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"Reluctant privatization"

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Reluctant privatization

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Abstract

We study the evolution of the control structure for a large sample of privatized firms in OECD countries and find evidence broadly consistent with the concept of “reluctant privatization”, defined as the transfer of ownership rights in State-owned enterprises without a corresponding transfer of control rights. Indeed, as of 2000, governments are the largest shareholder or use special control powers to retain voting control of 62.4% of privatized firms. However, contrary to accepted theory, greater government control over privatized firms does not negatively affect market valuation. In fact, government stakes are positively and significantly related to peer-adjusted market-to-book ratios. Results are not driven by the choice of the benchmark, reverse causality or by agency costs associated with private ownership. Rather, it appears that the relationship documented reflects more frequent financial aid (bailouts) accruing to privatized firms that remain under government control.

Keywords: Privatization, Corporate Governance

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

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I. Introduction

The wave of privatizations that began in the 1980s in the United Kingdom, and spread across the globe during the 1990s, is arguably the greatest transfer of ownership in the history of the corporation. Governments all over the world have either sold or are selling large blocks of their ownership positions in corporations to the private sector. In terms of flows, privatization transactions, including share issue privatization (SIP) and private placements, have raised globally revenues of US\$1,230 billion during the 1977-2003 period, about one fifth of total issuance on public equity markets. Yet, stories in the popular press suggest that the roll back of the State has been incomplete. Governments have often separated ownership and control in privatized companies by means of pyramids, statutory restrictions and special-class shares that grant them exceptional powers.¹

Italian privatizations provide a revealing example of this reluctance to relinquish control in State-owned enterprises (SOEs). After the 1992 general elections, when the country was facing one of the most acute economic and political crises of the post-war period, the government decided to launch its first large-scale privatization process. Major privatization deals implemented since 1993 have raised more than \$100 billion, making Italy third in total value of privatizations worldwide (Securities Data Corporation). Despite these remarkable quantitative results, the Italian government is still an influential shareholder in many privatized firms. For example, it holds direct and indirect stakes (through Cassa Depositi e Prestiti, CDP) in Eni (the largest oil and gas company), Enel (the electricity giant), Alitalia (the flagship carrier), and Finmeccanica (the aerospace, defense and IT group). It also enjoys special powers to veto strategic decisions and acquisitions in fully privatized companies such as Telecom Italia, the former telecommunication State monopoly. These preliminary observations feed the suspicion that, despite large-scale privatizations, governments still wield power in SOEs.

The aim of this paper is twofold. First, we want to document whether such a reluctance to relinquish control exists, and how widespread it is. Second, if we do find reluctance, we are interested in estimating its effect on firm value. Ultimately, this study concludes that reluctant privatization is

¹ For example, Julian Ellison and Duncan Reed, *Getting tough on golden shares*, Financial Times, June 6, 2003.

not an Italian peculiarity but a common feature of divestiture in developed economies. However, we reach some unexpected conclusions concerning the market impact of this reluctance.

We define *reluctant privatization* as the privatization of a SOE characterized by the sale of equity without a corresponding transfer of control rights. This may happen because the government remains the largest *ultimate* shareholder of the company, although it no longer owns 100% of the stocks, or because it enjoys veto or special powers through its possession of so-called “golden shares.”² We document the evolution of corporate control in privatizations by carrying out a comprehensive analysis of the structure of ultimate control (voting) rights in a sample of 141 privatized (publicly traded) companies from developed economies, over the period 1996 to 2000. We find that the most common privatization outcome is that the State remains the largest ultimate owner. This is true for about one third of so-called “privatized” firms.

To our knowledge, with the exception of Tian’s (2000) study of Chinese privatizations, all other papers on privatization have at most focused on direct ownership.³ In a recent paper, Boubakri, Cosset and Guedhami (2005) study direct ownership and conclude that governments relinquish control over time. We show that the picture looks totally different when indirect voting rights are accounted for. Our methodology in fact allows us to document that in more than 50% of privatized firms in which a government is the largest ultimate shareholder, this government employs pyramids and dual-class share structures to retain majority control. Had we not considered these mechanisms, we would have substantially understated the power of the State in privatized firms.^{4 5}

² We define *golden shares* as the complex of special powers and statutory constraints that enhance State control in privatized companies (see Section III.B).

³ A few studies employing the notion of ultimate control outside a privatization setting have documented the widespread presence of governments as ultimate owners of banks (La Porta, Lopez-de-Silanes and Shleifer, 2002), as well as more in general (e.g., La Porta *et al.*, 1999, Claessens *et al.*, 2000, and Faccio and Lang, 2002).

⁴ Later in the paper we show that, as of 2000, governments *directly* controlled an average of 37.14% of voting rights, while their ultimate control stake was on average 52.18%.

⁵ As further proof of the influence of governments over privatized firms, we find a number of cases in which government ministers or members of parliaments sat themselves on the board of our sample firms. For example, Belgian Justice Minister Tony Van Parys served as Chairman of Dexia Belgium SA during our sample period, while Senator Philippe Bodson served as Executive Director of DISTRIGAZ SA; Canadian MP Hon. W. David Angus was director of Air Canada; Swedish MP Lennart Nilsson served as Chairman of Celsius AB; in the UK, where the relinquishment of voting rights appears to have been more complete, we identified several cases in which prominent members of the House of Lords sat on the boards of privatized firms including AEA Technology PLC, BG PLC, BP Amoco PLC, British Airways PLC, Rolls-Royce PLC, and Scottish and Southern Energy PLC. Several of these firms have outstanding “golden shares”.

Consistent with earlier findings by Jones, Megginson, Netter and Nash (1999), we document a widespread use of control restrictions and golden shares. However, we additionally show that these mechanisms are particularly common amongst privatized companies in which the government is *not* the largest shareholder. This combination of evidence allows us to conclude that through ownership *or* golden shares, governments are able to maintain control of almost two thirds of privatized firms. This result is quite surprising, given that conventional wisdom relates the period under study to a drastic rethinking of the role of State ownership which spurred a massive privatization wave: In fact, our evidence indicates that, even in a period during which governments were divesting substantial amounts through the sale of ownership of corporations, they maintained tight control in the majority of these firms.

Reluctant privatization is not only important from a practical standpoint, it is also of theoretical interest due to the insights it may offer in the debate over the relative performance of private versus government controlled firms. Proponents of the “political view” argue that a principal-agent problem plagues government controlled firms; the owners (the taxpayers) have very different incentives from the manager (the bureaucrat or politician controlling the firm). In a government controlled firm, the manager may run the company to achieve political objectives (such as high employment) and thus may not try to maximize value. If privatization transfers ownership and control rights to outside investors whose main concern is the maximization of the value of their holdings, greater emphasis will be placed on efficiency (Shleifer and Vishny, 1994). Therefore the “political interference” hypothesis implies a negative relation between government control rights and the market valuation of a company. In other words, government reluctance to privatize should be negatively discounted in market values.

