the government.

In general, an increase in domestic blockholder presence in the banking sector hampers capital allocation efficiency. This is consistent with the view that these large domestic blockholders are pursuing “selfish” objectives, at the expense of the broader population. Consistent with this view, increased domestic blockholder presence reduces access to credit in countries with poor protection of minority shareholders.

In contrast, foreign presence in the banking sector leads to improvements in capital allocation efficiency in countries with good protection of minority shareholders. In addition, increased foreign presence has positive consequences for financial development and economic growth, particularly in countries with larger banking sectors. Most of the changes in bank ownership structure occurred in the late 1990s. Given the short period of time that has elapsed since these changes, their full impact cannot be determined yet. However, the preliminary evidence presented here does point towards benefits (costs) of privatizing the banking sector to foreign (domestic) blockholders. This evidence could serve to guide countries which have just recently begun to privatize their banking industries (e.g. China). Only time will tell if these countries will reap the apparent long-term benefits of increased foreign presence in their banking industries. This of course, leaves plenty of opportunity for future research.

Table 1: Ownership of Banks Around the World: 1995, 2000, and 2005

Panel A shows the percentage of assets of the top 10 banks in each country that as of 1995, 2000, & 2005 are owned by domestic (DB), government (GB), or foreign blockholders (FB). Countries are classified by the legal origin of their commercial laws. Panels B, C, and D show the results of tests of means across legal origin (common vs. civil law), financial development, and whether or not the countries experienced a banking crisis over the period, respectively.

Panel A- Ownership of the Top 10 Banks by Type of owner ¹ as of 1995, 2000 & 2005										
Country	DB95	DB00	DB05	GB95	GB00	GB05	FB95	FB00	FB05	Coverage ²
Australia	0.12%	0.92%	0.00%	3.39%	0.18%	1.98%	1.97%	0.95%	3.59%	98.97%
Bahrain	2.51%	24.66%	7.97%	7.83%	6.78%	9.25%	24.85%	64.13%	60.53%	98.62%
Bangladesh	0.00%	0.73%	0.00%	88.35%	80.55%	71.66%	0.00%	0.00%	0.00%	71.21%
Canada	2.65%	1.04%	0.69%	0.00%	0.00%	0.77%	3.22%	3.54%	2.64%	94.54%
Cyprus	48.32%	1.18%	9.12%	1.01%	1.42%	0.00%	10.32%	11.18%	24.47%	99.23%
Hong Kong	9.13%	19.59%	1.84%	1.75%	0.00%	22.15%	77.93%	61.49%	63.10%	87.46%
India	0.00%	0.00%	0.57%	88.20%	75.78%	54.95%	0.00%	6.00%	12.82%	65.70%
Ireland	2.79%	0.00%	0.00%	2.31%	0.00%	0.00%	11.43%	28.43%	17.04%	95.33%
Israel	36.10%	24.48%	21.22%	48.24%	25.46%	13.24%	0.00%	0.00%	0.00%	100.00%
Kenya	5.95%	1.22%	12.35%	23.50%	14.62%	11.35%	37.53%	34.75%	25.83%	92.40%
Malaysia	55.10%	58.17%	43.83%	18.41%	0.00%	0.00%	0.29%	11.44%	15.85%	77.73%
New Zealand	15.46%	48.56%	1.75%	0.00%	0.00%	0.00%	84.54%	51.44%	98.25%	100.00%
Nigeria	6.15%	5.05%	22.68%	13.64%	5.87%	8.48%	14.74%	3.78%	0.00%	84.81%
Pakistan	1.63%	9.96%	8.61%	91.80%	77.87%	37.53%	0.45%	2.94%	19.61%	97.48%
Saudi Arabia	28.07%	14.42%	7.13%	6.13%	16.82%	20.22%	16.59%	15.48%	13.61%	100.00%
Singapore	20.11%	51.22%	10.17%	15.05%	0.90%	10.51%	0.00%	0.00%	0.07%	80.37%
South Africa	99.42%	99.66%	72.49%	0.00%	0.00%	2.80%	0.32%	0.31%	24.02%	100.00%
Sri Lanka	10.85%	4.31%	9.82%	66.74%	58.66%	44.70%	2.40%	0.30%	1.45%	100.00%
Tanzania	3.82%	0.00%	38.82%	85.35%	21.43%	1.46%	8.50%	69.29%	44.61%	100.00%
Thailand	13.26%	4.37%	13.79%	16.23%	39.51%	22.13%	4.62%	0.00%	10.23%	94.20%
Trinidad & Tobago	10.12%	17.62%	15.75%	12.87%	13.59%	17.50%	13.46%	18.05%	15.06%	100.00%
United Arab Emirates	7.23%	6.53%	14.33%	49.34%	42.34%	44.96%	2.86%	4.13%	0.93%	100.00%
UK	81.12%	86.08%	89.53%	0.00%	0.00%	0.00%	0.00%	0.00%	10.47%	82.77%

Table 1 Cont'd

Country	DB95	DB00	DB05	GB95	GB00	GB05	FB95	FB00	FB05	Coverage ²
USA	100.00%	100.00%	93.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	61.84%
Zimbabwe	2.19%	26.86%	20.12%	29.79%	6.04%	35.39%	40.23%	49.42%	35.13%	100.00%
English Origin Average	22.48%	24.26%	20.62%	26.80%	19.51%	17.24%	14.25%	17.48%		
English Origin Median	9.13%	9.96%	10.17%	13.64%	6.04%	10.51%	3.22%	4.13%		
Algeria	31.57%	27.69%	20.69%	68.43%	71.95%	76.70%	0.00%	0.35%	2.23%	100.00%
Argentina	20.99%	15.11%	17.65%	59.90%	33.70%	52.69%	9.19%	43.15%	21.11%	74.51%
Belgium	27.77%	83.99%	85.14%	20.19%	0.00%	0.25%	13.90%	15.73%	14.40%	92.84%
Bolivia	37.98%	43.90%	53.89%	0.02%	0.01%	0.01%	19.83%	27.06%	21.46%	98.61%
Brazil	26.91%	39.40%	30.07%	42.13%	41.48%	43.37%	2.83%	6.69%	15.38%	87.56%
Chile	13.78%	43.40%	33.86%	21.75%	18.88%	19.24%	19.75%	20.50%	31.13%	85.83%
Colombia	18.93%	50.48%	36.31%	39.49%	3.39%	13.37%	0.00%	21.38%	18.49%	98.57%
Costa Rica	9.53%	13.87%	11.31%	89.02%	71.22%	67.91%	0.00%	3.00%	20.54%	83.56%
Dominican Republic	31.01%	50.25%	44.10%	38.44%	25.12%	33.03%	0.00%	13.99%	6.32%	96.17%
Egypt	0.71%	3.07%	3.33%	84.93%	80.60%	78.87%	6.22%	6.33%	8.94%	97.21%
El Salvador	0.00%	40.95%	20.14%	24.93%	2.88%	6.81%	0.00%	6.58%	16.60%	85.42%
France	24.67%	28.88%	47.86%	18.49%	12.01%	0.00%	9.24%	0.82%	5.94%	59.39%
Greece	2.61%	0.00%	1.40%	71.87%	23.96%	14.66%	0.00%	16.61%	28.69%	96.68%
Guatemala	22.81%	37.55%	44.16%	15.79%	21.97%	16.47%	0.00%	0.00%	0.00%	66.73%
Honduras	38.03%	59.59%	32.69%	12.66%	5.13%	6.31%	14.20%	3.71%	39.84%	100.00%
Indonesia	18.23%	4.60%	13.88%	71.65%	87.87%	44.52%	0.00%	0.00%	12.94%	83.82%
Iran	0.00%	0.00%	2.27%	100.00%	129.62%	97.17%	0.00%	0.00%	0.00%	100.00%
Iraq	0.00%	0.00%	0.00%	100.00%	100.00%	87.74%	0.00%	0.00%	0.00%	100.00%
Italy	33.18%	33.04%	18.12%	34.54%	0.00%	5.17%	2.19%	0.00%	8.77%	79.58%
Ivory Coast	4.73%	1.11%	1.52%	3.54%	2.85%	2.87%	83.04%	92.81%	70.62%	100.00%
Jordan	31.78%	33.88%	15.85%	9.17%	1.79%	0.00%	8.51%	4.03%	11.68%	75.03%
Kuwait	1.51%	22.63%	11.51%	17.43%	32.77%	24.28%	0.00%	0.07%	4.70%	100.00%
Lebanon	33.34%	42.47%	44.27%	6.34%	0.01%	0.00%	15.31%	21.39%	14.22%	85.60%
Libya	0.00%	0.00%	0.00%	96.78%	95.72%	94.39%	0.00%	0.00%	0.00%	100.00%
Macau	43.68%	38.66%	53.01%	38.69%	0.00%	13.59%	0.00%	47.07%	19.52%	100.00%
Mexico	28.38%	33.27%	30.42%	33.20%	27.13%	17.22%	2.64%	29.81%	44.04%	91.92%
Morocco	7.74%	17.58%	19.68%	28.98%	11.14%	30.65%	12.18%	20.78%	15.97%	77.63%
Netherlands	47.05%	39.74%	79.75%	8.56%	4.35%	2.82%	2.25%	0.25%	0.00%	70.64%
Nicaragua	0.53%	18.70%	10.88%	32.19%	8.46%	0.00%	0.35%	12.88%	0.00%	95.95%
Oman	25.49%	30.00%	29.06%	5.98%	11.82%	2.51%	16.31%	7.58%	10.55%	100.00%

