Reluctant Privatization

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Summary

We study the evolution of the control structure of 141 privatized firms from OECD countries over the period from 1996 through 2000. We find that governments do not relinquish control after "privatization." We show that the market-to-book ratios of privatized firms converge through time to those of a control sample. However, this convergence does not depend on whether governments relinquish their control rights. In fact, large government stakes have no negative effect on either adjusted market value or stock price performance.

Keywords: Privatization, Corporate governance

JEL Classification: L33, D72, G15, H6, K22

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I. Introduction

The greatest transfer of ownership in the history of the corporation, privatization, began in the 1980s in the United Kingdom, spread out during the 1990s, and continues apace, despite negative market conditions. Governments all over the world have either sold or are selling large chunks of their ownership in corporations to the private sector. There is a lingering belief, however, that this privatization is being carried out reluctantly. There are only few stories in the popular press that document governments privatizing with enthusiasm; most of the news stories depict governments that are faced with stiff opposition from many vested interests, but are forced to privatize because of budgetary shortfalls and/or external pressure from international organizations and lending agencies.

We define reluctant privatization as the transfer of ownership rights without a transfer of control rights in state-owned enterprises (SOEs). Italy represents an interesting example of this reluctance to completely separate firms from the government. Privatization did not become a political issue until the beginning of the 1990s, at a time when the country was facing one of the most acute economic and political crises of the post-war period. The inefficiency of the SOE sector is one of the main causes of weakness of the economy After the April 1992 general elections, the government led by PM Giuliano Amato, heading a wide center-left coalition, decided to launch the first large-scale privatization process. The 70 major privatization deals implemented from 1993 to date raised more than $100 billion in revenues, placing Italy third in the global ranking of the magnitude of privatization (Securities Data Corporation). Despite these remarkable quantitative results, the Italian government is *still* an influential shareholder in several privatized firms.[1] The Italian case, and many others which could be chosen from developed and developing countries,

[1] For example, it holds direct and indirect stakes (through Cassa Depositi e Prestiti SpA) in ENI, ENEL, Alitalia, the flagship carrier, Finmeccanica, the aerospace, defence and IT group, and Poste Italiane. It also enjoys special powers to veto strategic decisions and acquisitions in fully privatized companies such as Telecom Italia, the former telecommunication state monopoly.

suggests that privatizations do not always involve a dramatic change in the ownership structure of SOEs, and that governments hang on to control by direct or indirect means.

The purpose of this paper is twofold. First, we want to document whether there does exist such a reluctance to relinquish control. Second, if we do find such a reluctance, we would like to estimate its effect on firm value.

Reluctant privatization is not only important from a practical standpoint, but it is also of theoretical interest due to the insights it may offer to the debate on the comparative performance of private versus state-owned firms. The proponents of the so-called political view argue that a principal-agent problem plagues SOEs, in that the owners (i.e. the taxpayers) have different incentives from the manager (i.e. the bureaucrat or the politician controlling the firm). In SOEs, the manager may run the company to achieve political objectives (such as excess employment) and forgo maximizing profits. Full privatization transfers ownership and control rights to outside investors, whose main concern is the maximization of the value of their holdings, so that greater emphasis is placed on efficiency (Shleifer and Vishny, 1994). The empirical implication of this theory is that fully privatized companies should be more valuable than privatized companies in which governments still enjoy control rights. In other words, government reluctance to privatize should be negatively discounted in market values.

The government may be a bad owner of corporations. However, private ownership also comes with costs. Since Berle and Means (1932) seminal work, it is known that diffuse ownership in the absence of suitable governance mechanisms, both internal and external, exposes minority shareholders to the risk of expropriation by managers. Large shareholders may reduce the agency costs of managerial control (Jensen and Meckling, 1976, Shleifer and Vishny, 1986), but ownership concentration has also been associated with the extraction of private benefits by controlling shareholders at the expense of outside investors (Claessens et al., 2002; Johnson et al., 2000; La Porta, Lopez-de-Silanes and Shleifer, 2002). Finally, the government may also provide special benefits to privatized firms. It can shield privatized companies from competition, afford them a

favorable regulatory environment, subsidize loans, and guarantee contracts. These benefits may outweigh the cost of political interference. Documenting whether large shareholdings by the state destroy or create value is an empirical issue that can be investigated by analyzing the relation between the market value of a privatized firm and the size of government's residual stake.

We explore the issue of privatization and corporate control by carrying out a comprehensive analysis of the evolution of voting rights in a sample of 141 privatized companies from developed economies, over the period 1996 to 2000, that we match against a control sample of private firms. We find that the most common outcome is for the state to be the largest ultimate owner, both as of the end of 1996, when 34.75 percent of privatized firms have the state as largest ultimate owner, and as of the end of 2000, when the government is still the largest owner in 29.79 percent of cases. We observe some convergence in the concentration of voting power between privatized and matching firms. This convergence, however, is largely due to changes in the control structure of matching firms, which become much more concentrated as a consequence of merger and acquisition activity.

We additionally find that, as of the end of 1996, 62.5% of privatized firms have outstanding "golden shares".[2] Golden shares are particularly common amongst companies in which the government is not the largest shareholder. This combined evidence allows us to conclude that, through ownership *or* golden shares, governments control 65.5 percent of privatized firms as of the end of 1996, and 62.4 percent of privatized firms as of the end of 2000. Thus, in the majority of cases, the "privatization" process did not entail a complete relinquishment of power by the state.

This first part of the analysis allows us to document the existence of governments' reluctance to privatize. This fact implies a second question: does government reluctance matter? Do large holdings by the state affect negatively the market value of privatized companies?

[2] We define *golden share* as the complex of special powers granted to the state and the statutory constraints in privatized companies (see Section III.B).

To answer this question, we first compare the market-to-book ratio of privatized companies with that of a matching sample. We document a convergence in company market-to-book ratios through time. However, we find that this convergence is not the consequence of government relinquishment of control rights. Interestingly, a panel data analysis reveals that a larger percentage of voting rights held by the state does not negatively affect performance. Second, we compare the (adjusted) stock returns of privatized firms, and again find no evidence of systematic underperformance of privatized companies with larger government's stakes. The same results hold when we control for endogeneity of government's voting rights.

Our paper is related to several studies in the privatization and corporate governance literature. In a recent study, La Porta, Lopez-de-Silanes and Shleifer (2002) conclude that government ownership of *banks* is still "large and pervasive" across countries [p. 265]. This result is confirmed in other recent studies on the ultimate ownership of listed corporations around the world. For example, La Porta *et al.* (1999) show that, across 27 countries, the government ultimately controls at least 10 percent of voting rights in 20.19% of large size and 16.19% of medium size (mostly non-financial) corporations. Claessens *et al.* (2000) and Faccio and Lang (2002) confirm that governments are particularly common as ultimate owners in Austria, Finland, Indonesia, Italy and Malaysia, Norway, and Singapore. Additionally, Faccio and Lang (2002) report that pyramids and holdings through multiple control chains are used to enhance control in 35.32% and 11.01% of state-controlled firms, respectively. These latter figures clearly indicate that measures of voting power based on government direct ownership are inadequate as they substantially understate voting power.

Although these studies properly employ some measure of ultimate ownership to identify controlling shareholders, they are not undertaken with the purpose of analyzing and tracking changes in the control structure of privatized firms. On the other hand, other studies on privatization

have focused on event dates and direct ownership.[3] In a recent paper Boubakri, Cosset and Guedhami (2004) look at direct ownership and conclude "that government relinquishes control over time." We show that the picture looks totally different when indirect voting rights and special powers are properly accounted for. Our study makes an original contribution in employing the relatively new concept of ultimate control to follow changes in the ownership of privatized companies and their effects on firm value.

The rest of the paper is organized as follows. In section II, we describe the sample and data employed in the study. In section III, we discuss the ultimate control structure of privatized and matching firms, as well as the diffusion of golden shares. Section IV addresses the issue of the convergence in the value and performance of privatized and matching firms, and section V concludes the paper.

II. Data

A. Privatized companies and control sample

The complete list of privatization transactions in public equity markets in OECD economies before 1/1/1997 is obtained from the *Global New Issues Database* of *Securities Data Corporation* (SDC). This source provides us with a list of 205 privatized companies. We cross check the presence of these companies both in the Privatization International (PI) Database and in Megginson's Appendix.[4] All the companies in our list are also reported in the PI dataset and appear in Megginson's Appendix. We then compare the data obtained from SDC with the information from selected official sources, such as the Italian Ministry of the Economy and Finance, the British

[3] A number of studies (e.g., Megginson, Nash and Van Randenborgh, 1994, Boubakri and Cosset, 1998, D'Souza and Megginson, 1999) document that, on average, privatized firms increase their profitability and/or efficiency *around the privatization date* (see Megginson and Netter, 2001, for an excellent review). In a different type of study, Dewenter and Malatesta (2001) report that, although privatized firms increase their accounting profitability prior to the privatization (which suggests that it is not the privatization per se to determine an increase in firm profitability), state-owned firms are less profitable than privately owned companies on an accounting basis. On the other hand, they report that on average, over a five-year period after the privatization, privatized firms have outperformed their markets by 88 percent based on a market-adjusted stock return basis.

HM Treasury, and Spanish SEPI, and other privatization agencies. On average, SDC covers 98 per cent of privatized companies in these countries, which allows us to conclude that the SDC privatization database provides a representative sample of share issue privatization in OECD economies.