We test the political interference hypothesis by comparing the market-to-book ratio of privatized companies with that of a control group of private companies. Given that the treatment group (the privatized companies) and the control group both comprise publicly listed companies, we can assume that we are controlling for the beneficial effect of stock listing on managerial incentives, and that the difference in valuation between the two groups reflects mainly the effect of government

control rights on firm value.⁶ We find that the market value of privatized companies increases over time and tends to converge to the market-to-book ratios of their matching firms.⁷ However, this convergence is not the consequence of government relinquishment of control rights. Interestingly, our panel reveals that a larger percentage of voting rights held by the State does not negatively affect firm value. Similarly, we find no value discount associated with the presence of golden shares. On the contrary, we find a *positive* and generally significant association between government control rights and peer-adjusted valuations. Stronger evidence is obtained when we control for endogeneity of governments' voting rights. Our results contrast with earlier studies of privatizations which suggest that government control hurts firm performance (Boardman and Vining, 1989, Dewenter and Malatesta, 2001).

While the results do not support the political interference hypothesis, they suggest that a large government stake may be beneficial to privatized companies. We are able to rule out that this result is driven by the rents provided by the State to some protected industries, or by the agency costs of private ownership. On the other hand, we uncover one possible source of gain for privatized firms in which the government maintains large control stakes: government aid. In fact, we document that 14.29% of privatized firms that remain under government control receive a government bailout over the period studied, versus “only” 6.52% of more fully privatized firms.

Our approach simultaneously addresses a number of additional conceptual and methodological issues present in existing studies. First, we address the important issue of the selection of appropriate benchmark private firms. This is a particularly difficult task in developing countries, which have narrow capital markets with few listed companies. On the other hand, by focusing on developed countries, with relatively larger stock markets, we are able to find a suitable set of peers. In particular, we compare privatized firms to a sample of industry, country, and size-matched private peers. We also show that our results are robust to the choice of different benchmarks based on market and sector

⁶ Our approach is complementary to Gupta (2005), who compares partially privatized firms and completely State-owned firms in India. A difference is that we compare partially privatized firms to private firms (rather than to fully government controlled companies) in order to provide a clean test of the political interference hypothesis.

statistics. Additionally, previous studies do not generally control for potential endogeneity in the decision to privatize firms. We instead address the endogeneity issue by using valid instrumental variables to estimate the relationship between firm value and government control.

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 of privatized and matching firms. Section V a likely explanation for our results and Section VI provides robustness tests. Section VII 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). Privatization transactions are defined as primary or secondary issues of shares on a public equity market by companies where central or local governments act as shareholders. Our source provides us with a list of 299 privatization transactions, 44% of which are IPOs. As it is widely documented, the sheer size of the companies has often forced divesting governments to privatize by sequencing multiple tranches. In fact, the privatizations reported refer to 205 individual companies, involved in 1.4 issues on average. We cross check the presence of these companies both in the Privatization International (PI) Database and in Megginson's Appendix.⁸ 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 HM Treasury, and Spanish SEPI, and other privatization agencies. After this double check, we conclude that our initial sample includes 98% of companies privatized in public equity markets in OECD economies prior to 1997.

⁷ Several studies have documented performance increases around the so-called privatization date (e.g., Megginson, Nash and Van Randenborgh, 1994, Boubakri and Cosset, 1998, D'Souza and Megginson, 1999). See also Megginson and Netter (2001) for an excellent review of this literature.

For each privatized firm, a match is identified as any company from the same country and Campbell's (1996) industry as the privatized firm. Among all eligible firms, we select the one with the total equity market capitalization closest to that of the privatized firm, as of year-end 1996, as long as its market capitalization is within a +/-30% range. If no company satisfies these criteria, we then select the firm with the closest market capitalization (in the +/-30% range) to the privatized company using Campbell's industry classification, but from any country. If this results in no match for a privatized firm, we then pick the domestic firm with the market capitalization closest to our privatized firm as of the end of 1996, in the +/-30% range, regardless to its industry. 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 before 1/1/1997, 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.

To address the possible bias associated with having a matching company from a different country, in Section VI.A we alternatively benchmark each accounting item for each privatized firm against its industry and country median. As we will show, our results remain qualitatively unchanged.

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 the privatized company merged with or was acquired by a private company not included in the control sample, and was consequently de-listed or listed with shares registered under a new name, we consider as a "privatized company" either the newly created company or the acquirer of the privatized company itself, provided their shares trade on the stock market where the privatized company was initially floated.

⁸ <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 percentage 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 authority) and 50% controlled by the Association of Bavarian Saving Banks. Dresdner Bank is 22% 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 22%), the Association of Bavarian Saving Banks, which controls 10.05% of votes (the minimum among 10.05%, 44.5% and

50%), and the German government, which controls 50.70%⁹ 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 – as almost all privatization studies do.

[Figure 2 goes here]

Figure 2 illustrates the control structure of STmicroelectronics N.V. (formerly known as SGS-Thomson Microelectronics N.V.) as of mid-1996. STmicroelectronics 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: SOGEP, 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 ($\min(100\%, 50.1\%)$). SOGEP 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 SIR (two firms that it wholly owns). IRI has a 50.1% stake in MEI, while Comitato SIR holds the 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. Overall, we have more than one government entity only in a handful of cases. Thus, our treatment of these

⁹ $[1.03\% (\min(100\%, 1.03\%)) + 0.4\% (\min(100\%, 0.4\%)) + 37.45\% (\min(80\%, 37.45\%)) + 1.77\% + 10.05\% (\min(10.05\%, 44.5\%, 50\%))]$

observations cannot materially affect the results. We believe the extremely small sample size would render any inference or conclusion inappropriate.

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% 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% 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% of cases.¹⁰ Thus, even after privatization, almost one third of firms remain government-controlled. A large fraction of privatized companies do not have a controlling shareholder

¹⁰ Thus, the percentage of firms for which the government is the major shareholder declined through time by

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% in 1996, and 30.50% 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% of firms in 1996, and 19.86% in 2000. Widely held financial institutions are also relatively frequent large shareholders, and include 17.02% of cases in 1996 and in 9.93% 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% of cases in 1996 and 41.84% in 2000). Families are the second most important type of investors. They are the largest shareholder in 35.46% of cases in 1996, and 28.37% of cases in 2000. Widely held financial institutions are also relatively important, being the largest shareholders for 19.86% of all matching firms in 1996, and for 11.35% of peers 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.

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. However, the differences in the percentage of firms controlled by widely held corporations, as well as the differences in the percentage of widely held firms, increase.

[Table II goes here]

Table II shows that, on average, in 1996 the largest ultimate controlling shareholder controlled 27.80% of voting rights of privatized firms. This percentage marginally declines to 25.51% as of the end of 2000. In 1996, control rights are more diffuse for the control sample, where we find that the largest shareholder on average controls 21.10% of votes. This proportion, however, increases substantially by the end of 2000, when the largest shareholder controls 26.37% of votes. As a

4.96 percentage points.

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.

Most importantly for our purposes, we show that amongst companies in which the government is the largest shareholder, government control rights average 51.27% at the end of 1996, and 52.18% at the end of 2000. So, in these companies, not only the government is the largest shareholder, but on average it controls the *majority* of votes.

We find a widespread use of control enhancing devices (e.g., pyramids, cross-holdings or dual-class share structures) among privatized firms in which the government is the largest shareholder: in 1996, 53.06% of these firms (vs. 30.61% of their matching peers) had in place some control enhancing device; in 2000, 52.38% of government controlled firms (vs. only 33.33% of their peers) were using such instruments. Had we not considered these mechanisms, the average government control rights would have been of only 43.01% (rather than 51.27%) in 1996, and 37.14% (rather than 52.18%) in 2000. This indicates that previous studies that only focus on direct ownership substantially understate the magnitude of government powers.