Table 1 Cont'd

Country	DB95	DB00	DB05	GB95	GB00	GB05	FB95	FB00	FB05	Coverage ²
Panama	8.38%	36.49%	67.98%	0.00%	0.00%	0.00%	49.57%	25.79%	23.19%	74.68%
Paraguay	17.49%	4.33%	0.00%	30.12%	14.58%	11.99%	36.00%	79.18%	67.88%	76.06%
Peru	60.97%	45.92%	30.14%	27.02%	11.32%	11.85%	3.70%	37.91%	49.64%	97.43%
Philippines	25.72%	32.13%	23.84%	24.25%	24.20%	27.86%	5.99%	8.53%	5.37%	74.88%
Portugal	54.78%	32.51%	11.04%	34.73%	27.00%	28.40%	0.00%	11.24%	18.08%	88.79%
Qatar	25.30%	20.62%	7.77%	31.21%	28.45%	23.39%	0.00%	0.00%	2.28%	100.00%
Senegal	1.90%	14.85%	23.21%	22.53%	3.74%	6.69%	67.13%	40.28%	36.04%	100.00%
Spain	6.56%	6.96%	16.41%	0.00%	0.00%	0.00%	1.99%	2.66%	2.89%	73.81%
Tunisia	2.83%	4.42%	9.74%	25.94%	21.49%	19.74%	6.97%	13.77%	16.16%	91.02%
Turkey	30.26%	37.76%	32.67%	59.75%	40.01%	39.48%	0.00%	3.12%	3.25%	99.81%
Uruguay	4.58%	16.73%	0.00%	68.59%	42.80%	55.06%	22.92%	36.28%	44.30%	61.60%
Venezuela	11.86%	29.07%	40.18%	43.50%	7.44%	13.14%	6.89%	50.90%	26.81%	100.00%
French origin average	19.85%	27.04%	25.61%	37.21%	27.31%	25.96%	10.45%	17.43%		
French origin median	19.96%	29.53%	20.41%	30.66%	16.73%	15.56%	2.74%	9.88%		
Austria	45.19%	27.19%	43.81%	24.45%	0.00%	0.00%	3.56%	49.83%	29.36%	98.61%
Germany	7.17%	11.17%	33.21%	32.65%	27.07%	16.10%	0.00%	0.00%	11.41%	56.72%
Japan	0.00%	59.14%	69.04%	0.00%	5.02%	0.00%	0.00%	0.00%	0.00%	50.99%
Korea	0.00%	1.71%	27.87%	25.25%	38.00%	20.34%	0.00%	9.22%	18.24%	80.98%
Switzerland	4.12%	58.42%	1.93%	15.15%	4.35%	6.68%	0.00%	0.68%	2.17%	72.19%
Taiwan	4.40%	7.76%	46.10%	76.43%	57.39%	30.43%	0.00%	0.00%	0.00%	62.70%
German origin average	10.15%	27.56%	36.99%	28.99%	21.97%	12.26%	0.59%	9.95%		
German origin median	4.26%	19.18%	38.51%	24.85%	16.04%	11.39%	0.00%	0.34%		
Denmark	32.90%	27.56%	34.67%	0.00%	0.00%	0.00%	0.00%	0.55%	25.66%	96.29%
Finland	66.60%	33.62%	26.98%	22.48%	1.00%	0.00%	6.57%	53.55%	69.61%	81.71%
Norway	3.74%	26.30%	61.51%	47.91%	0.00%	11.42%	7.24%	31.10%	21.65%	87.34%
Sweden	9.98%	28.86%	13.48%	14.00%	3.45%	10.06%	0.24%	19.71%	9.69%	81.59%
Scandinavian origin average	28.30%	29.09%	34.16%	21.10%	1.11%	5.37%	3.51%	26.23%		
Scandinavian origin median	21.44%	28.21%	30.82%	18.24%	0.50%	5.03%	3.40%	25.41%		