For each privatized firm, we identify a matching company as follows. We first match companies by country, and then by industry (following Campbell's (1996) classification). Potential matches are identified from the firms included in Worldscope. In general, we choose as match the private firm with the market capitalization closest to our privatized firm that is within a range of +/-30%. If we do not find a match in the country, we first match by industry, and then pick up an international firm in the same sector with the market capitalization closest to our privatized firm, in the +/-30% range. If we do not find a match in the same industry as the privatized company, we first match by country. We then pick the domestic firm with the market capitalization closest to our privatized firm, in the +/-30% range (as of the end of 1996). Whenever the government shows up as shareholder for a matching firm, we replace it with the next size match.

After the matching procedure described above, and after requiring that ownership data be available, we end up with a final sample of 141 firms privatized in 1996 or earlier, and 141 matching companies. The majority of the firms in the control group (68 per cent) are matched with the first best case, 30 per cent with the second best case, and only one with the third best case.[5]

For all companies included in the study, financial data for the period 1996-2000 is obtained from *Worldscope*. Name changes and acquisitions are tracked using the information contained in *Worldscope*, *Extel*, and *SDC*. In the case of mergers and acquisitions, we track the ownership of the bidder or the company resulting from the merger. If two privatized or matching firms merge together we continue to keep two separate observations in the sample.

[4] http://faculty-staff.ou.edu/M/William.L.Megginson-1/

B. Control structures: Data and examples

We employ the sources listed in Appendix A to measure the ultimate control (voting) rights of the largest shareholders for all privatized and matching companies, as of the end 1996 and 2000. Corporate control is measured in terms of voting rights, following the procedure employed in previous studies by La Porta, Lopez-de-Silanes, and Shleifer (1999), Claessens, Djankov, and Lang (2000), and Faccio and Lang (2002). For example, if a family owns 50% of Firm X, which owns 30% of Firm Y, then we posit that this family controls 30% of Firm Y (the percent is determined by the weakest link along the control chain). As discussed in detail later, ultimate control is defined at the 10% cut-off level, i.e. we posit that a company has a large shareholder whenever anyone directly or indirectly controls at least 10% of voting rights. In addition, for the privatized companies, full information on ownership restrictions, voting caps, and special powers granted to the state are collected from the privatization prospectuses.

Two examples show that privatized companies may have quite complex control structures. The following privatized firms are selected: Deutsche Lufthansa AG (Germany), and SGS-Thomson Microelectronics (now STMicroelectronics, France).

[Figure 1 goes here]

Figure 1 depicts the control structure of Lufthansa, Germany's largest airline, as of end 1996. The company has five direct shareholders: Deutsche Postbank, Deutsche Bahn, KfW, the State of North Rhine-Westphalia and MGL. Deutsche Postbank, Deutsche Bahn, KfW are government-majority controlled firms. The State of North Rhine-Westphalia is a local government authority. MGL is a publicly traded company with two main shareholders: Bayerische Landesbank Girozentrale (with a 44.5% control stake) and Dresdner Bank (also with a 44.5% control stake). Bayerische Landesbank, in turn, is 50% controlled by the State of Bavaria (a local government

[5] Whenever the government shows up as largest shareholder of a matching firm, a new matching company with only private shareholders is selected following the procedure just described.

authority) and 50% controlled by the Association of Bavarian Saving Banks. Dresdner Bank is 100% controlled by Allianz (which is part of a complex cross-holding).

Lufthansa has three ultimate shareholders with the 10% cutoff rule: Allianz, which indirectly controls 10.05% of votes (the minimum among 10.05%, 44.5% and 100%), the Association of Bavarian Saving Banks, which controls 10.05% of votes (the minimum between 10.05%, 44.5% and 50%), and the German government, which controls 50.70%[6] of the votes. The state is thus Lufthansa's (largest) controlling shareholder. Notice that we would have ended up with a Government stake of only 1.77% had we focused on direct ownership.

[Figure 2 goes here]

Figure 2 illustrates the control structure of SGS-Thomson Microelectronics as of mid-1996. STmicroelectronics N.V. (formerly known as SGS-Thomson Microelectronics N.V.) manufactures and supplies a broad range of semi-conductor integrated circuits and discrete devices. The company's control structure involves complex pyramids. The bottom left side of the figure depicts the stakes that can be traced back to the French government. The right side reports the chains that trace back to the Italian government. The French government indirectly controls SGS through three (100%) government controlled firms: SOGEPA, CEA and France Telecom. CEA (through CEA Industries) and France Telecom fully control FT1CI, which has a 50.1% stake in FT2CI. So, they indirectly control 50.1% of FT2CI (min(100%, 50.1%)). SOGEPA indirectly controls the remaining 49.9% (min(49.9%, 58%, 100%)) of FT2CI. Thus, overall, the French government controls 100% of FT2CI (50.1%+49.9%). In turn, FT2CI indirectly controls 50% (min(69.4%,100%, 50%)) of SGS-Thomson Microelectronics. Thus we posit that the French government controls 50% of SGS (min(50%,100%)).

The Italian government, on the other hand, indirectly controls SGS through IRI and Comitato SIP (two firms that it wholly owns). IRI has a 50.1% stake in MEI, while Comitato SIR holds the

[6] [1.03% (min (100%, 1.03%)) + 0.4% (min (100%, 0.4%)) +37.45% (min (100%, 37.45%))+1.77%+10.05% (min (10.05%, 44.5%, 50%))]

remaining 49.9%. Thus, through these two companies, the Italian government controls 100% of MEI's votes. MEI, in turn, has a 50% stake in SGS-Thomson Microelectronics Holding NV, who controls 100% of SGS-Thomson Microelectronics Holding BV which, in turn, has a 69.4% stake in SGS-Thomson Microelectronics NV. Thus, through this pyramid, the Italian government also controls 50% of SGS-Thomson Microelectronics NV's voting capital (min(69.4%, 100%, 50%, 100%)). This company is therefore under full government control, albeit two different nations are involved.

III. The ultimate control structure of privatized and matching firms

A. Evolution of control structures

Following previous research, we classify ultimate owners into the following six types:

- *State*: A national government, a local authority (county, municipality, etc.), or a government agency;
- *Family*: A family or a firm that is unlisted on any stock exchange;
- *Widely held corporation*: A non-financial firm, defined as *widely held* (that is, no shareholder controls 10% or more of the votes);
- *Widely held financial institution*: A financial firm (SIC 6000-6999) that is widely held;
- *Miscellaneous*: Charities, voting trusts, employees, cooperatives, foundations, or minority foreign investors;
- *Cross-holdings*: Firm X is controlled by another firm, Y, which is in turn controlled by X, or directly controls at least 10% of its own stock.

If the ultimate owner of a corporation is an unlisted firm, we trace back its owners using all available data sources. This was not always possible because most of our sample countries do not require unlisted firms to disclose their owners. Companies that do not have a shareholder controlling at least 10 percent of votes are classified as *widely held*.

[Table I goes here]

Table I analyzes the ultimate controlling owners of privatized and matching corporations under the 10 percent rule. Panel A shows that the state is the most common type of ultimate owner for privatized firms. This is true both as of the end of 1996, when 34.75 percent of privatized firms have the state as largest ultimate owner, and as of the end of 2000, when the government is the largest ultimate owner in 29.79 percent of cases.[7] Thus, even after privatization, almost one third of firms remain government-controlled. A large fraction of privatized companies do not have a controlling shareholder under the 10 percent rule, and are therefore labeled as "widely held". The proportion of widely held companies increases through time amongst privatized firms (27.66 percent in 1996, and 30.50 percent in 2000), although insignificantly so. Amongst privatized firms, the second most important type of ultimate owner is families and unlisted companies. Families control 16.31 percent of firms in 1996, and 19.86 percent in 2000. Widely held financial institutions are also relatively frequent large shareholders, and include 17.02 percent of cases in 1996 and in 9.93 percent of cases in 2000. Widely held corporations, miscellaneous investors, and cross-holdings appear to play a substantially more marginal role.

The ownership of matching firms exhibits a slightly different pattern (see Table I, Panel B). By construction, the government never is the largest shareholder in the matching sample. Most of these companies are widely held (37.59 percent of cases in 1996 and 41.84 percent in 2000). Families are the second most important type of investors, and are the largest shareholder in 35.46 percent of cases in 1996, and 28.37 percent of cases in 2000. Widely held financial institutions are also relatively important, being the largest shareholders for 19.86 percent of all matching firms in 1996, and for 11.35 percent in 2000. Once again, widely held corporations, miscellaneous investors, and cross-holdings play a minor role, although the former two investor types are definitely more common amongst matching than amongst privatized firms.

[7] Thus, the percentage of firms for which the government is the major shareholder declined through time by 4.96 percentage points.

A comparison between privatized and matching firms (Panel C) shows some convergence in their control structures. From 1996 to 2000, the differences in the percentage of firms controlled by families, widely held financial institutions, and miscellaneous shareholders decline or become insignificant.

[Table II goes here]

Table II shows that, on average, in 1996 the largest ultimate controlling shareholder controlled 27.80 percent of voting rights of privatized firms. This percentage marginally declines to 25.51 percent as of the end of 2000. Amongst companies in which the government is the largest shareholder, government control rights average 51.27 percent at the end of 1996, and 52.18 percent at the end of 2000. So, in these companies, the government not only is the largest shareholder, but on average it controls the majority of votes. Furthermore, there is little evidence of a decline in the role of government as a major shareholder.

In 1996, control rights are more diffuse for the control sample, where we find that the largest shareholder on average controls 21.10 percent of votes. This proportion, however, increases substantially by the end of 2000, when the largest shareholder controls 26.37 percent of votes. As a consequence, we observe a convergence in the concentration of voting power between privatized and matching firms. This convergence, however, comes from changes in the control structure of matching firms, which becomes much more concentrated. For the most part, these changes are the consequence of merger and acquisition activity.