B. Golden shares

The analysis of control 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 and statutory constraints on privatized companies. Typically, special powers include (i) the right to appoint members in corporate boards; (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 constraints 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% 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 British Aerospace (now BAE Systems) British Energy, Southern Electric, 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% for Elf Aquitaine (now Total), 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 required to fully disclose 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.¹¹ We then identified the presence of golden shares in the company's prospectus.

[Table III goes here]

¹¹ 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 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% of privatized companies. Additionally, in a number of cases privatized companies' statutes set upper limits on the individual ownership or 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% of the 39 companies under government control (under the 10% rule), and in 66.15% 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% of companies in which the government was the largest shareholder, and in 64.79% of firms in which the government does not control at least 10% of votes.

Table III shows that, through ownership *or* golden shares, the government controls 65.2% of privatized firms as of the end of 1996, and 62.4% 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% of the privatized companies have golden shares or have the government as largest shareholder. Other industries that are similarly dominated by the government after privatization are leisure (100%), petroleum (77.8%), services (100%), textile and trade (100%), transportation (70.6%), and utilities (77.1%). Government ownership, special powers, and statutory constraints are quite absent in the financial sector, appearing "only" in 35.3% of the companies.

Panel B of Table IV provides the breakdown by country. It indicates that privatizations have been particularly reluctant in Belgium, Denmark, France, Greece and Ireland where, as of the end of

1996, the government was still the largest shareholder or held special powers in all former SOEs. On the other hand, the privatization process had been more complete in Australia, Mexico, the Netherlands and Portugal. In the UK the government often held golden shares in privatized companies, while it divested all voting rights.

IV. Valuation of privatized and matching firms

A. Univariate results

Table V reports company market-to-book (MB) ratios.¹² The MB ratio is defined as the ratio of market value of ordinary and preferred equity to the book value of equity. Since these firms' debt is for the most part privately held, we do not have a market value for this item. We cannot therefore compute a market-to-book value of total assets. 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. We will show later that this result is not driven by our choice of peer companies.

[Table V goes here]

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 more fully privatized companies.¹³ 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

¹² A problem of *WorldScope* data is the presence of outliers. All balance-sheet variables have therefore been trimmed by dropping observations below the 2nd and above the 98th percentile.

¹³ The treatment of golden shares does not affect this conclusion.

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 better.

B. Multivariate analysis

The results of the univariate analysis suggest that the valuation 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 convergence. In particular, the presence of the State as the largest ultimate shareholder does not affect negatively the adjusted market value of State-owned enterprises. 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 suggest a need for a thorough empirical test of the role of government control in the valuation 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 stock 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 of privatized firms by estimating the following specification:

$$Dy_{it} = \alpha_i + \alpha_t + \beta' Dx_{it} + \gamma STATE_{it} + \delta SPECIAL_i + \nu_{it}, \quad (1)$$

where Dy_{it} is the difference between the valuation (market-to-book, MB) of the privatized company and its matching peer, Dx_{it} is the vector of control variables, $STATE$ is the share of control rights held by the government in the privatized company,¹⁴ $SPECIAL$ is a dummy taking the value one when the special powers are granted to the State,¹⁵ 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 comprising 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 matching companies, using *Worldscope* data. Since a valuation differential might be explained by differences in the company size, matching firms were selected 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. We therefore control for this effect with the variable $DSIZE$, 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 ($DDEBT$) is included. Difference in market value could also be ascribed to the degree of efficiency with which the companies use their assets. Therefore, we construct $DASSETURN$, the ratio of sales to total assets, to measure how many times the privatized company turns over its assets relative to the matching firm. Finally, we control for the effect of differences in investment, as measured by differences in the ratio of total capital expenditure to sales ($DCAPEX$). Series for all these variables have been computed for the period 1996-2000. The choice of the market-to-book as a measure of valuation 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).

The market value of privatized firms might be affected by their 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.

¹⁴ 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 $SPECIAL$.

¹⁵ 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 qualitatively affect our results.

Furthermore, they may enjoy favourable treatment by the State in terms of favorable regulatory treatment, guaranteed business, contracts, etc. Thus higher valuation could stem from the presence of rents and special benefits that 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 more heavily regulated and less competitive (*PETROLEUM*, *TRANSPORT*, and *UTILITIES*).

Equation (1) has been estimated by using random effects models, which assume that $\alpha_i \sim IID(0, \sigma_\alpha^2)$ and $v_{it} \sim IID(0, \sigma_v^2)$. 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 (1) to (5) 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, 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 the most 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. Contrary to general expectations, the size of government's residual stake (*STATE*) does not seem to negatively affect relative valuation. On the contrary, when we control for the presence of special powers (regressions 3 and 5), 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. Equally surprisingly, we show that special powers do not negatively and significantly impact 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 value, a finding that is 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 (or negatively) related to relative valuation. More important, the relationship between market-to-book ratios and government stakes remains significant when these additional control variables are added.

C. Endogeneity of government control rights

Conceptually, the OLS estimation of Equation (1) can be affected by a simultaneity bias (Caves and Christensen, 1980, Martin and Parker, 1995, and Kole and Mulherin, 1997). As pointed out by Megginson and Netter (2001), “there are generally fundamental reasons why certain firms are government owned... These factors that determine whether the firm is publicly or privately owned likely also have significant effect on performance.” Indeed, a government may attempt to privatize, and therefore to reduce its stake in the SOE at times when the company is more valuable due to superior predicted profitability. Further, governments may have certain characteristics that are associated with privatization. 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 categorization of countries on a majoritarian-consensual dimension (see Lijphart 1999). *POLINST* is the average of a disproportionality index, the effective number of parties, and a measure of government stability (see Lijphart 1999). The political indexes are based on electoral data and display variability both over time and cross-sectionally.¹⁶ The public finance variable 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 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, as are majoritarian countries. These results are broadly consistent with results of previous work showing that the extent of a country's privatization (measured as revenues scaled by GDP) is associated with right-wing governments and with majoritarian political systems in OECD countries (Bortolotti and Pinotti, 2003). 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-identified restrictions.

When we control for endogeneity, the previous result showing an association between the role of government control rights and firm value 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% is associated with a decrease of approximately 0.6 (-10 X 0.06) in the adjusted market-to-book ratio. Quite strikingly, our

¹⁶ For a more accurate description of these political and institutional variables and sources see Bortolotti and Pinotti (2003).

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 firm level control variables 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.

V. Why are government-controlled privatized companies worth more? The role of bailouts

A natural question relates to the source of gains for privatized firms that remain under government control. What are the channels through which governments can make the companies they own more valuable? Potential benefits include shielding privatized companies from competition, affording them a favorable regulatory environment, subsidizing loans, guaranteeing contracts, or providing financial assistance when facing difficult times. Our regression results did not provide any evidence about the role of market structure in explaining valuation differentials. Indeed, the inclusion of sector dummies for companies operating in more concentrated and heavily regulated industries did not sweep out the statistical significance of government control rights. Thus, assuming government controlled firms enjoy special benefits, the results indicate that these benefits do not accrue to firms in more concentrated industries.