Table 1 Cont'd

Country	DB95	DB00	DB05	GB95	GB00	GB05	FB95	FB00	FB05	Coverage ²
Bulgaria	3.02%	15.13%	21.79%	76.17%	2.36%	0.04%	0.00%	70.08%	71.18%	76.41%
China	0.36%	2.37%	1.53%	99.64%	96.08%	84.93%	0.00%	0.00%	0.00%	77.03%
Croatia	22.78%	0.00%	4.47%	0.00%	18.53%	2.18%	0.00%	61.40%	87.41%	91.04%
Czech Republic	1.03%	0.50%	3.56%	52.00%	17.26%	3.67%	12.64%	60.08%	49.33%	83.37%
Hungary	3.99%	0.00%	0.00%	33.59%	8.72%	4.55%	34.02%	68.26%	88.06%	95.33%
Kazakhstan	12.30%	28.38%	44.42%	34.26%	0.78%	0.03%	1.30%	20.32%	12.48%	100.00%
Macedonia	14.39%	7.69%	11.55%	0.00%	0.40%	2.37%	0.98%	47.09%	21.25%	100.00%
Poland	0.00%	0.84%	1.25%	78.03%	7.49%	14.99%	13.21%	58.67%	51.46%	99.66%
Romania	2.57%	0.00%	7.11%	67.42%	42.64%	0.23%	0.98%	21.75%	59.13%	80.96%
Russia	3.98%	10.01%	24.95%	35.06%	52.06%	35.80%	2.00%	4.83%	28.67%	56.94%
Slovakia	0.80%	28.51%	0.00%	64.26%	26.69%	0.00%	5.51%	36.89%	91.27%	90.12%
Slovenia	2.62%	13.48%	9.61%	53.58%	43.75%	26.87%	4.90%	15.78%	36.03%	94.21%
Vietnam	0.00%	0.22%	0.92%	99.19%	94.87%	90.28%	0.81%	0.65%	0.36%	93.57%
Socialist origin average	5.22%	8.24%	10.09%	53.32%	31.66%	20.46%	5.87%	35.83%	45.89%	
Socialist origin median	2.62%	2.37%	4.47%	53.58%	18.53%	3.67%	1.30%	36.89%	49.33%	
WORLD AVERAGE	18.20%	23.68%	23.12%	35.38%	24.25%	20.91%	9.88%	20.00%	22.71%	
WORLD MEDIAN	9.75%	19.15%	16.13%	28.00%	11.92%	11.92%	2.32%	11.21%	15.91%	

Table 1 Cont'd

Panel B - Means by Legal Origin (t-statistics in Italics are for differences in means)										
	DB95	DB00	DB05	GB95	GB00	GB05	FB95	FB00	FB05	n
Civil Law (n=65)	16.55%	23.45%	24.09%	38.68%	26.07%	22.33%	8.20%	20.96%	23.76%	65
Common Law (n=25)	22.48%	24.27%	20.62%	26.80%	19.51%	17.24%	14.25%	17.48%	19.97%	25
Difference	-5.94%	-0.81%	3.46%	11.9%*	6.56%	5.09%	-6.05%	3.48%	3.79%	
t-stats (Common vs. Civil)	<i>-1.17</i>	<i>-0.15</i>	<i>0.64</i>	1.66	<i>0.93</i>	<i>0.84</i>	<i>-1.44</i>	<i>0.63</i>	<i>0.67</i>	
Panel C - Means by Country Characteristics										
	DB95	DB00	DB05	GB95	GB00	GB05	FB95	FB00	FB05	n
Developed Markets	26.92%	33.58%	31.27%	15.36%	4.61%	5.46%	9.86%	14.99%	19.50%	24
Emerging Markets	15.02%	20.08%	20.16%	42.66%	31.39%	26.53%	9.89%	21.82%	23.88%	66
Difference	11.9%**	13.5%**	11.1%**	-27.3%***	-26.8%***	-21.1%***	-0.03%	-6.83%	-4.38%	
<i>Emerging vs. Developed</i>	2.37	2.54	2.09	-4.05	-4.06	-3.68	<i>-0.01</i>	<i>-1.24</i>	<i>-0.76</i>	
Panel C - Means by Countries Experiencing a Banking Crisis between 1995 and 2005										
	DB95	DB00	DB05	GB95	GB00	GB05	FB95	FB00	FB05	n
No Crisis	21.92%	28.00%	25.26%	29.40%	21.02%	19.55%	10.50%	16.28%	18.94%	57
Crisis	11.77%	16.21%	19.44%	45.70%	29.83%	23.28%	8.81%	26.42%	29.22%	33
Difference	10.2%**	11.8%**	5.82%	-16.3%*	-8.80%	-3.73%	1.68%	-10.1%**	-10.3%*	
<i>Crisis vs. No Crisis</i>	2.2	2.41	<i>1.17</i>	-2.5	<i>-1.35</i>	<i>-0.66</i>	<i>0.43</i>	-2.03	-1.98	
<i>Total # of banks (1995):</i>	798									
<i>Total # of banks (2000):</i>	860									
<i>Total # of banks (2005):</i>	873									

* Significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

¹Due to data availability and to bank consolidations in several countries, some countries in the sample have less than 10 banks.

²Coverage refers to the top ten banks' assets (as of 2005) as a percentage of the total banking system assets. Total banking system assets refers to the total assets of all commercial banks in a country that are covered by BankScope database as of 2005.

The ownership measures (GB, DB, FB) are constructed following La Porta et al. (2002), and capture the percentage of the assets of the top ten banks in a country that are owned by domestic, government, or foreign blockholders. Domestic blockholders are individuals, families, or companies (including bank holding companies) that own more than 10% of the bank's shares.

Table 2: Changes in Bank Ownership Structure between 1995 and 2005

Panel A- Average Ownership of Banks by Type					
Year	DB	GB	FB	WIDELY	n
1995	18.20%	35.38%	9.88%	36.55%	90
2005	23.12%	20.91%	22.71%	33.26%	
Change	4.93%	-14.46%***	12.83%***	-3.29%	
Difference (t-stat)	(1.49)	(-3.43)	(4.05)	(-0.83)	
Panel B- Average Ownership of Banks by Type - Emerging & Developed Markets					
<i>Emerging Markets</i>					
Year	DB	GB	FB	WIDELY	n
1995	15.02%	42.66%	9.89%	32.43%	66
2005	20.16%	26.53%	23.88%	29.43%	
Change	5.14%	-16.13%***	13.99%***	-3.00%	
Difference (t-stat)	(1.65)	(-3.16)	(3.93)	(-0.75)	
<i>Developed Markets</i>					
Year	DB	GB	FB	WIDELY	n
1995	26.92%	15.36%	9.86%	47.87%	24
2005	31.27%	5.46%	19.50%	43.78%	
Change	4.35%	-9.90%**	9.64%	-4.09%	
Difference (t-stat)	(0.5)	(-2.41)	(1.42)	(-0.43)	
Panel C- Differences in Ownership of Banks by Legal Origin					
<i>Civil Law Countries</i>					
Year	DB	GB	FB	WIDELY	n
1995	16.55%	38.68%	8.20%	36.57%	65
2005	24.09%	22.33%	23.76%	29.83%	
Change	7.54%**	-16.35%***	15.56%***	-6.74%	
Difference (t-stat)	(2.25)	(-3.27)	(4.38)	(-1.54)	
<i>Common Law Countries</i>					
Year	DB	GB	FB	WIDELY	n
1995	22.48%	26.80%	14.25%	36.47%	25
2005	20.62%	17.24%	19.97%	42.17%	
Change	-1.86%	-9.56%	5.72%	5.70%	
Difference (t-stat)	(-0.23)	(-1.25)	(0.85)	(0.67)	
Panel D- Average Ownership of Banks by Protection of Minority Shareholders¹					
<i>Good Shareholder Protection Markets</i>					
Year	DB	GB	FB	WIDELY	n
1995	22.80%	29.13%	8.42%	39.65%	31
2005	28.78%	17.12%	20.02%	34.08%	
Change	5.98%	-12.02%*	11.60%**	-5.56%	
Difference (t-stat)	(0.82)	(-1.77)	(2.06)	(-0.72)	
<i>Poor Shareholder Protection Markets</i>					
Year	DB	GB	FB	WIDELY	n
1995	16.46%	36.51%	9.77%	37.26%	32
2005	23.04%	15.69%	28.49%	32.79%	
Change	6.58%	-20.82%***	18.72%***	-4.47%	
Difference (t-stat)	(1.38)	(-3.84)	(3.68)	(-0.76)	

¹Countries with good (poor) shareholder protection are those countries with an Anti-Self-Dealing Index (ASDI) greater (lower) than the median ASDI for all countries in the sample. The ASDI was obtained from Djankov, et al. (2005).