B. Golden shares

The analysis of control (voting) rights does not provide a full picture of the real power wielded by the government shareholder, who can grant itself wide discretionary powers over partially or even fully privatized firms by the use of golden shares.

We define *golden share* as the system of the state's special powers over and statutory constraints on privatized companies. Typically, special powers include (i) the right to appoint members in corporate board; (ii) the right to consent to or to veto the acquisition of relevant interests in the privatized companies; (iii) other rights such as to consent to the transfer of subsidiaries, dissolution of the company, ordinary management, etc. The above mentioned rights may be temporary or not. On the other hand, statutory contraints include (i) ownership limits; (ii) voting caps; (iii) national control provisions.

This set of powers and constraints may stem from the possession of a redeemable special share, from limitations imposed by the privatized company's statutes, often in accordance with the privatization law, or from the possession of special class shares.

Golden shares have different institutional characteristics in different countries. For example, in the U.K., the prior consent of the special shareholder is normally required for any change in the ownership limitations in the Articles of Association, which usually prevent a person - or persons acting in concert - from having an interest of 15 percent or more in the voting share capital. The articles defining rights attached to the special share cannot be altered or removed. The special shares do not carry any rights to vote at general meetings, but they do entitle the holder to attend and speak at such meetings. The special share in this "basic" form applies to National Power Plc, Scottish Power, AEA Technology Plc, and National Grid Group Plc. The rights attached to the special share are wider only in a few cases where a national "strategic" interest can be identified. The French *action spécifique* is particularly diversified. In general, prior approval of the Minister is required if persons or entities are to hold more than a certain percent of the capital or voting rights (10 percent for Elf Aquitaine (now Total-Fina Elf), Havas, and Thomson-CSF (now Thales)). Usually a representative of the French Government is appointed to the Board of Directors to act on behalf of the Minister. In some cases he has limited veto power (i.e. for Elf Aquitaine, to block the sale of certain strategic assets), while in others he can veto any board resolution (Thomson-CSF).

In Turkey, in some cases special powers are so extensive that they involve government in ordinary management.

Listed companies are forced to disclose fully the presence of golden share provisions in their prospectuses. We have therefore solicited privatization prospectuses from individual companies, investment banks, security exchange commissions, and privatization agencies. We have been able to obtain 104 prospectuses out of our sample of 141 companies privatized in OECD countries in the 1977-2000 period.[8] We then identified the presence of golden shares in the company's prospectus.

[Table III goes here]

Table III documents the diffusion of golden shares amongst privatized firms. We find that 62.5% of such firms have outstanding golden shares as of the end of 1996. Special powers are quite frequent and appear in 39.42% privatized companies. Additionally, in a number of cases privatized companies' statutes set upper limits on the individual ownership voting rights that can be acquired without government approval. In some cases, these limitations only apply to ownership held by foreign investors. It is common for the privatized company's statute to require the headquarters to be located in the country of incorporation or for it to require the board members to be citizens of the country of incorporation.

Golden shares are more common amongst companies in which the government is not the largest shareholder. As reported in Table III, as of the end of 1996, golden shares were present in 56.41 percent of the 39 companies under government control (under the 10% rule), and in 66.15 percent of the remaining 65 firms in which the government was not the largest shareholder. A similar picture comes out at the end of 2000, when golden shares are present in 57.58 percent of companies in which the government was the largest shareholder, and in 64.79 percent of firms in which the government does not control at least 10 percent of votes.

[8] Detailed institutional information about golden shares can be found from some official web sites (such as the HM Treasury in the United Kingdom, www.hm-treasury.gov.uk, the Spanish Sociedad Estatal de Participaciones Industriales, www.sepi.es, the Austrian Holding and Privatisation Agency, www.oiag.at).

Table III shows that, through ownership *or* golden shares, the government controls 65.2 percent of privatized firms as of the end of 1996, and 62.4 percent of privatized firms as of the end of 2000. This evidence clearly indicates that, in the majority of cases, the "privatization" process was not followed by a complete relinquishment of power by the state.

[Table IV goes here]

Table IV shows that government reluctance to privatize is particularly common in some sectors, such as basic industries, in which 84.6 percent of the privatized companies have golden shares or the government is the largest shareholder. Other industries that are similarly dominated by the government after privatization are leisure (100 percent), petroleum (77.8 percent), services (100 percent), textile and trade (100 percent), transportation (70.6 percent), and utilities (77.1 percent). Government ownership, special powers, and statutory constraints are quite absent in the financial sector, appearing "only" in 35.3 percent of the companies.

IV. Valuation and performance of privatized and matching firms

A. Univariate results

Table V reports company market-to-book (MB) ratios and stock price performance.[9] The MB ratio is defined as the ratio of market value of ordinary and preferred equity to the book value of equity. Stock price performance (total investment return) is computed as {[(market price year end + dividends per share + special dividend quarter 1 + special dividend-quarter 2 + special dividend-quarter 3 + special dividend-quarter 4) / last year's market price-year end] - 1} * 100.

[Table V goes here]

For the whole sample, we find that privatized companies are significantly less valuable than their peers in terms of MB ratio in every year considered (Panel A). However, the difference in the average (median) MB ratio declines from a maximum of -1.38 (-0.93) in 1997 to a minimum of -

0.61 (-0.16) in 2000. Thus, we find that the market value of privatized firms converges toward the valuation levels of their matching peers. On the other hand, we find that privatized firms (insignificantly) outperform their peers on a stock return basis in all years except 2000 (Panel D).

Panels B and C in Table V separately report the MB ratio of privatized companies that are still under government control (as of the end of 1996) and those in which the government is no longer the largest shareholder. Interestingly, the valuation of government controlled firms is closer to that of their matching peers than to the valuation of non-government controlled companies.[10] For example, in 1996, the difference between the average (median) MB ratio of privatized firms still under government control and the MB ratio of their matching peers was -0.55 (-0.35); at the same time, the difference between the average (median) MB ratio of privatized companies that are no longer under government control and the MB ratio of their matching peers was -1.50 (-0.94). All these differences were significant at the .01 level. As of 2000, the difference between the average (median) MB ratio of privatized firms still under government control and the MB ratio of their matching peers was -0.48 (0.45), while the difference between the average (median) MB ratio of privatized companies that are no longer under government control and the MB ratio of their matching peers was -0.68 (-0.31). None of these differences are significant at the .10 level or greater.

Similarly, Panels E and F report the stock price return of privatized companies that are still under government control (as of the end of 1996) and those in which the government is no longer the largest shareholder. We find that privatized firms still under government control outperform their matched firms in every single year, although the difference in returns is not statistically significant. However, also privatized firms that are no longer under government control outperform their peers in all years but 2000. Thus, on a stock price performance basis, we generally cannot

[9] A problem of WorldScope data is the presence of outliers. All balance-sheet variables have therefore been trimmed by dropping observations lower (larger) than the second bottom (top) percentile.
[10] The treatment of golden shares does not affect this conclusion.

conclude that government ownership hurts investors, even if some abnormal performance is found in year 1998 for companies that are privatized more completely.

[Table VI goes here]

B. Multivariate analysis

The results of the univariate analysis suggest that the valuation and performance of privatized and matching firms tend to converge over time, but that government's willingness to relinquish control does not seem to explain the speed of that convergence. In particular, the presence of the state as the largest ultimate shareholders does not affect negatively the adjusted market value of state-owned enterprises (SOEs). On the contrary, privatized companies that are more tightly controlled by the state have an average market-to-book closer to that of their private counterparts.

These preliminary results are quite surprising and they led us to perform a thorough empirical test of the role of government control in the valuation and performance of firms. To proceed in that direction, some additional data collection is needed. First, we have to track changes in governments' direct and indirect ownership in our sample of privatized firms. These changes in direct stake may be due to further privatization sales, to primary (capital raising) issues, or to acquisitions of the company's shares by the government or other public entities. Obviously when pyramiding occurs, changes in the ownership structure have to be identified along the entire control chain in order to obtain data on control rights that is consistent with the data analyzed in section II. Second, a set of economic and financial variables has to be constructed to control for firm-specific time varying effects.

We investigate the average impact of changes in government control rights on the adjusted valuation and performance of privatized firms by estimating the following specification:

$$\Delta y_{it} = \alpha_i + \alpha_t + \beta' \Delta x_{it} + \gamma STATE_{it} + \delta SPECIAL_i + \upsilon_{it}, \qquad (1)$$

where Δy_{it} is the difference between the valuation or the performance indicators of the privatized company and its matching firm (the market-to-book, *MB*, and stock price return, *RETURN,* respectively), Δx_{it} is the vector of control variables, *STATE* is the share of control rights of the government in the privatized company,[11] *SPECIAL* is a dummy taking the value one when the special powers are granted to the state,[12] α_i is the fixed effect, and α_t is a vector of time dummies to capture year effects. Cross-sectional units are the pairs given by the privatized company and its match. Thus the fixed effect captures these pair-specific effects.

As to control variables, we use a large set of financial variables constructed by taking differences between the privatized and the matching companies, using WorldScope data. A valuation differential can be explained by differences in the company size. By construction, matching firms are selected to be within in a range of +/- 30 percent of the privatized firm's market capitalization in the initial year. However, size can vary considerably over time due to M&A activity. We therefore control for this effect with the variable *ΔSIZE*, which is the difference between the (log of) the end of year market capitalizations. Leverage has also been shown to matter in the valuation of firms, so the debt-to-equity ratio (*ΔDEBT)* is included. Difference in market performance could also be ascribed to the degree of efficiency with which the companies use their assets. We then construct *ΔASSETURN* as the ratio of sales to total assets to measure how many times the matching company turns over its assets relative to the privatized firm. Other control variables show the effect of differences in investment, as measured by differences in the ratio of total capital expenditure to sales (*ΔCAPEX),* in operating cash flow *(ΔEBITDA),* the growth rates of total sales *(ΔGROWTH),* and the effect of differences in productive efficiency as measured by total sales per employee *(ΔSALESPEREMP).*

[11] Since, by construction, the government never shows up as controlling owner of matching firms, the variable STATE can be interpreted as the difference between government ownership in privatized and government ownership in matching firms. A similar interpretation applies to SPECIAL.