While identifying subsidized loans, guarantees, and contracts is a practically impossible task, recent research has been successful in tracking bailouts. A recent paper by Faccio, Masulis and McConnell (2005), who study the incidence of bailouts amongst politically-connected firms, document a higher frequency of bailouts amongst privatized companies. However, since their study only includes a small sample of privatized firms, no conclusive evidence is documented as to whether governments are more likely to bail out firms in which they have large control stakes. To address this question, we replicate their analysis for our whole sample of privatized companies.

Following Faccio et al. (2005), we focus on financially troubled firms that receive a transfer payment or capital infusion from their home government. To identify such firms, we conduct keyword searches of *Factiva* over the period January 1, 1996, through December 31, 2000 using the name of each of our privatized companies along with the terms “bailout,” “bail-out,” “bailed out,” “rescue,” “rescue package,” “injection,” “restructur*” and “aid” and the words “government” or “State.” Given this set of bailout candidates, we verified from *Factiva* news articles that the deal in question involved a funds transfer (or capital infusion) to the company from its home government. We find that 13 out of 141 privatized firms (9.22%) are bailed out over the period studied. Bailouts are substantially more common among government controlled firms: 14.29% of these are in fact bailed out over the 1996-2000 period, versus a meager 6.52% for privatized companies without governments as largest shareholders. Although we recognize that in many European Union countries regulations aimed at limiting financial aid from the government exist and have become more stringent over time, our results show that space for occasional help to firms still exists, and aid is not totally uncommon, as often alleged and criticized in the press. The recent bailouts of Alstom, the French transport and power manufacturer, and of Alitalia, the Italian flagship carrier, are cases in point.

To have a benchmark comparison for our control group, we compute the likelihood of a bailout for private companies using the figures reported in Faccio et al. (2005). In particular, we focus on bailouts of companies without political ties (since here we are interested to estimate bailouts amongst firms that were never government owned), from the OECD countries. For that sample, their figures allow us to estimate that, over a 5 year period, 2.69% of companies will be bailed out from their home government. Clearly the frequency of bailouts we document is much higher. This is the case both for privatized firms that remain under government control and for more fully privatized firms, although the results are certainly much more dramatic for the former.

Given the higher probability of a bailout, privatized firms that remain under government control will face –*ceteris paribus*– a lower bankruptcy risk with respect to companies privatized more fully, and this will push market valuation. Indeed, creditors will factor into their lending decisions the likelihood that government controlled firms will be bailed out when they encounter economic distress and, thus, will provide more funds to these firms and/or afford them more favorable rates. This result

provides a plausible explanation for the positive relation between government control rights and firm value that we document.

VI. Robustness tests

A. Alternative benchmarks.

To assess the robustness of our results, we re-run our tests after benchmarking the privatized companies against a different control sample. In particular, instead of identifying a matching firm for each privatized company based on country, industry and size, we compare the financials of each privatized firm to the *median* values for the companies in their same country and two-digit SIC industry. By doing that, we no longer have cases where the country of the privatized firm differs from the country of its matching peer. We then re-run all (two-stage) regressions presented in Table VII. The new results in Table VIII unequivocally show that the choice of the benchmark does not drive of our earlier results. It suffices to notice here that government voting rights remain positively and significantly related to firm value in all regressions. Once again we fail to document a significant relationship between the company's market-to-book ratio and the presence of golden share mechanisms.

[Table VIII goes here]

B. Agency costs

A primary concern is that our results may be driven by the agency costs associated with diffuse (private) ownership. Since the publication of the two seminal papers by Berle and Means (1932) and Jensen and Meckling (1976), it has been generally accepted that diffuse ownership exposes minority shareholders to the risk of expropriation by managers. Therefore, fully privatized firms may be more valuable due to reduced political interference (i.e., governmental agency problem), but these benefits may be more than offset by the agency costs of diffuse (or concentrated) private ownership. That is, government owned enterprises might perform better not because State-ownership is valuable *per se*, but because the government, as a large shareholder, reduces managerial entrenchment and/or expropriation of minority shareholders.

To disentangle the effect of ownership concentration from political interference, we run two regressions in which we control for ownership concentration by adding a concentration variable. *DCONC* is the difference between the control rights of the largest shareholder in the privatized and matching firms. We also include a term for the squared value of the concentration variable, which is a standard procedure in the literature to test for non-linear effects (see, for example, McConnell and Servaes, 1990). The two terms are intended to capture the beneficial effect of the enhanced monitoring associated with concentrated control. In these regressions, the *STATE* variable now reflects only the effect of having the *government* as a major shareholder, rather than of having *any* major shareholder.

Complete ownership data for the control group are available only for the initial and final years of our sample period (1996 and 2000). We thus run two separate regressions. Results are reported in Table IX. All results in the table are second stage estimates, based on first stage regressions that use the same set of instruments presented in Table VII. As shown in the results for regression (1), we find that government control rights are positively and significantly associated with firm value in 1996. However, regression (2) shows that in 2000 this association is not statistically significant.¹⁷ The variables *DCONC* and *DCONC*² are not significantly related to firm value in either year. These results do not provide support for the political interference hypothesis. Further, these results allow us to conclude that the agency costs of diffuse ownership are not driving value discount that we document for more fully privatized firms in the initial years of sample.

[Table IX goes here]

C. The IPO effect

Another concern is that results could be biased by an omitted variable that reflects the time needed for the beneficial effects of a stock market listing to materialize. Indeed, a newly privatized firm might have higher potential for efficiency improvements than the private companies in our control sample, which may feature a long history of stock trading, research, and analyst coverage. We

¹⁷ The year 2000 is also the only year in which the univariate results are marginally significant. Thus, it appears that 2000 may be an exceptional year. Unfortunately the data does not allow us to compute the ultimate control rights held by the largest shareholder for 1997-1999. Notice that, importantly from our perspective, government control rights are never negatively and significantly associated with market to book ratios.

control for this effect by adding a variable measuring the difference between the number of years from IPO of the privatized and matching firms. IPO dates are identified from *Securities Data Corporation*, national exchanges, privatization prospectuses, the *Financial Times*, and company websites. As regressions (3) and (4) in Table IX show, the results are not driven by an IPO effect. The IPO variable is in fact not statistically significant in either model, while the previous results on government control rights continue to hold.

D. A temporary outcome?

In this section we show that the ownership structures reported in the paper are not temporary outcomes. To address this issue, we first focus on the first three privatizations that occurred in each of our sample countries (or fewer, if we have less than 3 deals in the sample). We find that companies privatized first are not less likely to be government owned than other former SOEs. In particular, we find that (as of the end of 2000), the government is still the largest shareholder in 42% of firms privatized “first” in their country, which is actually a higher figure than that documented earlier (Table 1) for the whole sample. This suggests that the reluctance to fully privatize is not due to time or weak market constraints.

As a second approach, we track the ownership structure of 40 (out of 42) partially privatized firms as of the end of 2000, until the end of 2005.¹⁸ For 34 out of these 40 companies, we find that the government is still a major blockholder, holding on average 39.33 % of voting rights. So, it seem that, despite the fact that these “privatizations” had started at least 10 years earlier, governments are unwilling to complete their divestiture.

VII. 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 supplement data on changes in the direct 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) over 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, to the use of alternative benchmarks, and is not affected by reverse causality. Consequently, we reject the political interference hypothesis for (partially) privatized companies.