Table 2 Cont'd

Panel E- Descriptive Statistics of Changes in Ownership Measures				
	Mean	Max	Min	Std. Dev.
Δ DB	4.93%	69.04%	-43.74%	19.87%
Δ GB	-14.47%	20.40%	-83.89%	20.20%
Δ FB	12.83%	87.41%	-31.09%	21.03%
Δ WIDE	-3.29%	49.88%	-71.29%	21.65%
Panel F- Correlation Matrix for Changes in Ownership Measures				
	ΔDB	ΔGB	ΔFB	ΔWIDE
Δ DB	1.00	-0.17	-0.25**	-0.52***
Δ GB	-0.17	1.00	-0.51***	-0.28***
Δ FB	-0.25**	-0.51***	1.00	-0.27**
Δ WIDE	-0.52***	-0.28***	-0.27**	1.00

* Significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table 3: Ownership of Banks and Country Characteristics

The first column shows the correlation between the changes in the measures of bank ownership between 1995 and 2005 (GB, DB, and FB) and various country characteristics related to the initial level of financial development and governance. The second column shows the coefficients from the following regression: $\Delta\text{OWNERSHIP} = \alpha + \beta X + \delta \text{GDP per capita in 1995}$, where X represents the vector of independent variables. Robust (White) t-statistics are shown in parentheses.

Independent Variables	Dependent Variable: ΔDB		Dependent Variable: ΔGB		Dependent Variable: ΔFB		N
	Raw Correlations	Reg. Coefficients (Robust t-stats)	Raw Correlations	Reg. Coefficients (Robust t-stats)	Raw Correlations	Reg. Coefficients (Robust t-stats)	
PANEL A: Initial Level of Development							
Log of GDP per Capita 1995	0.0056	0.0008 (0.05)	0.2113**	0.0307* (1.94)	0.0407	0.0062 (0.44)	87
Private Credit/GDP in 1995	0.0759	0.0668 (0.72)	0.3008***	0.1460*** (3.45)	-0.1917*	-0.2028*** (-3.75)	82
Liquid Liabilities/GDP in 1995	0.0603	0.0599 (0.52)	0.1870	0.0442 (0.65)	-0.1584	-0.1630** (-2.47)	71
Commercial Bank Assets/Total Bank assets 1995	-0.1144	-0.1937 (-2)	0.1658	0.0915 (0.81)	0.1222	0.1723 (1.07)	85
Stock Market Capitalization/GDP in 1995	-0.1133	-0.0688* (-1.92)	0.3038***	0.1288 (2.57)	-0.2163*	-0.1052** (-2.09)	71
PANEL B: Governance Measures							
Voice and Accountability	0.0476	0.0135 (0.54)	-0.0483	-0.0777*** (-3.59)	0.1153	0.0348 (1.13)	87
Political Stability	0.0357	0.0145 (0.62)	-0.0374	-0.0567** (-2)	0.1270	0.0419* (1.67)	87
Government Effectiveness	-0.0368	-0.0281 (-0.84)	0.1811*	0.0196 (0.63)	-0.0840	-0.0746* (-1.96)	87
Regulatory Quality	-0.0318	-0.0276 (-0.85)	0.0856	-0.0259 (-0.87)	0.0385	0.0065 (0.21)	87
Rule of Law	-0.0101	-0.0074 (-0.22)	0.1273	-0.0219 (-0.72)	-0.0456	-0.0619 (-1.39)	87
Control of Corruption	-0.0916	-0.0495 (-1.61)	0.1372	-0.0035 (-0.14)	-0.0081	-0.0259 (-0.77)	87
PANEL C: Crisis and Stability & Legal Origin							
Banking Crisis Dummy	0.1057	0.0384 (0.78)	-0.3013***	-0.0966* (-1.97)	0.2757***	0.1512** (2.76)	87
Common Law Dummy	-0.2131**	-0.0903** (-2.23)	0.1516	0.0662 (1.4)	-0.2107**	-0.1058** (-2.65)	87

***Significant at 1 percent level; **significant at 5 percent level; *significant at 10 percent level.

¹ ΔDB , ΔGB , and ΔFB refer to the changes in domestic, government, and foreign blockholder ownership of banks between 1995 and 2005.

Table 4: Which Countries Experienced more Changes in Bank Ownership Structure?

Results from the following OLS regression are shown below:

$$\Delta\text{OWNERSHIP} = \alpha + \beta_1\text{PRIVCREDIT95} + \beta_2\text{COMMON} + \text{AGOVERNANCE}$$

where $\Delta\text{OWNERSHIP}$ is the change in the ownership variables between 1995 and 2005; PRIVCREDIT95 is the private credit/GDP as of 1995; COMMON is a dummy variable which equals 1 if the country is a common law country, and GOVERNANCE refers to each of six governance indicators: voice and accountability; political stability; government effectiveness; regulatory quality; rule of law, and control of corruption. Robust (White) t-statistics are shown in parentheses.

PANEL A - Changes in Private Blockholder Ownership of Banks							
Independent Variables	Dependent Variable: ΔDB						
Private credit/GDP in 1995	0.1431 (1.38)	0.0922 (1.07)	0.1142 (1.29)	0.1620 (1.52)	0.1368 (1.49)	0.1219 (1.21)	0.1584* (1.8)
Common Law dummy	-0.1073** (-2.1)	-0.1133** (-2.24)	-0.1220** (-2.31)	-0.1168** (-2.35)	-0.1166** (-2.34)	-0.1132** (-2.24)	-0.1145** (-2.3)
Voice & accountability (1996)	0.0934** (2.23)	-0.0051 (-0.19)					
Political Stability (1996)	-0.0266 (-0.71)		-0.0237 (-0.79)				
Government effectiveness (1996)	-0.0513 (-0.6)			-0.0446 (-1.09)			
Regulatory quality (1996)	-0.0698 (-1.36)				-0.0489 (-1.29)		
Rule of law (1996)	0.1515 (1.69)					-0.0241 (-0.6)	
Control of corruption (1996)	-0.1364** (-2.11)						-0.0473 (-1.55)
Foreign Restriction	0.0498 (0.99)	0.0671 (1.48)	0.0627 (1.37)	0.0535 (1.14)	0.0542 (1.21)	0.0574 (1.18)	0.0463 (0.97)
Crisis Dummy	0.0113 (0.23)	0.0314 (0.72)	0.0627 (1.37)	0.0535 (1.14)	0.0542 (1.21)	0.0574 (1.18)	0.0055 (0.13)
Intercept	0.0116 (0.24)	0.0080 (0.16)	-0.0019 (-0.04)	0.0023 (0.05)	0.0109 (0.24)	0.0069 (0.14)	0.0036 (0.08)
R ²	0.1928	0.0859	0.0927	0.1063	0.1034	0.0910	0.1170
N	85	85	85	85	85	85	85

