Auditor Choice in Privatized Firms: Empirical Evidence on the Role of State and Foreign Owners

Omrane Guedhami

Moore School of Business, University of South Carolina, Columbia, SC 29208, USA
omrane.guedhami@moore.sc.edu

Jeffrey A. Pittman*

Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China
acjp@ust.hk

Walid Saffar

HEC Montreal, Montreal, QC H3T 2A7, Canada
walid.saffar@hec.ca

Abstract

We rely on a unique dataset of 176 privatizations from 32 countries to extend recent research on the link between the political economy and accounting transparency to include the role of auditor choice. Serious agency problems stemming from the drastic change in ownership structure in the years surrounding the sale of state-owned enterprises ensures that this is an opportune setting for examining whether shareholder identity explains auditor choice. We analyze whether government owners eager to conceal the diversion of corporate resources for political purposes prefer a non-Big Four auditor to render the financial statements less informative about underlying firm performance. In contrast, we expect that foreign owners will prefer to hire a Big Four auditor to better monitor the newly privatized firms to prevent expropriation by controlling insiders and their political backers. Consistent with these predictions on shareholders' diverging interests in high-quality financial reporting that manifests in auditor choice, we find strong, robust evidence from panel data estimation that privatized firms worldwide become less (more) likely to appoint a Big Four auditor with the presence of state (foreign) owners. Collectively, our cross-country research suggests that auditor choice hinges on whether owners genuinely value accounting transparency.

December 2007

Auditor Choice in Privatized Firms: Empirical Evidence on the Role of State and Foreign Owners

Abstract

We rely on a unique dataset of 176 privatizations from 32 countries to extend recent research on the link between the political economy and accounting transparency to include the role of auditor choice. Serious agency problems stemming from the drastic change in ownership structure in the years surrounding the sale of state-owned enterprises ensures that this is an opportune setting for examining whether shareholder identity explains auditor choice. We analyze whether government owners eager to conceal the diversion of corporate resources for political purposes prefer a non-Big Four auditor to render the financial statements less informative about underlying firm performance. In contrast, we expect that foreign owners will prefer to hire a Big Four auditor to better monitor the newly privatized firms to prevent expropriation by controlling insiders and their political backers. Consistent with these predictions on shareholders' diverging interests in high-quality financial reporting that manifests in auditor choice, we find strong, robust evidence from panel data estimation that privatized firms worldwide become less (more) likely to appoint a Big Four auditor with the presence of state (foreign) owners. Collectively, our cross-country research suggests that auditor choice hinges on whether owners genuinely value accounting transparency.

December 2007

1. Introduction

We extend recent research on the link between the political economy and accounting institutions to include the role of auditor choice. In the high-power setting of the privatization of 176 state-owned enterprises (SOEs) from 32 countries, we examine whether the identity of major shareholders affects whether firms rely on superior external monitoring by Big Four auditors.[1] More specifically, we provide evidence on whether the auditor choice incentives of state and foreign owners diverge according to the value that they place on credible financial reporting. We also focus on how the dynamics of auditor choice evolve during the transition from state to private ownership. In other words, we isolate the importance of shareholder identity to auditor choice in the years surrounding privatization.[2]

Francis (2004) reviews the extensive prior theory and evidence that Big Four auditors provide better assurance services to their clients. However, government owners protecting their political interests may prefer to appoint auditors that are more conducive to rendering financial statements less informative about underlying firm performance. In country-level regressions, Bushman et al. (2004) find that higher government share ownership undermines financial transparency. After highlighting the governance gap between SOEs and public firms, the OECD (2005) implores countries to follow their new guidelines for improving corporate governance of SOEs in several areas, including transparency and disclosure. These include subjecting state-run firms to high-quality accounting and auditing policies such as ensuring that financial reporting complies with international standards.[3] Moreover, Bushman and Piotroski (2006) document that firms in countries with more state involvement in the economy have less conservative earnings; i.e., these firms recognize good news earlier and bad news later.

---

[1] Although extant research on the impact of the political economy on auditor choice is scarce, Gul's (2006) evidence on Malaysia and Wang et al.'s (2006) on China are important exceptions. In contrast to studies whose results may reflect the unique conditions in the country under study, our analysis of the association between shareholder identity and auditor choice around the world provides more general insights. Research on accounting information and politics originates with Watts (1977) and Watts and Zimmerman (1978).

[2] Bushman et al. (2004) call for cross-country intertemporal research on the determinants of accounting transparency to complement extant cross-sectional evidence.

[3] The OECD (2005) stresses that improving firm governance benefits privatization by making SOEs more attractive to buyers, thereby enhancing their valuation.

In comparison, foreign owners, who require more credible financial statements to reduce agency costs given that privatized firms suffer serious information asymmetry (e.g., Coffee, 1999 and Dyck, 2001), may prefer a Big Four auditor.[4] These investors may perceive that a Big Four auditor will ensure that managers responsible for preparing the financial statements have less discretion to manipulate accounting numbers. Indeed, the conversion from state to private ownership brings serious agency conflicts between minority investors and corporate insiders who frequently remain politically connected afterward (e.g., Boubakri et al., 2006 and Fan et al., 2007). Consequently, in the interest of depoliticizing the privatized firm, we expect that foreign owners would rather hire a Big Four auditor to better monitor insiders to deter them from implementing politically-motivated policies that destroy firm value.