Our results are not driven by the agency costs associated with private ownership, or by benefits provided to former monopolies, such as those in the energy, transportation or utilities sectors. On the other hand, it is possible that governments provide special benefits to the privatized firms in which they retain significant control, regardless of industry. Indeed, we provide evidence that privatized firms that remain under government control are substantially more likely to receive financial aid when facing financial trouble (in the form of a government bailout) than their more fully privatized counterparts. Although the available data does not allow us to evaluate all possible forms of government support, the evidence presented suggests that these benefits are one of the sources of the positive relation between government control rights and firm value that we document.

¹⁸ We were unable to obtain current ownership data for 2005 for two of the firms in the sample.

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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," 19 th edition. Bundesaufsichtsamt für den Wertpapierhandel, "Major Holdings of Voting Rights in Officially Listed Companies," September 1997 | Commerzbank, 2000, "Wer gehört zu Wem," 20 th 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

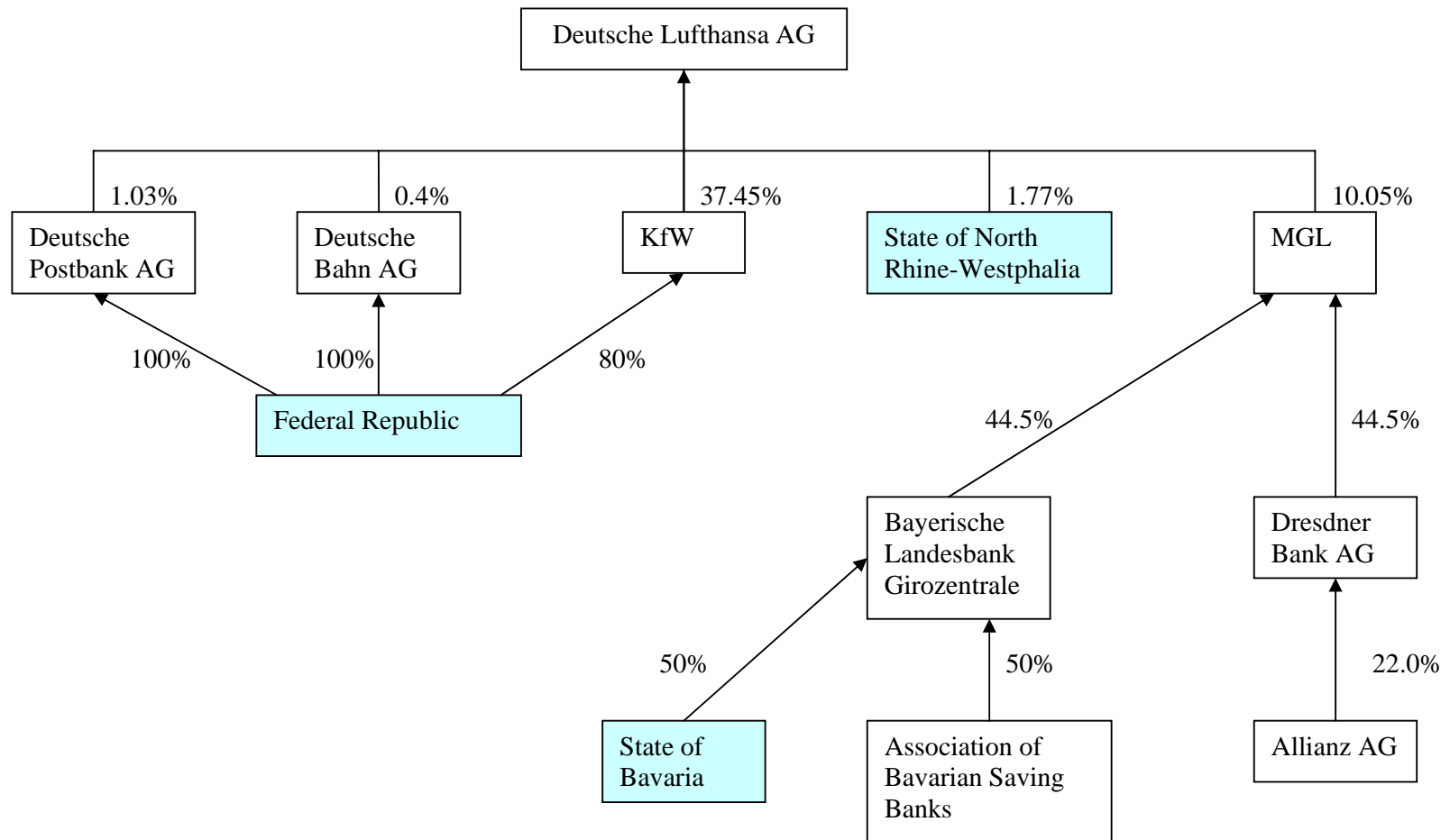


Figure 2. The control structure of SGS Thomson Microelectronics NV (France) as of end 1996.