Table 4 Cont'd

PANEL B - Changes in Government Ownership of Banks	
Independent Variables	Dependent Variable: Δ GB
Private credit/GDP in 1995	0.1796*** (3.01) 0.2305*** (4.3) 0.2076*** (3.62) 0.1807*** (3.05) 0.1825*** (3.77) 0.2133*** (3.62) 0.1836*** (3.37)
Common Law dummy	-0.0189 (-0.34) -0.0035 (-0.07) -0.0068 (-0.13) 0.0147 (0.29) 0.0133 (0.27) 0.0145 (0.28) 0.0157 (0.31)
Voice & accountability (1996)	-0.1190*** (-3.03) -0.0715*** (-3)
Political Stability (1996)	-0.0298 (-0.75) -0.0562** (-2.22)
Government effectiveness (1996)	0.0924 (1.16) -0.0237 (-0.82)
Regulatory quality (1996)	0.0291 (0.67) -0.0407 (-1.35)
Rule of law (1996)	-0.0902 (-1.31) -0.0489* (-1.77)
Control of corruption (1996)	0.0606 (1.01) -0.0283 (-1.1)
Foreign Restriction	0.1225* (1.93) 0.1131* (1.92) 0.1153** (2.07) 0.1206** (2.03) 0.1169** (2) 0.1066* (1.84) 0.1154* (1.94)
Crisis Dummy	-0.0952** (-2.05) -0.1260** (-2.63) -0.1120** (-2.36) -0.1215** (-2.43) -0.1175** (-2.42) -0.1342** (-2.65) -0.1250** (-2.46)
Intercept	-0.2320*** (-5.83) -0.2186*** (-5.87) -0.2283*** (-5.74) -0.2054*** (-5.3) -0.2004*** (-5.21) -0.2065*** (-5.4) -0.2051*** (-5.31)
R ²	0.3152 0.2629 0.2328 0.1997 0.2059 0.2155 0.2049
N	85 85 85 85 85 85 85

Table 4 Cont'd

TABLE IV Cont'd
 PANEL C - Changes in Foreign Ownership of Banks

Independent Variables	Dependent Variable: Δ FB						
Private credit/GDP in 1995	-0.1248**	-0.1495***	-0.1459***	-0.14039**	-0.1468***	-0.1573**	-0.1568***
	(-2.05)	(-3.72)	(-2.94)	(-2.31)	(-3.55)	(-2.66)	(-2.96)
Common Law dummy	-0.0510	-0.0574	-0.0478	-0.0724*	-0.0695*	-0.0737*	-0.0740*
	(-1.22)	(-1.41)	(-1.22)	(-1.77)	(-1.76)	(-1.8)	(-1.77)
Voice & accountability (1996)	0.0348	0.0684***					
	(0.72)	(2.95)					
Political Stability (1996)	0.0465		0.0688**				
	(1.17)		(2.64)				
Government effectiveness (1996)	-0.1070			0.0452			
	(-1.45)			(1.49)			
Regulatory quality (1996)	0.0476				0.0802**		
	(0.92)				(2.62)		
Rule of law (1996)	-0.0047					0.0629*	
	(-0.05)					(1.9)	
Control of corruption (1996)	0.0664						0.0609**
	(0.98)						(2.28)
Foreign Restriction	-0.0486	-0.0591	-0.0577	-0.0589	-0.0509	-0.0457	-0.0456
	(-0.82)	(-1.12)	(-1.12)	(-1.06)	(-0.93)	(-0.82)	(-0.83)
Crisis Dummy	0.1181**	0.1349***	0.1224**	0.1427**	0.1358***	0.1511***	0.1535***
	(2.22)	(2.68)	(2.48)	(2.63)	(2.7)	(2.83)	(2.84)
Intercept	0.17864***	0.1753***	0.1917***	0.1662***	0.1565***	0.1653***	0.1665***
	(4.01)	(4.55)	(4.52)	(4.12)	(4.08)	(4.14)	(4.23)
R ²	0.2392	0.2032	0.1989	0.1643	0.1877	0.1782	0.1915
N	85	85	85	85	85	85	85

***Significant at 1 percent level; **significant at 5 percent level; *significant at 10 percent level.

The governance variables were obtained from Kaufmann et al. (2006), and they are measured as of 1996. Higher values correspond to better governance.

Δ DB=DB05-DB95

Δ GB=GB05-GB95

Δ FB=FB05-FB95

Table 5: Changes in Bank Ownership Structure and Capital Allocation

OLS regressions for the cross-section of countries. The dependent variable is the estimate of the elasticity of industry investment to industry value added, estimated from the following regressions, following Wurgler (2000):

$$\ln \frac{I_{ict}}{I_{ict-1}} = \alpha_c + \eta_c \ln \frac{VA_{ict}}{VA_{ict-1}} + \varepsilon_{ict}$$

where i indexes ISIC-3 manufacturing industries, c indexes countries, and t indexes years. I is real gross fixed capital formation, and VA is real value added. These estimates were constructed using data from 1995-2004. The independent variables are the private credit/GDP as of 1995, dummies for foreign entry restrictions and systemic banking crisis, and the changes in domestic, government, and foreign blockholder ownership of banks between 1995 and 2000. Robust t-statistics are shown in parentheses.

Panel A				
	Dependent Variable: η_c			
Independent Variables:	(1)	(2)	(3)	(4)
ΔDB	-0.3741* (-1.82)			-0.3242 (-1.39)
ΔGB		-0.1375 (-0.52)		-0.0101 (-0.03)
ΔFB			0.2994 (0.9)	0.2185 (0.43)
Private Credit/GDP in 1995	0.1479* (1.75)	0.1415 (1.4)	0.1517 (1.54)	0.1664* (1.68)
Common Law Dummy	0.0336 (0.32)	0.0755 (0.79)	0.0919 (1)	0.0525 (0.47)
Crisis Dummy	0.1202 (1.33)	0.1077 (1.11)	0.0842 (0.77)	0.0937 (0.84)
Intercept	0.2884*** (4.13)	0.2455** (2.57)	0.2287** (2.67)	0.2518*** (2.87)
R^2	0.1151	0.0732	0.0979	0.1329
N	50	50	50	50

Table 5 Cont'd

OLS regressions for the cross-section of countries. In Panel B, countries with the ratio of private credit by financial institutions/GDP-to-stock market capitalization/GDP as of 1995 above the median of all countries in the sample are classified as bank-based economies. Panel C divides countries into groups depending on whether they experienced a systemic banking crisis during the 1995-2005. Data on systemic banking crises was obtained from Caprio & Klingebiel (2003) and complemented with data from Demirgüç-Kunt and Detragiache (2005). Δ DB, Δ GB, and Δ FB refer to the change in domestic, government, and foreign blockholder ownership of banks between 1995 and 2000. Robust (White) t-statistics are shown in parentheses.