[12] Golden share mechanisms are strongly correlated. We therefore decided to include in the regression analysis only the dummy SPECIAL, which occurs more frequently, to avoid multicollinearity problems. The choice of a different golden share dummy does not affect qualitatively our results.

The market value and financial performance of privatized firms might be affected by industry sector. Indeed, some former state monopolies operating in energy, transportation, telecommunications, and utilities, are considered strategically important for the national economy and are often shielded from competition. Furthermore, they may enjoy favourable treatment by the state in terms of subsidized loans, favorable regulatory treatment, guaranteed business, and the like. Thus higher valuation and performance could stem from the presence of rents and special benefits which are granted to privatized companies and not to their private competitors. We partially control for this factor by using dummy variables based on two-digit SIC codes for three sectors that are relatively heavily regulated and less competitive (*PETROLEUM*, *TRANSPORT*, and *UTILITIES*).

Series for all these variables have been computed for the period 1996-2000. Both the choice of the market-to-book and stock price returns as measures of valuation and performance and the inclusion of most of these controls are rather standard in the literature (see, for example, Lang, Ofek and Stulz, 1996, McConnell and Servaes, 1990, Morck, Shleifer and Vishny, 1988).

Equation (1) has been estimated by using random effects models, which assume that $\alpha_i \sim IID\left(0, \sigma_\alpha^2\right)$ and $\upsilon_{it} \sim IID\left(0, \sigma_\upsilon^2\right)$. In order to assess the consistency of the random effects, we have performed a Hausman (1978) specification test, under the null of non-systematic differences in the coefficients of the fixed and random effects models. If they do not differ statistically, the random-effects model is more efficient. Clearly, the test is performed only on the coefficients of the time-varying variables included in both models.

Table VI presents the results of the regression analysis. Columns (I) to (V) report the estimated coefficients of OLS models. We first run a basic specification with a set of control variables and then add our two measures for government (direct and indirect) control rights, *SIZE* and *SPECIAL*. Finally, we add our sector dummies as additional controls in these specifications. We have opted for parsimonious specifications since the number of observations shrinks rapidly when additional control variables are included. We report the estimated coefficients of the set of

control variables that yielded more interesting results. However, the point estimates of the two main variables are not affected by the choice of different controls.

[Table VI goes here]

Table VI partially confirms the preliminary evidence from the univariate analysis. The size of government's residual stake does not seem to negatively affect relative valuation. On the contrary, when we control for the presence of special powers (regressions III and V), we find a positive and significant coefficient on the variable *STATE*. This suggests that a *higher* stake brings the privatized company's market-to-book closer to its private match. However, special powers do not have a significant impact on corporate valuation.

Our control variables yield some interesting results, too. The coefficients of the difference in company size and asset turnover are always positive and highly statistically significant. We report also some weaker evidence on the role of leverage in corporate valuation: We find a lower difference in the debt-to-equity ratio associated with a large difference in market performance, a finding consistent with several previous studies. Interestingly, the state does not appear to provide rents to companies operating in more regulated and less competitive sectors. In fact, our sector dummies are insignificantly related to relative valuation. More important, government stakes remain significant when these additional control variables are included.

Table VI reports also the estimated coefficients when adjusted stock return is the dependent variable. We do not find evidence that higher stakes by the government negatively affect company performance. In all our regressions, the coefficient of the variable *STATE* is positive but insignificant. The only significant variable is again company size, for which we report a positive and highly statistically significant coefficient in all regressions. The presence of golden shares seems to have a negative effect on stock prices when we control for sector dummies. Company performance does not seem affected by industry sector, with the exception of utilities where privatized companies may enjoy some monopolistic rents.

C. Endogeneity of government control rights

Conceptually, the OLS estimation of Equation (1) can be affected by a simultaneity bias. The variable STATE, measuring government's residual control rights in the privatized company, could be endogenous to market valuation and performance (Caves and Christensen, 1980, Martin and Parker, 1995, and Kole and Mulherin, 1997). Indeed, a government may attempt to privatize, and therefore to reduce its stake in the SOE, at times when the company is more valuable or yields abnormal returns in order to fetch a better price. If error terms are correlated with residual stakes, consistent estimates can be obtained through two-stage least squares (2SLS) estimation using a vector of exogenous instruments.

Possible valid instruments to cope with our endogeneity problem are the partisan orientation of governments, political-institutional indexes, and public finance variables (Bortolotti et al., 2003; Bortolotti and Pinotti, 2003). Political orientation is captured by a variable (*PARTISAN*) that ranges from 0 (extreme left of the political spectrum) to 10 (extreme right), measured by the weighted average of scores given in expert surveys to the parties supporting government, as in Huber and Inglehart (1995). Weights are the number of seats obtained by each party as a percentage of total seats of the ruling coalition. The political-institutional index (*POLINST*) has been developed in comparative political science and it allows categorizing countries on a majoritarian-consensual dimension (see Lijphart 1999). *POLINST* is an average of a disproportionality index, the effective number of parties, and a measure of government stability (see Lijphart 1999). These political indexes are based on electoral data and display variability both in time and cross-sectionally. [13] The public finance variable used is the debt-to-GDP ratio.

[Table VII goes here]

Table VII reports the two-stage least squares coefficients of the same models estimated by OLS. The results of the first stage regression are quite interesting *per se* and suggest that partisan

[13] For a more accurate description of these political and institutional variables and sources see Bortolotti and Pinotti (2003)

politics and political institutions matter in explaining the government's willingness to relinquish control. Governments leaning toward the right of the political spectrum are associated with lower residual stakes in privatized companies, and so are majority-consentual countries. These results are consistent with previous results showing that in OECD countries the extent of a country's privatization (measured as revenues scaled by GDP) is associated with right-wing governments and with majoritarian political systems (Bortolotti and Pinotti, 2003). Public finance appears to be particularly important in the first-stage regressions using adjusted returns, where we find the debt-ratio significantly related to lower residual stakes. Overall, the high joint statistical significance of the first-stage regression indicates that these variables may be valid instruments for government control rights. We confirmed the validity of our instruments by running a Sargan (1958) test of over-identifying restrictions.

When we control for endogeneity, the previous result showing an association between the role of government control rights and performance is strengthened The coefficient of the fitted value of variable STATE is always positive and statistically significant at the .05 level. The absolute value of the coefficient suggests that the effect of a decrease of government control rights may be economically relevant. For example, a reduction in government ownership of 10 percent is associated with a decrease of approximately 0.6 (-10 X 0.06) in adjusted market-to-book. Quite strikingly, our data seem to suggest that larger government stakes do not reduce the market valuation of state-owned enterprises. Rather, fully divested companies appear to be on average less valuable. This result is robust to the inclusion of special powers of the state as an additional regressor (which is again insignificant), and to changes in the choice of instrumental variables. The coefficients on the other control variables at the firm level confirm the previous results, with size and asset turnover explaining a large fraction of the variance in valuation differentials. The effect of government ownership survives when our sector dummies are included, suggesting that higher market-to-book ratios are not driven by lack of competition or weak regulation.

Table VII presents the same regressions with adjusted stock returns as dependent variable. Results allow us to conclude that larger holdings by the state do not appear to affect negatively either valuation or performance. The coefficient of the fitted value of STATE is not significant. Rather, it is positive and significant when we add the sector dummies (Equation VIII). Overall, the only factors that seem to matter are again company size and the utility sector.

V. Conclusions

We document two new important findings concerning the control and value of privatized firms. First, we show that, across our sample of OECD countries, the privatization process has been carried out reluctantly. By employing the relatively new concept of ultimate control to follow changes in the ownership of privatized companies, we show that, as of the end of 2000, governments are either the largest shareholders or have substantial veto powers in almost two thirds of formerly state-owned firms.

Second, although we document a convergence in privatized company valuations (MB ratios) through time toward those of the matched sample, we find that this convergence in market values does not depend on the government relinquishing control rights. Rather, a higher percentage of control rights held by the government results in privatized companies having higher (peer) adjusted market-to-book ratios. This result is robust to changes in control variables, and is not affected by reverse causality. We also find no evidence of stock price underperformance by privatized firms that are more tightly controlled by the state. The reported evidence casts doubt on the empirical validity of the "political view" when applied to (partially) privatized companies.