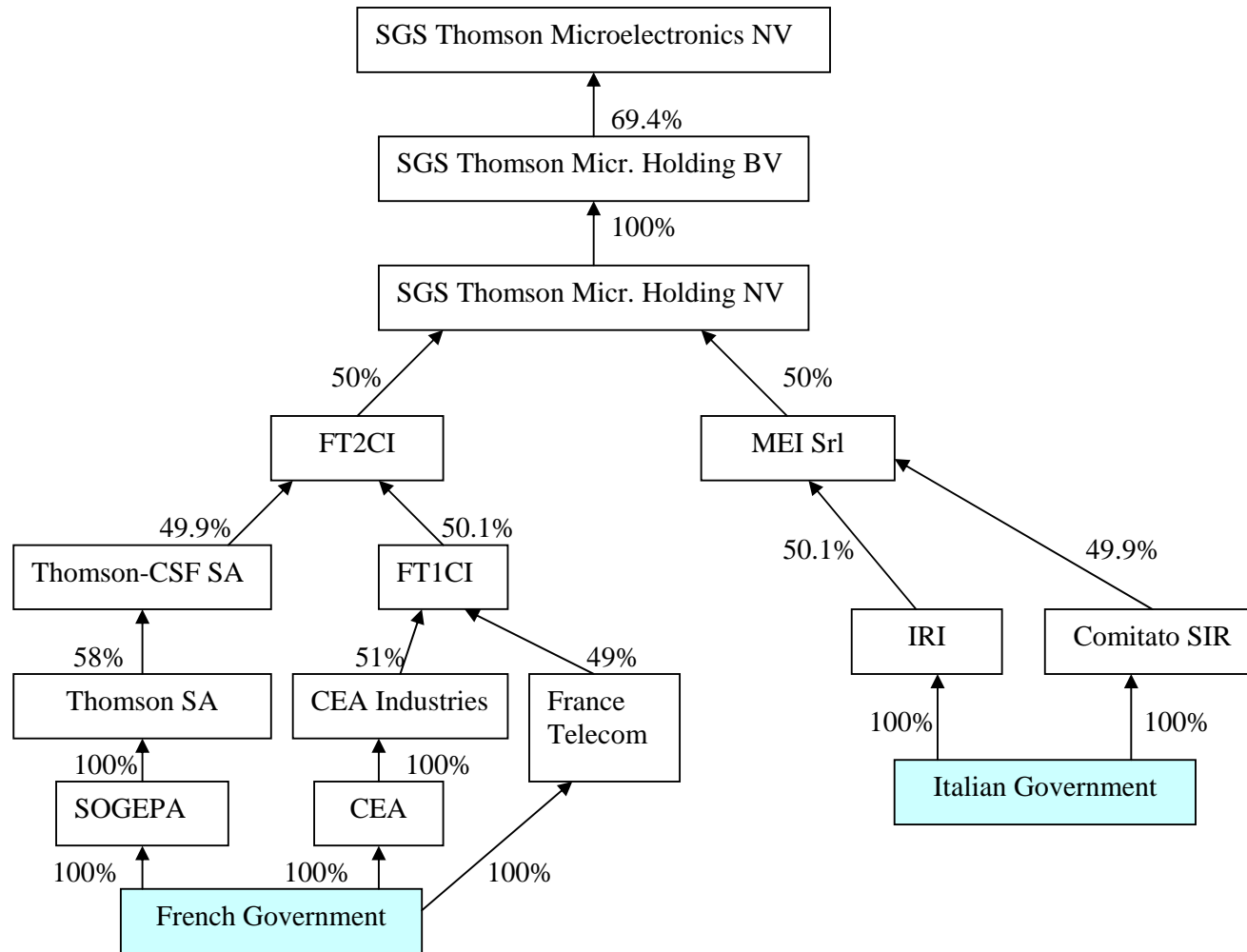


Table I. Ultimate Control of Privatized and Matching Firms (Largest Shareholder)

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% 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% of votes are classified as widely held. ^a, ^b, and ^c denote statistical significance at the .01, .05, and .10 levels, respectively. Z-statistics for equality of proportions are reported in the table.

| Panel A: Privatized Firms | | | | | | | | | | |
|---------------------------|-----------------|-------|--------|----------------------------|-----------------------|-------------------|-----------------------|-------------------|----------------|-------------|
| Time period | Number of firms | State | Family | — of which: | | Widely held corp. | Widely held financial | Miscell. | Cross-holdings | Widely held |
| | | | | <i>Identified families</i> | <i>Unlisted firms</i> | | | | | |
| 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 | 3.55 | 0.00 | 3.55 | 1.42 | -7.09 ^c | 3.55 ^c | 0.71 | 2.84 |
| Z-stat | | -0.89 | 0.77 | 0.00 | 0.83 | 0.64 | -1.74 | 1.69 | 1.00 | 0.52 |

| Panel B: Matching Firms | | | | | | | | | | |
|-------------------------|-----------------|-------|--------|----------------------------|-----------------------|-------------------|-----------------------|----------|----------------|-------------|
| Time period | Number of firms | State | Family | — of which: | | Widely held corp. | Widely held financial | Miscell. | Cross-holdings | Widely held |
| | | | | <i>Identified families</i> | <i>Unlisted firms</i> | | | | | |
| 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 | -6.38 ^c | -0.71 | 6.38 ^b | -8.51 ^b | 3.55 | 1.42 | 4.26 |
| Z-stat | | . | -1.28 | -1.76 | -0.14 | 2.39 | -1.97 | 1.19 | 1.42 | 0.73 |

| 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 |
| | | | | <i>Identified families</i> | <i>Unlisted firms</i> | | | | | |
| <i>Diff end 1996</i> | | 34.75 ^a | -19.15 ^a | -10.64 ^a | -8.51 ^c | 0.71 | -2.84 | -3.55 ^c | 0.00 | -9.93 ^c |
| Z-stat | | 7.70 | -3.67 | -3.26 | -1.87 | 0.38 | -0.61 | -1.69 | . | -1.78 |
| <i>Diff end 2000</i> | | 29.79 ^a | -8.51 ^c | -4.26 ^c | -4.26 | -4.26 | -1.42 | -3.55 | -0.71 | -11.35 ^b |
| Z-stat | | 7.02 | -1.67 | -1.64 | -0.91 | -1.46 | -0.39 | -1.19 | -0.58 | -1.98 |

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, whenever a Government shows up 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 shareholder. Firms using control enhancing devices denotes the percentage of government-controlled firms (or matching peers) in which the controlling shareholder enhances his/her voting power by using pyramids, multiple control chains and/or dual class share structures. Pyramids occur when the controlling shareholder owns one corporation through another which he/she does not totally own. Firm Y is held through multiple control chains if it has an ultimate owner who controls it via a multitude of control chains, each of which includes at least 5% of the voting rights at each link. Dual class shares occur when firms have outstanding stocks with different voting and/or cash flow rights. ^a, ^b, and ^c denote statistical significance at the .01, .05, and .10 levels, respectively.

Panel A: Privatized Firms

| All privatized companies | | | | Companies in which the government is the largest shareholder | | |
|--------------------------|-----------------|-------------------------------------------|-----------------------|--------------------------------------------------------------|----------------------------------|-------------------------------------------|
| Country | Number of firms | Mean control rights (largest shareholder) | Median control rights | Number of firms | Government control rights (Mean) | Firms using control enhancing devices (%) |
| End of 1996 | 141 | 27.80 | 19.99 | 49 | 51.27 | 53.06 |
| End of 2000 | 141 | 25.51 | 16.16 | 42 | 52.18 | 52.38 |
| Diff '00-'96 | | -2.29 | | | | |
| T-stat | | -1.26 | | | | |

Panel B: Matching Firms

| Country | Number of firms | Mean control rights (largest shareholder) | Median control rights | Number of firms | Private Control Rights (Mean) | Firms using control enhancing devices (%) |
|--------------|-----------------|-------------------------------------------|-----------------------|-----------------|-------------------------------|-------------------------------------------|
| End of 1996 | 141 | 21.10 | 11.92 | 49 | 15.67 | 30.61 |
| End of 2000 | 141 | 26.37 | 13.40 | 42 | 17.76 | 33.33 |
| Diff '00-'96 | | 5.27 ^b | | | | |
| T-stat | | 2.13 | | | | |

Panel C: Difference between Privatized and Matching Firms

| Country | Mean control rights | Mean control rights |
|----------------------|---------------------|---------------------|
| <i>Diff end 1996</i> | 6.70 ^b | 35.50 ^a |
| T-stat | 2.37 | 9.10 |
| <i>Diff end 2000</i> | -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% 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 Non-Gov’t Controlled (as of end ’96) | | | | Gov’t Controlled 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 | 104 | 9.52 | 38 | 10.53 | 66 | 9.09 | 31 | 12.90 | 73 | 8.22 |
| Location/Directors’ Nationality | 104 | 9.62 | 39 | 5.13 | 65 | 12.31 | 32 | 6.25 | 72 | 11.11 |

Table IV. Industry and Country Distribution of Privatized Firms by Control Type

Gov't Controlled firms are those whose largest shareholder (at the 10% 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).