Panel B								
Independent Variables:	Bank-Based Economies				Non-Bank-Based Economies			
	Dependent Variable: η_c				Dependent Variable: η_c			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Δ DB	-0.624* (-2.03)			-0.491 (-1.12)	-0.357 (-1.41)			-0.295 (-1.18)
Δ GB		-0.137 (-0.51)		0.174 (0.28)		-0.157 (-0.43)		-0.011 (-0.02)
Δ FB			0.454 (1.38)	0.504 (0.65)			0.467 (1.48)	0.380 (0.97)
Private Credit/GDP in 1995	0.036 (0.32)	0.016 (0.13)	0.054 (0.47)	0.063 (0.57)	0.259** (2.49)	0.267** (2.51)	0.286** (2.48)	0.286** (2.62)
Common Law Dummy	-0.119 (-0.48)	0.036 (0.2)	0.035 (0.24)	-0.088 (-0.36)	0.012 (0.12)	0.043 (0.43)	0.074 (0.72)	0.044 (0.4)
Crisis Dummy	0.222* (1.79)	0.156 (1.23)	0.102 (0.73)	0.156 (0.97)	-0.072 (-0.66)	-0.049 (-0.48)	-0.079 (-0.72)	-0.092 (-0.82)
Intercept	0.409*** (3.79)	0.378** (2.47)	0.337** (2.32)	0.368*** (3.01)	0.248*** (2.97)	0.185** (2.12)	0.153 (1.69)	0.191* (1.83)
R ²	0.2282	0.1040	0.1862	0.2893	0.3364	0.2832	0.3379	0.3776
N	24	24	24	24	25	25	25	25

Panel C								
Independent Variables:	Poor Protection of Minority Shareholders				Good Protection of Minority Shareholders			
	Dependent Variable: η_c				Dependent Variable: η_c			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Δ DB	-1.251*** (-3.39)			-1.123* (-1.96)	-0.486** (-2.42)			-0.542*** (-2.93)
Δ GB		-0.534 (-1.35)		-0.432 (-0.75)		-0.283 (-0.88)		-0.330 (-0.82)
Δ FB			0.385 (1.21)	-0.084 (-0.16)			0.619** (2.26)	0.239 (0.65)
Private Credit/GDP in 1995	0.520*** (3.65)	0.690*** (3.69)	0.606*** (3.75)	0.604*** (3.32)	0.269* (2.06)	0.264* (1.82)	0.334** (2.25)	0.391** (2.52)
Crisis Dummy	0.350** (2.47)	0.322** (2.14)	0.285 (1.57)	0.343* (1.81)	-0.045 (-0.24)	-0.045 (-0.28)	-0.135 (-0.84)	-0.092 (-0.54)
Intercept	-0.019 (-0.16)	-0.213 (-0.99)	-0.099 (-0.65)	-0.130 (-0.64)	0.264** (2.6)	0.176 (1.14)	0.116 (0.81)	0.114 (0.77)
R ²	0.4556	0.3983	0.3715	0.4946	0.2930	0.1541	0.2475	0.4086
N	21	21	21	21	21	21	21	21

Table 5 Cont'd

OLS regressions for the cross-section of countries. In Panel D, countries are grouped by their level of development. In Panel E countries are divided by the quality of their protection of minority shareholders. Countries with good (poor) shareholder protection are those countries with an Anti-Self-Dealing Index (ASDI) greater (lower) than the median for all countries in the sample. The ASDI was obtained from Djankov, et al. (2005). Robust t-statistics are shown in parentheses.

Panel D								
Independent Variables:	Emerging Markets				Developed Markets			
	Dependent Variable: η_c							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
ΔDB	-0.252 (-0.43)			-0.042 (-0.07)	-0.446* (-1.78)			-0.441 (-1.31)
ΔGB		-0.094 (-0.3)		0.459 (1.19)		0.300 (0.65)		0.104 (0.16)
ΔFB			0.350 (0.84)	0.782 (1.45)			0.149 (0.35)	-0.034 (-0.07)
Private Credit/GDP in 1995	-0.084 (-0.36)	-0.058 (-0.23)	-0.043 (-0.16)	-0.083 (-0.31)	0.019 (0.1)	-0.131 (-0.59)	-0.050 (-0.21)	-0.008 (-0.03)
Common Law Dummy	0.043 (0.26)	0.070 (0.54)	0.096 (0.81)	0.137 (0.93)	0.067 (0.47)	0.065 (0.42)	0.110 (0.66)	0.054 (0.31)
Crisis Dummy	0.144 (1.14)	0.154 (1.2)	0.100 (0.65)	0.076 (0.4)	0.443* (1.87)	0.375 (1.21)	0.369 (1.16)	0.446 (1.72)
Intercept	0.315** (2.34)	0.262** (2.12)	0.243** (2.06)	0.278** (2.23)	0.438** (2.39)	0.613** (2.68)	0.471* (1.93)	0.484* (1.88)
R ²	0.1027	0.0993	0.1440	0.1833	0.2716	0.1482	0.1382	0.2743
N	31	31	31	31	19	19	19	19

Panel E								
Independent Variables:	Countries with a Systemic Banking Crisis				Countries without a Systemic Banking Crisis			
	Dependent Variable: η_c							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
ΔDB	-0.356 (-0.39)			-0.865 (-1.24)	-0.384* (-1.7)			-0.275 (-1.11)
ΔGB		-0.669* (-1.78)		-0.879 (-1.05)		0.551 (1.68)		0.718** (2.55)
ΔFB			0.543 (1.36)	-0.113 (-0.15)			0.029 (0.05)	0.298 (0.49)
Private Credit/GDP in 1995	0.161 (0.74)	0.242 (1.66)	0.181 (1.41)	0.441** (2.3)	0.135 (0.97)	0.167 (1.31)	0.155 (1.06)	0.156 (1.16)
Foreign Ownership Restrictions	-0.174 (-1.4)	-0.076 (-0.77)	-0.147 (-1.43)	-0.079 (-0.58)	-0.007 (-0.08)	0.045 (0.37)	-0.097 (-0.81)	0.111 (0.77)
Common Law Dummy	-0.0002 (0.01)	0.0000 (0.02)	0.051 (0.31)	-0.067 (-0.32)	0.062 (0.52)	0.061 (0.57)	0.096 (-0.81)	0.054 (0.47)
Intercept	0.436*** (5.69)	0.215* (1.77)	0.280 (1.58)	0.156 (1.23)	0.289*** (2.75)	0.305*** (3.15)	0.246** (2.07)	0.326*** (3.1)
R ²	0.0647	0.2850	0.1861	0.3684	0.1542	0.1744	0.0880	0.2507
N	19	19	19	19	31	31	31	31

*Significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table 6: Changes in Bank Ownership Structure and Capital Allocation

Two-Stage Least Squares Regressions. In the first-stage regressions, changes in domestic and foreign ownership are estimated using a financial statement transparency index, and a proxy of the total work force as a percent of the total population, respectively. The data was obtained from Caprio and Levine (2003), and from the World Bank's World Development Indicators (WDI) database, respectively. The dependent variable in the second stage regression is the estimate of the elasticity of industry investment to industry value added, estimated from the following regression, following Wurgler (2000):

$$\ln \frac{I_{ict}}{I_{ict-1}} = \alpha_c + \eta_c \ln \frac{VA_{ict}}{VA_{ict-1}} + \varepsilon_{ict}$$

where i indexes ISIC-3 manufacturing industries, c indexes countries, and t indexes years. I is gross fixed capital formation, and VA is value added. These estimates were constructed using data from 1995-2004. The independent variables are the private credit/GDP as of 1995, a common law dummy, and dummies for foreign entry restrictions and systemic banking crisis, changes in government ownership of banks between 1995 and 2000, and the fitted values for changes in domestic and foreign blockholder ownership of banks. Robust standard errors are in parentheses.