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Appendix A: Data Sources

Panel A: Ownership Data

Country	Data Sources for 1996:	Data Sources for 2000:
Australia	Australian Stock Exchange, 1997, "ASX all Ordinary Index. Company Handbook", Sydney, N.S.W.	http://www.companies.govt.nz/search/cad/dbssiten.main
Austria	Wiener Börse, 1997, "Yearbook 1996", Österreichische Vereinigung für Finanzanalyse, Wien	Wiener Börse, 2001, "Yearbook 2000", Österreichische Vereinigung für Finanzanalyse, Wien
Belgium	Banque Bruxelles Lambert, 1996, "Actionnariat des Sociétés Belges cotées à Bruxelles", Department Etudes et Stratégie.	Banque Bruxelles Lambert, 2000, "Actionnariat des Sociétés Belges cotées à Bruxelles", Department Etudes et Stratégie. http://www.stockexchange.be/enindex.htm
Canada	The Financial Post, 1996, "Survey of Industrials" The Financial Post, 1996, "Survey of Mines and Energy Resources" Statistics Canada , 1996, "Inter-corporate Ownership in Canada."	Company web sites from: http://www.tse.com/
Denmark	Company web sites	Company web sites
Finland	http://www.huginonline.com/ Company web sites from: http://www.hex.fi	Http://www.huginonline.com/ Company web sites from: http://www.hex.fi
France	The Herald Tribune, 1998, "French Company Handbook 1997," SFB-Paris Bourse http://www.bourse-de-paris.fr/fr/market8/fsg830.htm	http://www.bourse-de-paris.fr/fr/index_fs.htm?nc=2&ni=6&nom=marche Company web sites from: http://www.euronext.com/fr/
Germany	Commerzbank, 1997, "Wer gehört zu Wem," 19th edition. Bundesaufsichtsamt für den Wertpapierhandel, "Major Holdings of Voting Rights in Officially Listed Companies," September 1997	Commerzbank, 2000, "Wer gehört zu Wem," 20th edition Bundesaufsichtsamt für den Wertpapierhandel, "Major Holdings of Voting Rights in Officially Listed Companies," December 2000
Greece	Company web sites	http://www.ase.gr/
Ireland	London Stock Exchange, 1997, "The London Stock Exchange Yearbook"	Http://www.hemscott.co.uk/equities/
Italy	CONSOB, 1997, "Bollettino – edizione speciale n. 4/97 – Compagine azionaria delle società quotate in borsa o ammesse alle negoziazioni nel mercato ristretto al 31 dicembre 1996"	Http://www.consob.it/
Japan	Toyo Keizai Shanposha, 1997, "Japan Company Handbook", Tokyo, Japan, Winter Edition. (http://www.toyokeizai.co.jp/english/jch/order/index.html)	Toyo Keizai Shanposha, 2001, "Japan Company Handbook", Tokyo, Japan, Summer Edition.
Mexico	Company web sites from: http://www.bmv.com.mx/bmving/index.html	Company web sites from: http://www.bmv.com.mx/bmving/index.html
Netherlands	Company web sites from: http://www.euronext.com/en/	Company web sites from: http://www.euronext.com/en/
New Zealand	Datex, 1997, "New Zealand Directory of Shareholders"	Datex, 2001, "New Zealand Directory of Shareholders"
Norway	Http://www.huginonline.com/ Company web sites from: http://www.ose.no/english/	http://www.huginonline.com/ Company web sites from: http://www.ose.no/english/

Portugal	Bolsa de Valores de Lisboa, 1997, "Sociedades Cotadas 1996"	Bolsa de Valores de Lisboa e Porto, 2000, "Sociedades Cotadas 1999", CD-rom
Spain	Comision Nacional del Mercado de Valores, 1996 and 1997, "Participaciones significativas en sociedades cotizadas"	http://www.cnmv.es/english/cnmve.htm
Sweden	Http://www.huginonline.com/	http://www.huginonline.com/
Turkey	Company web sites.	The Istanbul Stock Exchange, 2001, "Yearbook of Companies", available at: http://www.ise.org
UK	London Stock Exchange, 1997, "The London Stock Exchange Yearbook"	http://www.hemscott.co.uk/equities/
USA	http://www.sec.gov/cgi-bin/srch-edgar	http://www.sec.gov/cgi-bin/srch-edgar

Ownership information is supplemented with the various companies' privatization prospectuses, Bankscope, the Economist Intelligence Unit country reports (for Government ownership), Extel Financial, Faccio and Lang (2002), Fortune (www.fortune.com), Lexis-Nexis, and Worldscope.

Panel B: Additional Data

Accounting and stock market data:

1. Worldscope; Datastream
2. Company privatization prospectuses and accounts

Data-sets used to track companies (i.e., to identify name changes, M&As, etc…):

1. Thomson Financial Securities Data, SDC Platinum™, Worldwide Mergers & Acquisitions Database
2. Extel Financial
3. Sources listed in Panel A

Figure 1. The control structure of Deutsche Lufthansa (Germany) as of end 1996

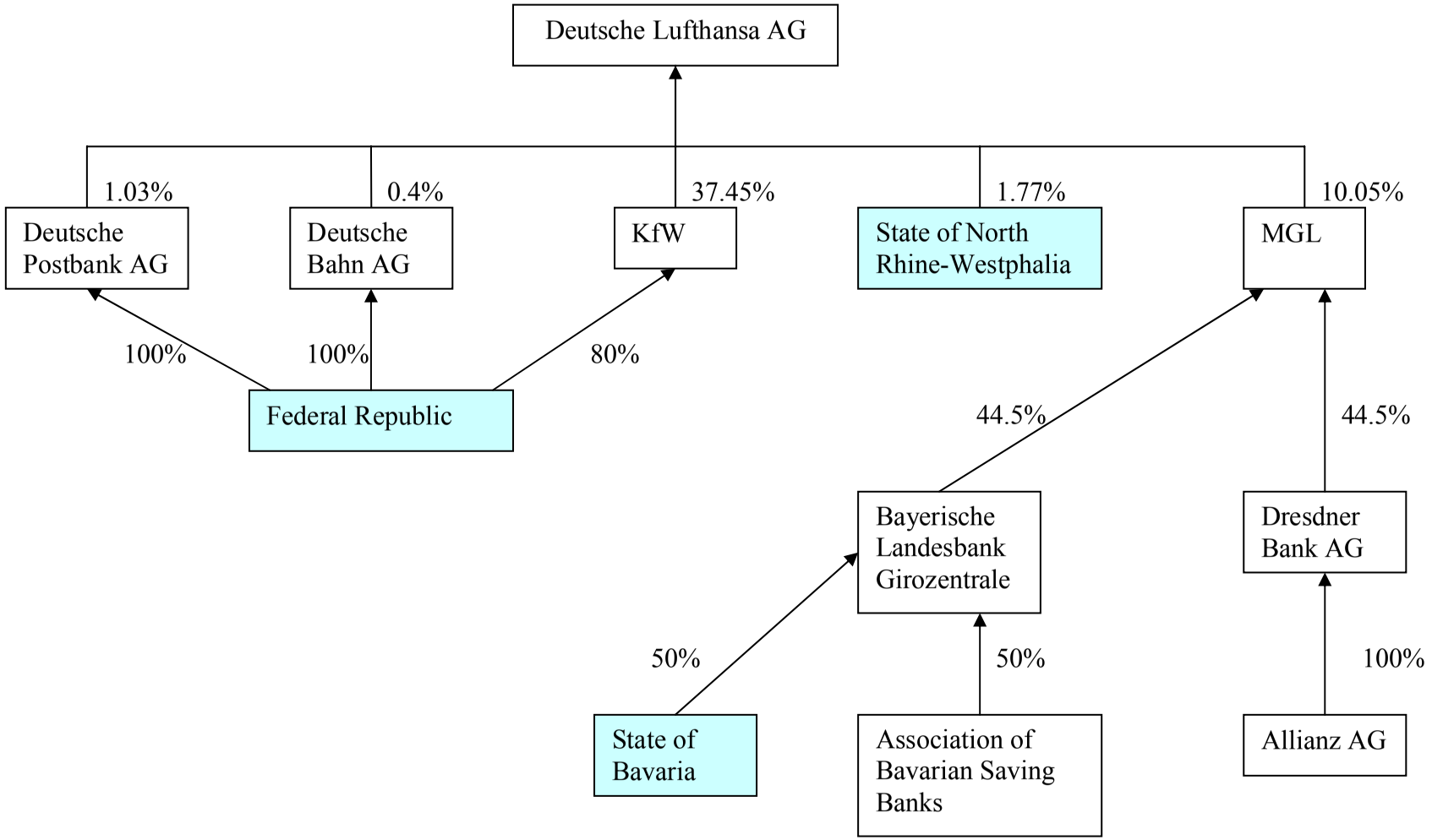

Figure 2. The control structure of SGS Thomson Microelectronics NV (France) as of end 1996.