Panel A: Distribution by Industry

| 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 |

Panel B: Distribution by Country

| Country | # of Obs. | Obs. in the Country as % of all Privatizations | Gov't Controlled or Special Powers (as of end '96) | Non-Gov't Controlled & No Special Powers (as of end '96) | Gov't Controlled or Special Powers as % of Privatizations in the Country |
|----------------|-----------|------------------------------------------------|----------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------|
| Australia | 6 | 4.3 | 1 | 5 | 16.7 |
| Austria | 11 | 7.8 | 9 | 2 | 81.8 |
| Belgium | 2 | 1.4 | 2 | 0 | 100.0 |
| Canada | 9 | 6.4 | 4 | 5 | 44.4 |
| Denmark | 2 | 1.4 | 2 | 0 | 100.0 |
| Finland | 4 | 2.8 | 4 | 0 | 100.0 |
| France | 20 | 14.2 | 9 | 11 | 45.0 |
| Germany | 10 | 7.1 | 5 | 5 | 50.0 |
| Greece | 2 | 1.4 | 2 | 0 | 100.0 |
| Ireland | 2 | 1.4 | 2 | 0 | 100.0 |
| Italy | 12 | 8.5 | 6 | 6 | 50.0 |
| Japan | 4 | 2.8 | 3 | 1 | 75.0 |
| Mexico | 1 | 0.7 | 0 | 1 | 0.0 |
| Netherlands | 3 | 2.1 | 1 | 2 | 33.3 |
| New Zealand | 2 | 1.4 | 1 | 1 | 50.0 |
| Norway | 6 | 4.3 | 3 | 3 | 50.0 |
| Portugal | 9 | 6.4 | 2 | 7 | 22.2 |
| Spain | 5 | 3.5 | 3 | 2 | 60.0 |
| Sweden | 3 | 2.1 | 2 | 1 | 66.7 |
| Turkey | 3 | 2.1 | 2 | 1 | 66.7 |
| United Kingdom | 24 | 17.0 | 16 | 8 | 66.7 |

Table V. (Adjusted) Value of Privatized and Matching Firms

Data relating to 141 privatized corporations and 141 matching firms are used to construct this table. The table presents the mean and (below) the median of *Market-to-Book*. 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 1.49 | 1.92 1.68 | 2.39 2.00 | 2.62 1.98 | 2.21 2.07 |
| Matching firms (B) | 2.96 2.37 | 3.31 2.61 | 3.51 2.50 | 3.91 2.45 | 2.82 2.23 |
| No. matched pairs | 104 | 106 | 93 | 82 | 68 |
| 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 | | | | | |
| Gov't Controlled (C) | 1.73 1.59 | 1.97 1.80 | 2.16 1.91 | 2.39 1.60 | 2.00 2.17 |
| Matching firms (D) | 2.28 1.94 | 2.49 2.10 | 2.80 2.22 | 2.98 1.96 | 2.48 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 | | | | | |
| Non-Gov't Controlled (E) | 1.72 1.43 | 1.90 1.66 | 2.52 2.00 | 2.73 2.10 | 2.32 2.00 |
| Matching firms (F) | 3.22 2.37 | 3.71 2.92 | 3.91 2.64 | 4.36 3.05 | 3.00 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 VI. Estimating the (Adjusted) Value 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 is the market-to-book (DMB). DDEBT is the ratio debt-to-ratio equity. DCAPEX is total capital expenditure to sales. DASSETURN is asset turnover, measured by the ratio of sales to total assets. DSIZE 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 built based on two-digits SIC codes (see Table IV). YEAR DUMMIES is a set of time dummies for 1996-2000 (coefficients are not reported). The Wald χ^2 tests the null that all coefficients are jointly equal to zero. 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 | DMB | | | | |
|--------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | (1) | (2) | (3) | (4) | (5) |
| DDEBT | -0.375 (-1.27) | -0.388 (-1.32) | -0.591 ^b (-2.25) | -0.381 (-1.29) | -0.604 ^b (-2.30) |
| DCAPEX | -0.014 (-1.57) | -0.014 ^c (-1.61) | -0.003 (-0.36) | -0.014 ^c (-1.67) | -0.004 (-0.47) |
| DASSETURN | 2.246 ^a (4.07) | 2.158 ^a (3.90) | 3.431 ^a (5.32) | 2.039 ^a (3.60) | 3.398 ^a (5.24) |
| DSIZE | 3.505 ^a (6.11) | 3.539 ^a (6.17) | 3.598 ^a (6.28) | 3.538 ^a (6.13) | 3.630 ^a (6.32) |
| STATE | | 1.902 (1.36) | 3.044 ^b (2.18) | 2.075 (1.47) | 3.100 ^b (2.21) |
| SPECIAL | | | 0.726 (0.76) | | -0.207 (-0.19) |
| PETROLEUM | | | | 0.327 (0.23) | 0.703 (0.45) |
| TRANSPORTATION | | | | -1.145 (-0.91) | -2.314 ^c (-1.61) |
| UTILITIES | | | | 0.548 (0.57) | 1.032 (0.87) |
| YEAR DUMMIES | Yes | Yes | Yes | Yes | Yes |
| No. Obs. | 355 | 355 | 275 | 355 | 275 |
| R-sq: within | 0.183 | 0.185 | 0.281 | 0.184 | 0.281 |
| Wald χ^2 | 65.01 | 66.86 | 92.54 | 68.34 | 97.50 |
| Prob. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Hausman χ^2 | 6.53 | 8.75 | 3.96 | 11.74 | 2.63 |
| Prob. | 0.588 | 0.461 | 0.914 | 0.228 | 0.977 |

Table VII. Estimating the (Adjusted) Value of Privatized Companies with Endogenous 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 is the market-to-book (DMB). In DDEBT is the debt-to-equity ratio. DCAPEX is total capital expenditure to sales. DASSETURN is asset turnover measured by the ratio of sale to total assets. DSIZE 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 built based on two-digits SIC codes (see Table IV). YEAR DUMMIES is a set of time dummies for 1996-2000 (coefficients are not reported). In second stage estimations, STATE is replaced by the fitted value from first-stage regressions, where 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. The Wald χ^2 tests the null that all coefficients are jointly equal to zero. The Sargan χ^2 tests over identifying restrictions..^a, ^b, and ^c denote statistical significance at the .01, .05, and .10 levels, respectively.

| Dependent variables | (1) | | (2) | | (3) | | (4) | |
|---------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | STATE | DMB | STATE | DMB | STATE | DMB | STATE | DMB |
| DDEBT | -0.033 (-1.11) | -0.080 (-0.11) | 0.002 (0.08) | 0.795 (-1.04) | -0.036 (-1.20) | -0.083 (-0.12) | 0.001 (0.05) | -0.868 (-1.15) |
| DCAPEX | -0.0001 (-0.43) | -0.013 ^c (-1.71) | -0.00006 (-0.17) | -0.003 (-0.43) | -0.0001 (-0.42) | -0.014 ^c (-1.80) | -0.00004 (-0.10) | -0.004 (-0.51) |
| DASSETURN | -0.029 (-1.35) | 1.592 ^a (3.10) | -0.016 (-0.53) | 3.12 ^a (4.78) | -0.037 ^c (-1.68) | 1.397 ^a (2.62) | -0.018 (-0.60) | 3.089 ^a (4.73) |
| DSIZE | 0.029 (1.29) | 3.619 ^a (6.80) | 0.049 ^c (1.84) | 3.59 ^a (6.10) | 0.028 (1.26) | 3.600 ^a (6.74) | 0.050 ^c (1.85) | 3.556 ^a (6.10) |
| STATE | | 5.862 ^b (1.95) | | 7.066 ^b (2.16) | | 6.200 ^b (2.07) | | 6.227 ^b (2.00) |
| SPECIAL | | | 0.067 (1.58) | 0.320 (0.33) | | | 0.054 (1.11) | -0.766 (-0.70) |
| POLINST | -0.105 ^a (-7.13) | | -0.111 ^a (-5.75) | | -0.107 ^a (-7.13) | | -0.117 ^a (-6.03) | |
| PARTISAN | -0.016 ^b (-2.20) | | -0.019 ^b (-2.29) | | -0.017 ^b (-2.34) | | -0.020 ^a (-2.39) | |
| DEBT/ GDP | -0.095 (-1.39) | | -0.092 (-1.10) | | -0.100 (-1.45) | | -0.108 (-1.29) | |
| PETROLEUM | | | | | -0.001 (-0.03) | 0.671 (0.55) | 0.031 (0.46) | 0.826 (0.58) |
| TRANSPORTATION | | | | | 0.134 ^a (2.74) | -1.606 (-1.37) | 0.162 ^a (2.57) | -2.494 ^b (-1.82) |
| UTILITIES | | | | | 0.024 (0.65) | 0.850 (1.00) | 0.055 (1.03) | 0.866 (0.76) |
| YEAR DUMMIES | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. Obs. | 298 | 298 | 228 | 228 | 298 | 298 | 228 | 228 |
| Wald | 84.00 | 76.07 | 78.00 | 85.00 | 94.00 | 78.66 | 87.00 | 90.58 |
| Prob. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sargan χ^2 | | 1.431 | | 0.342 | | 1.431 | | 0.342 |
| Prob. | | 0.489 | | 0.843 | | 0.489 | | 0.843 |