Panel A- First Stage Regression Results				
Independent Variables:	Dependent Variable:			
	ΔDB	ΔFB		
Financial Statement Transparency	-0.051* (-1.78)			
Productive Population (% of total)		1.939*** (4.83)		
Private Credit/GDP in 1995	0.101* (1.85)	-0.193*** (-3.38)		
Common Law Dummy	-0.101* (-1.83)	-0.027 (-0.59)		
Crisis Dummy	0.034 (0.73)	0.118*** (2.85)		
Intercept	0.267* (1.85)	-1.007*** (-4.17)		
R ²	0.144	0.327		
N	78	85		
Panel B - Two-Stage Least Square Regression Results				
Dependent Variable: η_c	(1)	(2)	(3)	(4)
ΔDB	-2.405*** (-3.57)			-1.724** (-2.24)
ΔGB		-0.137 (-0.52)		0.074 (0.33)
ΔFB			0.877* (1.76)	1.311*** (3.29)
Private Credit/GDP in 1995	0.421*** (3.44)	0.142 (1.4)	0.198* (1.72)	0.475*** (3.55)
Common Law Dummy	-0.311** (-2.34)	0.076 (0.79)	0.149 (1.54)	-0.120 (-0.79)
Crisis Dummy	0.236** (2.44)	0.108 (1.11)	0.034 (0.35)	0.089 (1.03)
Intercept	0.271*** (3.52)	0.246** (2.57)	0.109 (0.78)	0.014 (0.13)
R ²	0.2041	0.0732	0.1230	0.3165
N	46	50	50	46

Table 6 Cont'd

Panel C - Bank Based vs. Non-Bank Based Economies								
Dependent Variable: η_c	Bank-Based Economies				Non-Bank-Based Economies			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
ΔDB	-3.097*** (-3.59)			-1.671 (-1.04)	-1.885 (-1.71)			-1.741 (-1.47)
ΔGB		-0.137 (-0.51)		0.040 (0.17)		-0.157 (-0.43)		0.095 (0.28)
ΔFB			1.057 (1.41)	1.740* (1.85)			0.722** (2.1)	0.807** (2.23)
Private Credit/GDP in 1995	0.384* (2.05)	0.016 (0.13)	0.073 (0.51)	0.426** (2.58)	0.461*** (3.4)	0.267** (2.51)	0.334*** (2.95)	0.533*** (3.6)
Common Law Dummy	-0.546** (-2.65)	0.036 (0.2)	0.192 (0.85)	-0.161 (-0.42)	-0.232 (-1.58)	0.043 (0.43)	0.087 (0.92)	-0.167 (-1.02)
Crisis Dummy	0.255* (1.93)	0.156 (1.23)	0.032 (0.28)	0.001 (0)	0.110 (1.17)	-0.049 (-0.48)	-0.089 (-0.9)	0.068 (0.81)
Intercept	0.430*** (3.17)	0.378** (2.47)	0.232 (1.05)	0.052 (0.18)	0.212*** (2.96)	0.185** (2.12)	0.060 (0.69)	0.057 (0.68)
R ²	0.2958	0.1040	0.1764	0.4465	0.3626	0.2832	0.3275	0.4400
N	21	24	24	21	24	25	25	24

*Significant at the 10% level; ** significant at the 5% level; *** significant at the 1% level.

Table 7: Effects of Changes in Bank Ownership Structure on Financial Development & Economic Growth

OLS regressions for the cross-section of countries. ΔPB , ΔGB , and ΔFB refer to the change in domestic, government, and foreign blockholder ownership of banks in a country between 1995 and 2000. Robust (White) t-statistics parentheses. In Panel B, countries with the ratio of private credit by financial institutions/GDP-to-stock market capitalization/GDP as of 1995 above the median of all countries in the sample are classified as bank-based economies.

PANEL A: Economic Development - Growth in GDP per Capita									
Dependent Variable:	ΔDB^1	ΔGB^2	ΔFB^3	Initial GDP	Foreign	Common Law			
				per Capita	Ownership Restrictions	Crisis Dummy	Dummy	Intercept	R ² /[N]
Growth in GDP per Capita (2000-2005)	-0.002 (-0.15)	0.012 (0.88)	0.017 (1.47)	-0.003 (-1.4)	0.000 (-0.04)	0.001 (0.18)	0.000 (0.06)	0.046 (2.68)	0.048 [86]
Growth in GDP per Capita (2000-2005)	-0.008 (-0.68)			-0.002 (-1.23)	0.000 (0.01)	0.002 (0.4)	-0.001 (-0.13)	0.044 (2.58)	0.035 0.0000
Growth in GDP per Capita (2000-2005)		0.003 (0.24)		-0.002 (-1.31)	0.000 (-0.03)	0.003 (0.45)	-0.001 (-0.08)	0.045 (2.64)	0.032 [86]
Growth in GDP per Capita (2000-2005)			0.011 (1.08)	-0.003 (-1.4)	0.000 (-0.02)	0.001 (0.18)	0.001 (0.1)	0.045 (2.63)	0.040 [86]

PANEL B: Economic Development - Bank-Based vs. Non-Bank-Based Economies

Independent Variables:	Dependent Variable: Growth in GDP per Capita 2000-2005					
	Bank-Based Economies			Non-Bank-Based Economies		
	(1)	(2)	(3)	(1)	(2)	(3)
ΔDB^1	0.002 (0.3)			-0.049 (-1.11)		
ΔGB^2		-0.012 (-1.11)			0.001 (0.05)	
ΔFB^3			0.024*** (4.24)			0.010 (0.42)
Initial GDP per Capita	-0.005** (-2.55)	-0.005*** (-2.79)	-0.004*** (-3.34)	-0.003 (-0.83)	-0.002 (-0.74)	-0.003 (-0.77)
Foreign Restrictions	-0.019*** (-2.79)	-0.019*** (-3.01)	-0.021*** (-4.83)	0.010 (0.8)	0.007 (0.48)	0.008 (0.52)
Crisis Dummy	0.012** (2.58)	0.012** (2.6)	0.010** (2.71)	-0.009 (-0.84)	-0.006 (-0.59)	-0.008 (-0.7)
Common Law Dummy	0.010** (2.6)	0.011** (2.67)	0.013*** (3.65)	-0.009 (-0.61)	-0.005 (-0.4)	-0.005 (-0.37)
Intercept	0.060*** (3.75)	0.060*** (4.08)	0.057*** (4.75)	0.054 (1.58)	0.046 (1.53)	0.047 (1.52)
R ²	0.402	0.431	0.545	0.077	0.032	0.036
N	41	41	41	42	42	42

***Significant at 1 percent level; **significant at 5 percent level; *significant at 10 percent level.

Appendix 1: Example of the calculation of the ownership measures (DB, GB, FB) for three banks