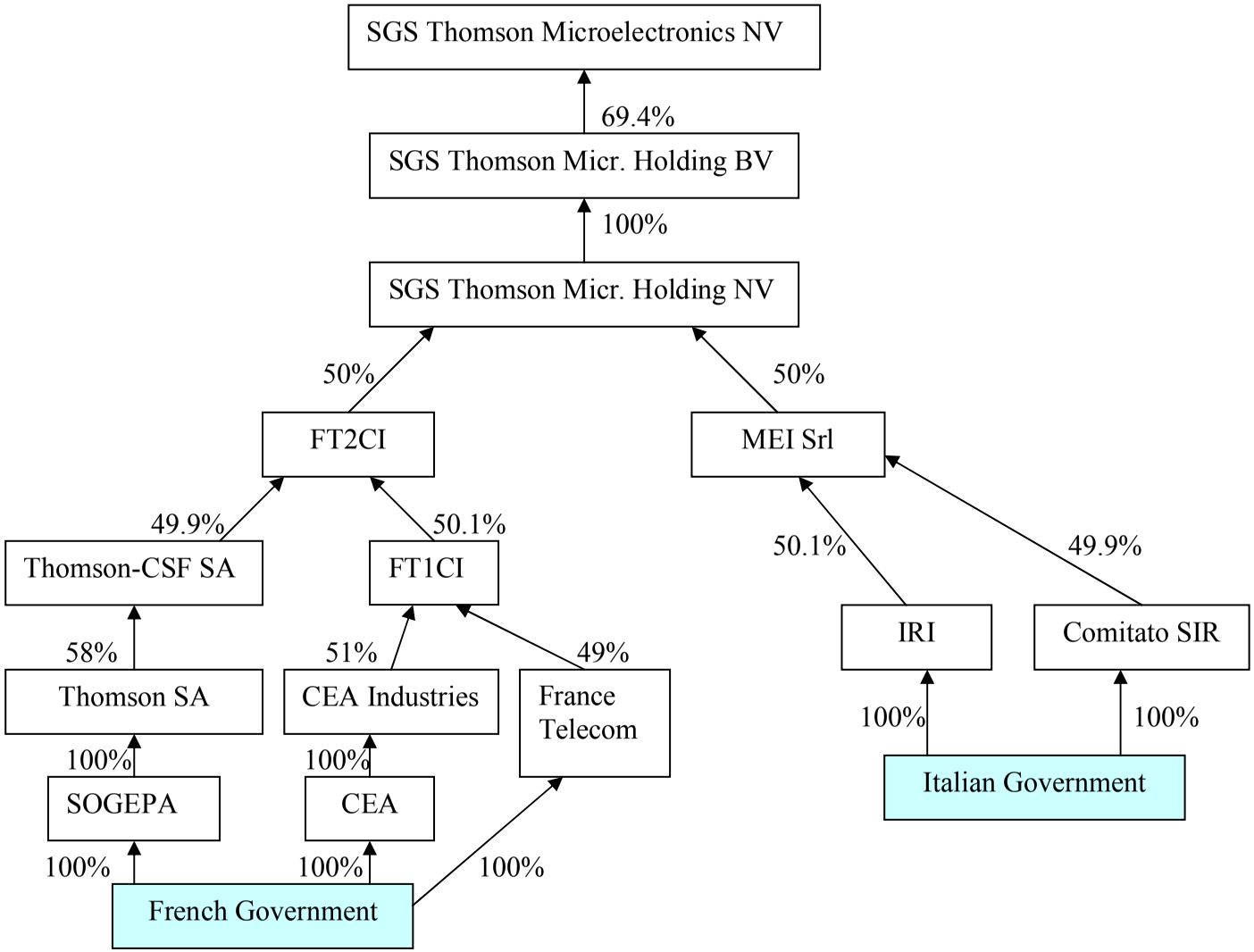

Table I. Ultimate Control of Privatized and Matching Firms (Largest Shareholder)

Data for 141 privatized corporations and 141 matching firms are used to construct this table. The table presents the percentage of firms controlled by different controlling owners, using 10% ownership as the threshold. Controlling shareholders are classified into six types. State: A national government (domestic or foreign), a local authority (county, municipality, etc.), or a government agency. Family: A family (including an individual) or a firm that is unlisted on any stock exchange. Widely held financial institution: A financial firm (SIC 6000-6999) that is defined as widely held because no shareholder controls 10% or more of the votes; held at the control threshold. Widely held corporation: A nonfinancial firm, widely held using the control threshold. Cross-holdings: The firm Y is controlled by another firm, that is controlled by Y, or directly controls at least 10 percent of its own stocks. Miscellaneous: Charities, voting trusts, employees, cooperatives, or minority foreign investors. Companies that do not have a shareholder controlling at least 10 percent of votes are classified as widely held. [a], [b], and [c] denote statistical significance at the .01, .05, and .10 levels, respectively.

Panel A: Privatized Firms

Time period	Number of firms	State	Family	— *of which:*		Widely held corp.	Widely held financial	Miscell.	Cross-holdings	Widely held
				Identified families	*Unlisted firms*					
End of 1996	141	34.75	16.31	2.84	13.48	2.84	17.02	1.42	0.00	27.66
End of 2000	141	29.79	19.86	2.84	17.02	4.26	9.93	4.96	0.71	30.50
Diff '00-'96		-4.96 [b]	3.55	0.00	3.55	1.42	-7.09 [b]	3.55 [b]	0.71	2.84
T-stat		*-2.14*	*1.04*	*0.00*	*1.09*	*0.82*	*-2.27*	*2.27*	*1.00*	*0.78*

Panel B: Matching Firms

Time period	Number of firms	State	Family	— *of which:*		Widely held corp.	Widely held financial	Miscell.	Cross-holdings	Widely held
				Identified families	*Unlisted firms*					
End of 1996	141	0.00	35.46	13.48	21.99	2.13	19.86	4.96	0.00	37.59
End of 2000	141	0.00	28.37	7.09	21.28	8.51	11.35	8.51	1.42	41.84
Diff '00-'96		0.00	-7.09 [c]	-6.38 [a]	-0.71	6.38 [b]	-8.51 [b]	3.55	1.42	4.26
T-stat		.	*-1.78*	*-2.78*	*-0.19*	*2.36*	*-2.49*	*1.51*	*1.42*	*0.97*

Panel C: Difference between Privatized and Matching Firms

Time period	State	Family	— *of which:*		Widely held corp.	Widely held financial	Miscell.	Cross-holdings	Widely held
			Identified families	*Unlisted firms*					
Diff end 1996	34.75 [a]	-19.15 [a]	-10.64 [a]	-8.51 [b]	0.71	-2.84	-3.55 [c]	0.00	-9.93 [c]
T-stat	*8.63*	*-4.26*	*-3.81*	*-2.15*	*0.38*	*-0.60*	*-1.91*	.	*-1.82*
Diff end 2000	29.79 [a]	-8.51 [c]	-4.26 [c]	-4.26	-4.26	-1.42	-3.55	-0.71	-11.35 [b]
T-stat	*7.71*	*-1.74*	*-1.92*	*-0.90*	*-1.61*	*-0.39*	*-1.21*	*-0.58*	*-2.30*

Table II. Ultimate Control Rights

Data relating to 141 privatized corporations and 141 matching firms are used to construct this table. Control rights is the percentage of voting rights ultimately controlled by the largest controlling shareholder. Government control rights is the percentage of voting rights controlled by the Government as the largest shareholder. Private control rights is the percentage of voting rights controlled by the largest shareholder in firms matching those in which the Government is the largest controlling shareholder. [a], [b], and [c] denote statistical significance at the .01, .05, and .10 levels, respectively.

Panel A: Privatized Firms

Country	Number of firms	Mean	Median	1st quartile	3rd quartile	Government Control Rights
End of 1996	141	27.80	19.99	0.00	51.00	51.27 (N=49)
End of 2000	141	25.51	16.16	6.02	42.15	52.18 (N=42)
Diff '00-'96		-2.29				
T-stat		*-1.26*				

Panel B: Matching Firms

Country	Number of firms	Mean	Median	1st quartile	3rd quartile	Private Control Rights
End of 1996	141	21.10	11.92	0.00	31.60	15.67 (N=49)
End of 2000	141	26.37	13.40	5.90	33.35	17.76 (N=42)
Diff '00-'96		5.27 [b]				
T-stat		*2.13*				

Panel C: Difference between Privatized and Matching Firms

Country	All Firms (Mean)	Government- Controlled Firms
Diff end 1996	6.70 [b]	35.50 [a]
T-stat	*2.37*	*9.10*
Diff end 2000	-0.86	34.42 [a]
T-stat	*-0.28*	*7.80*

Table III. "Golden share" Provisions in Privatized Firms

Golden share is a dummy that takes the value of 1 if the Government enjoys special powers or if there are other statutory constraints in a privatized company. *Special Powers* is a dummy that takes the value of 1 if the Government enjoys special powers in privatized companies. Special powers stem from the possession of special class shares and from provisions contained in the privatized company's statute, and they include (i) the right to appoint members in corporate board; (ii) the right to consent to or to veto the acquisition of relevant interests in the privatized company; (iii) other rights such as to consent to the transfer of subsidiaries, dissolution of the company, or even ordinary management decisions. *Statutory constraints* include (i) ownership limits; (ii) voting caps; (iii) national control provisions. *Ownership limit* is a dummy that takes the value of 1 if the company statute establishes an upper limit on the individual ownership rights that can be acquired without Government consent. *Voting Cap* is a dummy that takes the value of 1 if the company statute establishes an upper limit on the votes that any shareholder may cast at general meetings. *Foreign Ownership Limit* is a dummy that takes the value of 1 if company statute establishes an upper limit on the individual ownership rights that can be acquired by a foreign investor without Government consent. *Foreign Voting Cap* is a dummy that takes the value of 1 if the company statute establishes an upper limit on the votes that any foreign shareholder may cast at general meetings. *National Control* is a dummy that takes the value of 1 if the company statute prohibits non-residents to acquire a controlling interest in the privatized company. *Location/Directors' Nationality* is a dummy that takes the value of 1 if the company statute requires that the corporate headquarters be located in the country of incorporation or that the board members be citizens of the country of incorporation. *Gov't Controlled* firms are those whose largest shareholder (at the 10 percent threshold) is a national government (domestic or foreign), a local authority (county, municipality, etc.), or a government agency. All other firms are classified as *Non-Gov't Controlled*.

	All Privatized Firms		Gov't Controlled (as of end '96)		Non-Gov't Controlled (as of end '96)		Gov't Controlled (as of end '00)		Non-Gov't Controlled (as of end '00)	
	N	Mean (%)	N	Mean (%)	N	Mean (%)	N	Mean (%)	N	Mean (%)
Golden share	104	62.50	39	56.41	65	66.15	33	57.58	71	64.79
Of which:										
Special Powers:	104	39.42	39	28.21	65	46.15	33	27.27	71	45.07
Ownership Limit	99	33.33	38	18.42	61	42.62	32	18.75	67	40.30
Voting Cap	99	24.24	39	23.08	60	25.00	33	27.27	66	22.73
Foreign Ownership Limit	99	12.12	38	7.89	61	14.75	32	9.38	67	13.43
Foreign Voting Cap	97	7.22	37	5.41	60	8.33	31	6.45	66	7.58
National Control	105	9.52	39	10.26	66	9.09	32	12.50	73	8.22
Location/Directors' Nationality	104	9.62	39	5.13	65	12.31	32	6.25	72	11.11

Table IV. Industry Distribution of Privatized Firms by Control Type

Gov't Controlled firms are those whose largest shareholder (at the 10 percent threshold) is a national government (domestic or foreign), a local authority (county, municipality, etc.), or a government agency. *Golden share* is a dummy that takes the value of 1 if the Government enjoys special powers or if there are statutory constraints on privatized companies. *Industry Classification* is based on Campbell (1996. p. 316).