Table VIII. Robustness Tests: Estimates Using an Alternative Benchmark

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 firm and its two-digit SIC industry/country median in year t . The dependent variable is the market-to-book (DMB). All independent variables are described in Table VII. ^a, ^b, and ^c denote statistical significance at the .01, .05, and .10 levels, respectively.

| Dependent variables | (1) | | (2) | | (3) | | (4) | |
|---------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|
| | STATE | DMB | STATE | DMB | STATE | DMB | STATE | DMB |
| DDEBT | 0.072 ^c (1.64) | -0.240 (-0.68) | 0.069 (1.25) | 0.128 (0.30) | 0.076 ^c (1.71) | -0.270 (-0.75) | 0.071 (1.29) | 0.145 (0.34) |
| DCAPEX | 0.0001 (0.27) | -0.005 (-1.30) | 0.0002 (0.40) | -0.006 (-1.36) | -2.1e-06 (-0.00) | -0.004 (-0.95) | 0.00009 (0.16) | -0.005 (-1.16) |
| DASSETURN | 0.003 (0.15) | 0.142 (0.77) | -0.004 (-0.18) | 0.016 (0.08) | 0.002 (0.10) | 0.177 (0.94) | -0.005 (-0.19) | 0.032 (0.15) |
| DSIZE | 0.049 ^a (2.81) | 1.073 ^a (7.83) | 0.060 ^a (2.84) | 1.081 ^a (6.58) | 0.050 ^a (2.91) | 1.042 ^a (7.44) | 0.058 ^a (2.74) | 1.090 ^a (6.54) |
| STATE | | 2.382 ^b (2.38) | | 2.689 ^b (2.44) | | 2.514 ^b (2.40) | | 2.670 ^b (2.44) |
| SPECIAL | | | -0.054 (-1.49) | -0.012 (-0.04) | | | -0.014 (-0.31) | -0.121 (-0.35) |
| POLINST | -0.111 ^a (-7.72) | | -0.114 ^a (-6.39) | | -0.107 ^a (-7.36) | | -0.115 ^a (-6.41) | |
| PARTISAN | -0.012 ^c (-1.91) | | -0.016 ^b (-1.97) | | -0.012 ^c (-1.87) | | -0.016 ^b (-1.94) | |
| DEBT/ GDP | -0.099 (-1.60) | | -0.069 (-0.93) | | -0.082 (-1.30) | | -0.057 (-0.76) | |
| PETROLEUM | | | | | -0.063 (-1.15) | 0.532 (1.16) | -0.053 (-0.85) | 0.141 (0.28) |
| TRANSPORTATION | | | | | 0.071 (1.58) | -0.090 (-0.24) | 0.105 ^b (2.01) | -0.508 (-1.19) |
| UTILITIES | | | | | -0.025 (-0.72) | -0.063 (-0.22) | -0.019 (-0.40) | -0.094 (-0.26) |
| YEAR DUMMIES | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. Obs. | 362 | 362 | 273 | 273 | 362 | 362 | 273 | 273 |
| Wald | 80.00 | 95.45 | 79.00 | 73.05 | 86.00 | 74.83 | 86.00 | 73.46 |
| Prob. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Sargan χ^2 | | 0.552 | | 1.123 | | 0.552 | | 1.123 |
| Prob. | | 0.759 | | 0.570 | | 0.759 | | 0.570 |

Table IX. Robustness Tests: Agency Costs and IPO Dates

This table reports the estimated coefficients and associated t-statistics (in parentheses) of a 2SLS (two-stage least squares) cross section estimation for year 1996 and 2000. All the variables are constructed as differences between the values of the privatized and the matching firm in year t . The dependent variable is the market-to-book (DMB). DDEBT is the debt-to-equity ratio. DCAPEX is total capital expenditure to sales. DASSETURN is asset turnover measured by the ratio of sale to total assets. DSIZE is the (log of) end of year market capitalization. STATE is the government's voting rights in the privatized firm. DCONC represents the voting rights of the largest shareholder. D(CONC²) is the squared term for the voting rights of the largest shareholder. DIPODATE is the number of years lapsing from the IPO. IV are the same as in Table VII. F-stat tests the null the all coefficients are jointly zero. The Sargan χ^2 tests over identifying restrictions. ^a, ^b, and ^c denote statistical significance at the .01, .05, and .10 levels, respectively.

| Dependent Variable | DMB | | | |
|-----------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|
| | (1) 1996 | (2) 2000 | (3) 1996 | (4) 2000 |
| DDEBT | -0.482 (-0.28) | -2.129 (-1.50) | -1.016 (-0.43) | -1.934 (-1.31) |
| DCAPEX | 0.012 (0.73) | -0.080 ^b (-1.98) | -0.002 (-0.14) | -0.079 ^c (-1.86) |
| DASSETURN | 1.881 ^b (2.22) | 1.469 (1.08) | 1.208 (1.32) | 0.720 (0.56) |
| DSIZE | 1.973 (0.94) | 2.957 ^a (2.67) | 6.213 ^b (1.91) | 3.528 ^a (2.93) |
| STATE | 7.848 ^c (1.77) | -1.658 (-0.14) | 6.931 ^b (1.99) | 3.989 (0.67) |
| DCONC | -0.025 (-1.04) | 0.011 (0.21) | | |
| D(CONC ²) | 0.0002 (0.37) | -0.001 (-0.63) | | |
| DIPODATE | | | -0.010 (-0.53) | -0.023 (-1.16) |
| No. Obs. | 73 | 50 | 62 | 47 |
| F-stat | 1.96 | 3.03 | 1.88 | 3.22 |
| Prob. | 0.074 | 0.011 | 0.101 | 0.011 |
| Sargan | 1.615 | 2.120 | 0.669 | 0.780 |
| Prob. | 0.446 | 0.346 | 0.715 | 0.677 |