Our cross-country analysis lies at the intersection of research on auditor choice and the political economy. Wang et al. (2006) argue that the privatization of state-owned enterprises will correct distortions in their auditor choice; i.e., their tendency to hire low-quality auditors to facilitate collusion. In this paper, we place this prediction under the microscope by exploiting our panel data to estimate random-effects specifications that partly mitigate potential omitted variables bias.[5] These tests provide strong, robust evidence that state owners are less apt to choose a Big Four auditor. Similarly, consistent with our second prediction, the likelihood that these firms will retain a high-quality auditor increases with the presence of foreign owners eager to improve accounting transparency. In fact, we estimate that, on average, raising the extent of state (foreign) ownership over the five years surrounding privatization from the first to the third quartile in our data translates into engaging a Big Four auditor becoming 31% (30%) percent less (more) likely, reflecting the first-order economic influence of these coefficients.

In additional tests, we analyze the demand for Big Four auditors over the pre-privatization (SOEs) and post-privatization (newly privatized firms) periods, and investigate how the change in ownership associated with privatization affects the decision to switch to a

---

[4] For expositional convenience, we refer to the Big Four public accounting firms and their predecessors as the Big Four since our 1980-2002 sample period ranges beyond the demise of Arthur Andersen. Choi and Wong (2007) review international evidence corroborating that Big Four auditors supply higher quality assurance services. Craswell et al. (1995) explain that although all auditing firms must comply with minimum professional standards, the Big Four voluntarily invest in higher levels of expertise and have incentives to conduct higher-quality audits to protect their reputations.

[5] Concerns that unidentified firm characteristics spuriously drive evidence continue to afflict research on the political economy (Bushman et al., 2004 and Claessens et al., 2007).

high-quality auditor. Four main results emerge from this analysis. First, we continue to find that the demand for Big Four auditors is decreasing in state ownership and increasing in foreign ownership. Second, when focusing on the pre-privatization period, we estimate that an average SOE that is fully owned by the government is associated with only 18% probability of appointing a Big Four auditor. Third, we document over the post-privatization period that the average firm is associated with a 57.6% probability of appointing a high-quality auditor. Finally, in examining the decision to shift to Big Four auditor, we find positive effects for the extent of control relinquished by the privatizing government and foreign participation. Our main results are robust to a number of sensitivity tests, including the use of alternative data sources for auditor and ownership information. Collectively, this research suggests that the identity of the major shareholders explains auditor choice in newly privatized firms.

The rest of the paper is organized as follows. Section 2 reviews prior research to motivate the testable hypotheses. Section 3 outlines our data and reports descriptive statistics on the regression variables. Section 4 covers the empirical evidence, including our sensitivity analysis. Section 5 concludes with some implications for future research.

2. Motivation

Shleifer and Vishny (1997: 768) outline the influence of politics on the resource allocation decisions made by SOEs:

> While in theory [state] firms are controlled by the public, the de facto control rights belong to the bureaucrats. These bureaucrats can be thought of as having extremely concentrated control rights, but no significant cash flow rights because the cash flow ownership of state firms is effectively dispersed among the taxpayers of the country. Moreover, the bureaucrats typically have goals that are very different from social welfare, and are dictated by their political interests…In sum, the bureaucrats controlling state firms have at best only an indirect concern about profits (because profits flow into the government budget), and have objectives that are very different from the social interest. Nonetheless, they have virtually complete power over these firms, and can direct them to pursue any political objective…The recognition of enormous inefficiency of state firms, and the pressures on public budgets, have created a common response around the world in the last few years, namely privatization.

The drastic change in ownership that firms experience upon privatization suits our research questions on the informational role of Big Four auditors.[6] Guedhami and Pittman (2006) empirically validate Bushman and Smith's (2003) argument that major regime shifts within a country like privatization provide an opportune testing ground for isolating the importance of accounting transparency determinants to economic outcomes. Prior research implies that serious agency problems accompany the transfer of SOEs to private investors, increasing the power of our tests (e.g., Coffee, 1999; Denis and McConnell, 2003; and Boubakri et al., 2005).[7] We exploit this high information asymmetry setting to estimate the association between shareholder identity and auditor choice, an important decision that affects financial reporting credibility (Bushman et al., 2004). Dyck (2001) observes that information intermediation in the form of external monitoring by high-quality auditors is essential to good corporate governance in privatized firms. Against this backdrop, we analyze whether auditor choice varies systematically with the extent of state and foreign ownership in these firms.