Industry Classification	Two-Digit SIC Codes	Gov't Controlled or Golden Share (as of end '96)	Non-Gov't Controlled & No Golden Share (as of end '96)	Obs. in the Industry as % of all Privatizations	Gov't Controlled or Golden Share as % of Privatizations in the Industry
Basic Industries	10, 12, 14, 24, 26, 28, 33	11	2	9.2	84.6
Capital Goods	34, 35, 38	2	2	2.8	50.0
Consumer durables	25, 30, 36, 37, 50, 55, 57	10	5	10.6	66.7
Construction	15-17, 32, 52	2	1	2.1	66.7
Finance/real estate	60-69	12	22	24.1	35.3
Food/Tobacco	1, 9, 20, 21, 54	3	2	3.5	60.0
Leisure	27, 58, 70, 78, 79	3	0	2.1	100.0
Petroleum	13, 29	7	2	6.4	77.8
Services	72, 73, 75, 80, 82, 87, 89	2	0	1.4	100.0
Textiles/Trade	22, 23, 31, 51, 53, 56, 59	1	0	0.7	100.0
Transportation	40-42, 44, 45, 47	12	5	12.1	70.6
Utilities	46, 48, 49	27	8	24.8	77.1

Table V. Value and Performance of Privatized and Matching Firms

Data relating to 141 privatized corporations and 141 matching firms are used to construct this table. The table presents, in Panels A through C the mean and (below) the median of *Market-to-Book*. Panels D through F present the mean and median of *Total Investment Return*. In each year, the top and bottom 2% observations are excluded. [a], [b], and [c] denote statistical significance at the .01, .05, and .10 levels, respectively.

Year	1996	1997	1998	1999	2000
Panel A: Whole Sample (Market-to-Book)					
Privatized firms (A)	1.72	1.92	2.39	2.62	2.21
	1.49	1.68	2.00	1.98	2.07
Matching firms (B)	2.96	3.31	3.51	3.91	2.82
	2.37	2.61	2.50	2.45	2.23
No. matched pairs	104	106	93	82	67
Difference Means (A) – (B)	-1.20 [a]	-1.38 [a]	-1.12 [a]	-1.28 [a]	-0.61 [c]
T-stat	-5.46	-4.93	-3.15	-2.93	-1.74
Difference Medians (A) – (B)	-0.88 [a]	-0.93 [a]	-0.50 [a]	-0.47 [a]	-0.16 [c]
Wilcoxon Z-stat	5.88	5.40	3.39	2.58	1.78
Panel B: Gov't Controlled (as of end '96) vs. their Peers (Market-to-Book)					
Gov't Controlled (C)	1.73	1.97	2.16	2.39	2.00
	1.59	1.80	1.91	1.60	2.17
Matching firms (D)	2.28	2.49	2.80	2.98	2.48
	1.94	2.10	2.22	1.96	1.72
No. matched pairs	33	35	33	27	24
Difference Means (C) – (D)	-0.55 [a]	-0.52 [c]	-0.63	-0.59	-0.48
T-stat	-2.86	-1.99	-1.56	-0.90	-1.19
Difference Medians (C) – (D)	-0.35 [a]	-0.30	-0.31	-0.36	0.45
Wilcoxon Z-stat	2.28	1.20	1.55	0.86	1.03
Panel C: Non-Gov't Controlled (as of end '96) vs. their Peers (Market-to-Book)					
Non-Gov't Controlled (E)	1.72	1.90	2.52	2.73	2.32
	1.43	1.66	2.00	2.10	2.00
Matching firms (F)	3.22	3.71	3.91	4.36	3.00
	2.37	2.92	2.64	3.05	2.31
No. matched pairs	71	71	60	55	44
Difference Means (E) – (F)	-1.50 [a]	-1.81 [a]	-1.39 [a]	-1.63 [a]	-0.68
T-stat	-4.95	-4.64	-2.76	-2.86	-1.36
Difference Medians (E) – (F)	-0.94 [a]	-1.26 [a]	-0.64 [a]	-0.95 [b]	-0.31
Wilcoxon Z-stat	5.31	5.37	2.95	2.55	1.33

Table V. Value and Performance of Privatized and Matching Firms (Cont'd)

Year	1996	1997	1998	1999	2000
Panel D: Whole Sample (Total Investment Return)					
Privatized firms (A)	26.73	32.95	24.57	24.23	-0.33
	25.63	26.89	21.12	11.81	-1.86
Matching firms (B)	24.32	29.50	12.31	19.47	2.96
	22.47	24.73	7.43	12.15	2.21
No. matched pairs	96	96	96	84	67
Difference Means (A) – (B)	2.41	3.45	12.26 [a]	4.75	-3.28
T-stat	0.68	0.70	2.63	0.72	-0.68
Difference Medians (A) – (B)	3.16	2.17	13.70 [a]	-0.34	-4.07
Wilcoxon Z-stat	0.72	0.91	2.85	1.00	0.63
Panel E: Gov't Controlled (as of end '96) vs. their Peers (Total Investment Return)					
Gov't Controlled (C)	23.36	30.26	18.77	17.76	1.08
	23.53	22.56	18.74	7.58	-4.62
Matching firms (D)	21.35	29.02	9.53	15.53	0.18
	22.65	30.93	8.93	11.85	1.56
No. matched pairs	30	32	32	27	21
Difference Means (C) – (D)	2.01	1.24	9.23	2.24	0.90
T-stat	0.32	0.16	1.28	0.22	0.09
Difference Medians (C) – (D)	0.88	-8.37	9.81	-4.27	-6.18
Wilcoxon Z-stat	0.11	0.06	1.10	0.14	0.12
Panel F: Non-Gov't Controlled (as of end '96) vs. their Peers (Total Investment Return)					
Non-Gov't Controlled (E)	28.26	34.29	27.48	27.29	-0.97
	26.83	28.92	22.99	15.94	-1.00
Matching firms (F)	25.68	29.74	13.71	21.35	4.22
	22.28	20.94	6.23	12.84	3.07
No. matched pairs	66	64	64	57	46
Difference Means (E) – (F)	2.59	4.55	13.77 [b]	5.94	-5.19
T-stat	0.60	0.72	2.29	0.70	-0.95
Difference Medians (E) – (F)	4.56	7.99	16.76 [a]	3.10	-4.06
Wilcoxon Z-stat	1.01	1.24	2.59	1.17	0.64

Table VI. Estimating the (Adjusted) Value and Performance of Privatized Companies

This table reports the estimated coefficients and associated t-statistics (in parentheses) of random effects panel data estimation under the assumption that intercepts are drawn from a normal distribution. All the variables are constructed as differences between the values of the privatized and matching firm in year *t*. The dependent variable in regressions (I) through (V) is the market-to-book (ΔMB). In Models (VI) through (X), the dependent variable is the Total Investment Return. ΔDEBT is the ratio debt-to-ratio equity. ΔCAPEX is total capital expenditure to sales. ΔASSETURN is asset turnover, measured by the ratio of sales to total assets. ΔSIZE is the (log of) end of year market capitalization. STATE is the government's voting rights in the privatized firm. SPECIAL is a dummy that takes the value of 1 if the Government enjoys special powers in privatized companies. Special powers stem from the possession of special class shares and from provisions contained in the privatized company's statute, which include (i) the right to appoint members to corporate boards; (ii) the right to consent to or to veto the acquisition of relevant interests in the privatized company; (iii) other rights such as to consent to the transfer of subsidiaries, dissolution of the company, or even ordinary management decisions. PETROLEUM, TRANSPORT, UTILITIES are sector dummies referring to two-digits SIC codes (see Table IV). YEAR DUMMIES is a set of time dummies for 1996-2000 (coefficients are not reported). The Hausman χ^2 tests the null of non-systematic differences in the coefficients of the fixed and random effects model. [a], [b], and [c] denote statistical significance at the .01, .05, and .10 levels, respectively.