Bank Name	Country	Shareholders	Foreign	Country of Shareholder	Ownership %age	Type	Government's Stake in Shareholder	Foreign Stake in shareholder
Abanka Vipava dd	Slovenia	ZAVAROVALNICA TRIGLAV dd	N	Slovenia	32.92%	Local company	0.00%	0.00%
		FMR dd	N	Slovenia	9.84%	Local company	0.00%	0.00%
		HIT dd	N	Slovenia	6.10%	Local company	0.00%	0.00%
		Stajerski Avto	N	Slovenia	5.00%	Local company	0.00%	0.00%
		Other minority shareholders	N	Slovenia	46.14%	Widely held	0.00%	0.00%
Barclays Bank of Kenya Ltd.	Kenya	Barclays Bank PLC	Y	UK	68.50%	Foreign	0.00%	100.00%
		General Public	N	Kenya	31.50%	Widely held	0.00%	0.00%
Slovenska Pol'nohospodarska	Slovakia	Slovak Insurance Co.	N	Slovakia	31.90%	Government	100.00%	0.00%
Banka (Agricultural Bank)		EBRD	Y	SUPRANATIONAL	20.00%	Other	2.49%	97.51%
		Ministry of Agriculture	N	Slovakia	8.30%	Government	100.00%	0.00%
		Agrobanka Praha	Y	Czech Rep.	3.80%	Foreign	0.00%	100.00%
		Other minority shareholders	N	Slovakia	36.00%	Widely held	0.00%	0.00%

52

The above table presents ownership data for a Slovenian bank, a Kenyan bank, and a Slovakian bank as of 2005, 2000, and 1995, respectively. The data was obtained from BankScope and The Bankers' Almanac. Using the BankScope data, I am usually able to identify whether a shareholder is a government entity, a foreign entity, or a private domestic shareholder. Identifying local, government, and foreign shareholders was a more involved process when calculating the 2000 and 1995 ownership measures. The Bankers' Almanac, Mergent Online, and company websites were used to determine the shareholder type in those cases. When the shareholder was a foreign bank, the location of the foreign bank's headquarters was used to determine the country of the foreign shareholder.

When regional development banks (owned by various governments) or other supranational entities are shareholders in a bank, I follow La Porta et al.'s (2002) strategy. The equity ownership in the regional bank by the local government is estimated as the proportion of the banks' assets that are in the country. The calculation of the government's ownership stakes in Slovenska Pol'nohospodarska Banka illustrates this point.

Appendix 1 Cont'd

Abanka Vipa's Ownership Variables:

Abanka Vipa has only one domestic shareholder (Zavarovalnica Triglav dd, an insurance company) owning more than 10% of its shares. Thus, the total share of Abanka Vipa, dd owned by large domestic blockholders (DB_i) corresponds to the 32.92% owned by Zavarovalnica Triglav, dd. **$DB_{Abanka}=32.92\%$.**

Abanka Vipa does not have any government or foreign shareholders. Thus, **$GB_{Abanka}=0\%$, and $FB_{Abanka}=0\%$.**

Barclays Bank of Kenya Ownership Variables:

Barclays Bank of Kenya (BBK) has only one large blockholder, Barclays Bank PLC, UK. The total share of BBK owned by foreigners is thus the 68.5% owned by Barclays Bank PLC. So,

$$FB_{BBK}=68.5\%$$

$$DB_{BBK}=0\%$$

$$GB_{BBK}=0\%.$$

Slovenska's Ownership Variables:

The computation of the ownership variables is not as straight forward for Slovenska Pol'nohospodarska Banka (SDB). The total government's share in SPB is comprised of three elements. First, 31.9% is owned by the government through Slovak Insurance Co. (a state-owned enterprise). Second, the Slovakian government has an additional 8.3% stake in SPB through the Ministry of Agriculture. Finally, the Slovakian government has a 2.49% stake in the European Bank for Reconstruction and Development (EBRD) as of 1995 (2.49% of EBRD's total operating assets are in Slovakia - this information was obtained directly from EBRD's annual report). EBRD holds a 20% stake in SPB. Thus, the Slovakian government indirectly owns an additional 0.498% stake in SPB. Thus, the total government's share is computed as follows:

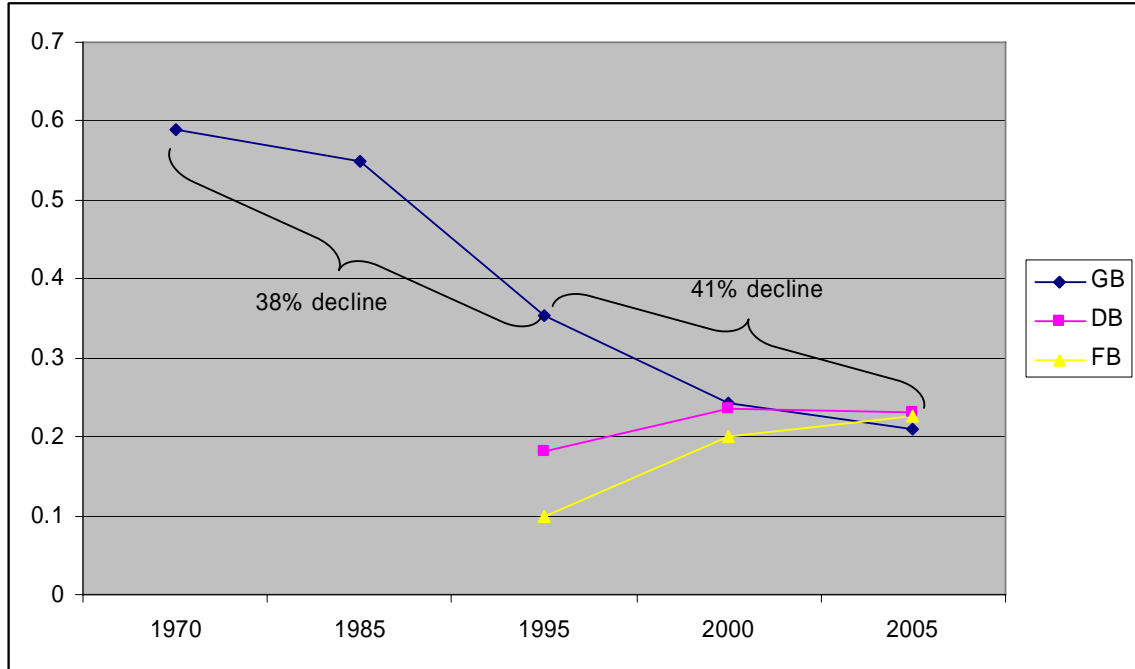
$$GB_{SPB} = 31.9\% + (20\% \times 0.0249) + 8.3\% = 40.698\%$$

The foreign ownership variable is computed in a similar manner. There is only one foreign shareholder owning more than 10% of the shares in SDB, the EBRD. Accounting for the fact that the Slovakian government has a 2.49% stake in EBRD, the remaining 97.51% is owned by foreign governments. Thus, the total foreign blockholder ownership of SPB is comprised of the 19.502% owned indirectly by various foreign governments through their stakes in EBRD. Thus, foreign blockholders' share in SPB is:

$$FB_{SPB} = (20\% \times 0.9751) = 19.502\% ; \text{ there is no large domestic blockholder, so } DB_{SPB}=0\%.$$

Figure 1: Changes in Bank Ownership Structure over the Years

This graph shows the evolution of government (GB), domestic (DB), and foreign (FB) blockholder ownership of banks around the world. The data on government ownership of banks for 1970 and 1985 was obtained from La Porta et al. (2002).



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