Dependent variable			ΔMB		
	(I)	(II)	(III)	(IV)	(V)
ΔDEBT	-0.37	-0.38	-0.591[b]	-0.381	-0.604[b]
	(-1.27)	(-1.32)	(-2.25)	(-1.29)	(-2.30)
ΔCAPEX	-0.01	-0.01[c]	-0.003	-0.014[c]	-0.004
	(-1.57)	(-1.61)	(-0.36)	(-1.67)	(-0.47)
ΔASSETURN	2.24[a]	2.15[a]	3.43[a]	2.039[a]	3.398[a]
	(4.07)	(3.9)	(5.32)	(3.60)	(5.24)
ΔSIZE	3.50[a]	3.53[a]	3.59[a]	3.538[a]	3.630[a]
	(6.11)	(6.17)	(6.28)	(6.13)	(6.32)
STATE		1.90	3.04[b]	2.075	3.100[b]
		(1.36)	(2.18)	(1.47)	(2.21)
SPECIAL			0.726		-0.207
			(0.76)		(-0.19)
PETROLEUM				0.327	0.703
				(0.23)	(0.45)
TRANSPORTATION				-1.145	-2.314[c]
				(-0.91)	(-1.61)
UTILITIES				0.548	1.032
				(0.57)	(0.87)
YEAR DUMMIES	Yes	Yes	Yes	Yes	Yes
Nobs	355	355	275	355	275
R-sq: within	0.18	0.18	0.28	0.18	0.28
Wald χ^2	65.01	66.86	92.54	68.34	97.50
Prob.	0.00	0.00	0.00	0.00	0.00
Hausman χ^2	6.53	8.75	3.96	11.74	2.63

Table VI. Estimating the (Adjusted) Value and Performance of Privatized Companies (Cont'd)

Dependent variable	ΔRETURN				
	(VI)	(VII)	(VIII)	(IX)	(X)
ΔDEBT	3.279	3.074	3.651	3.166	3.486
	(1.49)	(1.39)	(1.57)	(1.42)	(1.49)
ΔCAPEX	-0.059	-0.057	-0.044	-0.062	-0.063
	(-0.69)	(-0.67)	(-0.46)	(-0.72)	(-0.63)
ΔASSETURN	-5.787	-6.273	-9.040	-5.737	-8.575
	(-1.34)	(-1.44)	(-1.35)	(-1.26)	(-1.27)
ΔSIZE	52.980[a]	53.659[a]	55.115[a]	53.151[a]	54.165[a]
	(7.82)	(7.86)	(7.31)	(7.62)	(7.06)
STATE		8.953	11.506	8.179	8.492
		(0.88)	(0.99)	(0.79)	(0.72)
SPECIAL			-8.120		-13.944[b]
			(-1.46)		(-2.11)
PETROLEUM				1.361	10.541
				(0.17)	(1.15)
TRANSPORTATION				6.032	5.021
				(0.87)	(0.63)
UTILITIES				5.328	12.647[c]
				(0.97)	(1.81)
YEAR DUMMIES	Yes	Yes	Yes	Yes	Yes
Nobs	341	341	268	341	268
R-sq: within	0.19	0.19	0.21	0.19	0.21
Wald χ^2	81.66	82.38	75.97	83.27	79.58
Prob.	0.00	0.00	0.00	0.00	0.00
Hausman χ^2	20.31	19.76	11.39	21.03	11.78

Table VII. Endogeneity of Government Control Rights

This table reports the estimated coefficients and associated t-statistics (in parentheses) of a 2SLS (two-stage least squares) random effects panel data estimation under the assumption that intercepts are drawn from a normal distribution. All the variables are constructed as differences between the values of the privatized and the matching firm in year *t*. The dependent variable in models (I) through (IV) is the market-to-book (ΔMB). In Models (V) through (VIII), the dependent variable is the Total Investment Return. ΔDEBT is the debt-to-equity ratio. ΔCAPEX is total capital expenditure to sales. ΔASSETURN is asset turnover measured by the ratio of sale to total assets. ΔSIZE is the (log of) end of year market capitalization. STATE is the government's voting rights in the privatized firm. SPECIAL is a dummy that takes the value of 1 if the Government enjoys special powers in privatized companies. Special powers stem from the possession of special class shares and from provisions contained in the privatized company's statute and include (i) the right to appoint members in corporate board; (ii) the right to consent to or to veto the acquisition of relevant interests in the privatized company; (iii) other rights such as to consent to the transfer of subsidiaries, dissolution of the company, or even ordinary management decisions. PETROLEUM, TRANSPORT, UTILITIES are sector dummies referring to two-digits SIC codes (see Table IV). YEAR DUMMIES is a set of time dummies for 1996-2000 (coefficients are not reported). The Hausman χ^2 tests the null of non-systematic differences in the coefficients of the fixed and random effects model. In second stage estimations, STATE is replaced by the fitted value from first-stage regressions, where the deficit to GDP ratio, the debt-to-GDP ratio, the right-left orientation of the incumbent government (PARTISAN), the presence of a majoritarian-consensual pattern of democracy in the country (POLINST) are used as instrumental variables. [a], [b], and [c] denote statistical significance at the .01, .05, and .10 levels, respectively.

	(I)		(II)		(III)		(IV)	
Dependent variables	STATE	ΔMB	STATE	ΔMB	STATE	ΔMB	STATE	ΔMB
ΔDEBT	-0.033	-0.079	0.002	0.795	-0.036	-0.083	0.001	-0.868
	(-1.11)	(-0.11)	(0.08)	(-1.04)	(-1.20)	(-0.12)	(0.05)	(-1.15)
ΔCAPEX	-0.0001	-0.01[c]	-0.00006	-0.003	-0.0001	-0.014[c]	-0.00004	-0.004
	(-0.43)	(-1.71)	(-0.17)	(-0.43)	(-0.42)	(-1.80)	(-0.10)	(-0.51)
ΔASSETURN	-0.029	1.59[a]	-0.016	3.12[a]	-0.037[c]	1.397[a]	-0.018	3.089[a]
	(-1.35)	(3.10)	(-0.53)	(4.78)	(-1.68)	(2.62)	(-0.60)	(4.73)
ΔSIZE	0.029	3.61[a]	0.049[c]	3.59[a]	0.028	3.600[a]	0.050[c]	3.556[a]
	(1.29)	(6.80)	(1.84)	(6.10)	(1.26)	(6.74)	(1.85)	(6.10)
STATE		5.86[b]		7.06[b]		6.199[b]		6.227[b]
		(1.95)		(2.16)		(2.07)		(2.00)
SPECIAL			0.067	0.320			0.054	-0.766
			(1.58)	(0.33)			(1.11)	(-0.70)
POLINST	-0.105[a]		-0.111[a]		-0.107[a]		-0.117[a]	
	(-7.13)		(-5.75)		(-7.13)		(-6.03)	
PARTISAN	-0.016[b]		-0.019[b]		0.017[b]		-0.020[a]	
	(-2.20)		(-2.29)		(-2.34)		(-2.39)	
DEBT/ GDP	-0.095		-0.092		-0.100		-0.108	
	(-1.39)		(-1.10)		(-1.45)		(-1.29)	
PETROLEUM					-0.001	0.671	0.031	0.826
					(-0.03)	(0.55)	(0.46)	(0.58)
TRANSPORTATION					0.134[a]	-1.606	0.162[a]	-2.494[b]
					(2.74)	(-1.37)	(2.57)	(-1.82)
UTILITIES					0.024	0.850	0.055	0.866
					(0.65)	(1.00)	(1.03)	(0.76)
YEAR DUMMIES	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nobs	298	298	228	228	298	298	228	228
Wald χ^2	84	76.07	78	85	94	78.66	87	90.58
Prob.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sargan overid		1.431		0.342		1.431		0.342
Prob.		0.48		0.84		0.48		0.84
Hausman χ^2		9.95		-20.5.		19.07		28.95

Table VII. Endogeneity of Government's Control Rights (Cont'd)

	(V)		(VI)		(VII)		(VIII)	
Dependent Variables	STATE	ΔRETURN	STATE	ΔRETURN	STATE	ΔRETURN	STATE	ΔRETURN
ΔDEBT	-0.244	0.925	-0.010	3.453	-0.023	1.440	-0.010	3.558
	(-1.50)	(0.25)	(-0.63)	(0.90)	(-1.46)	(0.39)	(-0.64)	(0.93)
ΔCAPEX	0.0004	-0.067	0.0006	-0.028	0.0003	-0.078	0.0005	-0.045
	(1.03)	(-0.74)	(1.41)	(-0.26)	(0.64)	(-0.83)	(1.17)	(-0.41)
ΔASSETURN	-0.030	-6.831	-0.007	-9.533	-0.049[b]	-7.441	-0.007	-9.612
	(-1.35)	(-1.41)	(-0.20)	(-1.20)	(-2.24)	(-1.44)	(-0.23)	(-1.20)
ΔSIZE	0.068[b]	50.014[a]	0.078[b]	52.916[a]	0.073[b]	49.714[a]	0.084[b]	52.902[a]
	(1.94)	(6.33)	(2.05)	(5.94)	(2.15)	(6.20)	(2.30)	(5.92)
STATE		36.991		33.250		41.604[c]		32.122
		(1.54)		(1.37)		(1.77)		(1.40)
SPECIAL			-0.071[a]	-3.954			-0.070[b]	-11.488
			(-2.45)	(-0.57)			(-2.13)	(-1.40)
POLINST	-0.109[a]		-0.128[a]		-0.117[a]		-0.145[a]	
	(-8.20)		(-7.94)		(-8.64)		(-9.12)	
PARTISAN	-0.039[a]		-0.053[a]		-0.048[a]		-0.061[a]	
	(-3.22)		(-3.90)		(-4.01)		(-4.67)	
DEBT/ GDP	-0.174[a]		-0.230[a]		-0.221[a]		-0.322[a]	
	(-2.47)		(-2.80)		(-3.06)		(-3.99)	
PETROLEUM					0.021	4.239	0.082[c]	12.529
					(0.54)	(0.49)	(1.78)	(1.20)
TRANSPORTATION					0.184[a]	4.421	0.221[a]	1.659
					(4.87)	(0.50)	(5.33)	(0.16)
UTILITIES					0.057[b]	9.213	0.098[a]	13.734[c]
					(1.95)	(1.44)	(2.76)	(1.61)
YEAR DUMMIES	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nobs	282	282	218	218	282	282	218	218
Wald χ^2	106	60.18	129	54.52	139	63.31	178	58.97
Prob.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sargan overid		2.929		4.460		2.929		4.460
Prob.		0.23		0.10		0.23		0.10
Hausman χ^2		11.77		7.75		14.23		7.92

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(lix) This paper was presented at the ENGIME Workshop on “Mapping Diversity”, Leuven, May 16-17, 2002
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