State owners may have strong motives to manipulate financial statements to obscure information about actual firm performance. Governments routinely privatize large SOEs through share issues with offer terms rooted in political agendas. In evidence supporting the underpricing models of Perotti (1995) and Biais and Perotti (2002), Jones et al. (1999) and Keloharju et al. (2007) find that privatizing governments rely on these securities to achieve political objectives such as attracting middle-class votes, even at the expense of sacrificing some revenue on the transactions. Moreover, national stock exchanges are frequently illiquid and opaque at the inception of large-scale share-issue privatization programs, enabling state owners to hide firm-specific information (Megginson and Netter, 2001). Megginson et al. (2004: 2867) report that governments with more control over the economy tend to divest state-run firms to diffuse investors in the public capital market though equity issues, rather than negotiating

---

[6] Megginson and Netter (2001: 321) define privatization as "the deliberate sale by a government of state-owned enterprises (SOEs) or assets to private economic agents." Reinforcing the importance of privatization transactions to equity markets worldwide, Megginson et al. (2000) report that over 90 of the 100 largest stock offerings in history have been share-issue privatizations.

[7] Consistent with this intuition, archival research implies that initial (market-adjusted) returns on privatization IPOs far exceed those on private-sector IPOs. Ljungqvist et al. (2003) report that privatization IPOs are more underpriced—in the vicinity of 14%—than are private-sector IPOs. In absolute terms, Jones et al. (1999) estimate that the mean (median) level of underpricing is 34% (12%) and 9% (3%) for initial and seasoned share-issue privatizations, respectively; Keloharju et al. (2007) find similar evidence.

assets sales to a small set of buyers who refuse to acquire a major stake unless "there is a stronger commitment that they will be able to maintain ownership…without undue government intervention."[8] Additionally, they find that privatizing governments tend to sell more profitable companies by floating a share issue to generate political support.[9]

Lindbeck (1976), North (1990) and Olson (1993), among many others, hold that economic policies reflect politicians' interest in consolidating power and accumulating wealth. Prior research implies that governments pursue control over firms to compensate their supporters for votes, political contributions, and bribes with employment at above-market wages, nepotism, subsidies, and other benefits (e.g., Shleifer and Vishny, 1993, 1994; World Bank, 1995; La Porta et al., 2002; and Rajan and Zingales, 2003).[10] Bushman et al. (2004: 223) summarize that:

> States that directly own economic enterprises may suppress firm-specific information to hide expropriation activities by politicians and their cronies. It is also possible that a benevolent government uses its state ownership of enterprise to directly govern and manage firms, obviating the need for public information. These arguments imply a negative relation between corporate transparency and the extent of state-owned enterprises.

In comparison to other firms, Chaney et al. (2007) find that politically-connected firms report lower quality earnings. Similarly, Leuz and Oberholzer-Gee (2006: 416) stress that: "…high levels of transparency and public attention might expose political favors of questionable legality. For instance, firms in weakly regulated markets are often free to engage in undisclosed related-party transactions benefiting controlling insiders and political backers." In firms outside the U.S. and the U.K., Shleifer and Vishny (1997) and La Porta et al. (2002), among others, insist that the primary agency conflict remains the expropriation of minority

---

[8] Bushman and Piotroski (2006) find evidence consistent with firms in countries with more state involvement in the economy using their accounting discretion to manage earnings upward to avoid such government intervention.

[9] In Shleifer and Vishny's (1994) model, more profitable enterprises are better privatization candidates since they restructure after the conversion from state to private ownership. In comparison, unprofitable firms continue providing benefits to their political patrons in return for subsidies. Acemoglu and Johnson (2005) document that economies with weaker property rights and poor protection against expropriation by politicians and the country's elite suffer lower per capita income and investment rates.

[10] Early research implies that politicians cater to interest groups rather than the median voter; e.g., Olson (1965) and Stigler (1971). For example, trade unions worldwide are among the most vocal opponents of privatization, which Lopez-de-Silanes et al. (1997) and Shleifer (1998) attribute to their interest in preserving the reciprocating favors their members receive in return for providing political support.

5

investors by controlling shareholders. Dyck (2001: 59-60) outlines recent research indicating that this problem is worse for privatized firms that not only:

> … have failed to stop the "grabbing hands" of the state, but evidence suggests that they also allowed profits to be diverted to the grabbing hands of insiders…These revelations present challenges for state-run enterprises that are about to be privatized…The steps required to encourage the private sector to invest are deceptively simple: find a way to tie the grabbing hands of public and private parties by providing information and accountability to investors. I say "deceptively" because putting such ideas into practice is difficult, given the variety of institutions that affect information and accountability.

Similarly, Shleifer and Vishny (1998) argue that the success of privatization programs hinge on minimizing the "grabbing hands" of governments by severing the link between politicians and managers of the former state-run firm.

Importantly, orchestrating the diversion of corporate resources requires that these activities remain hidden through opportunistic financial statements (La Porta et al., 1998 and Dyck and Zingales, 2004). Reinforcing that insiders have stronger motives to obscure firm performance when they are siphoning more value, Leuz et al. (2003) find that earnings management is more pervasive in countries with weak investor protection. Moreover, Megginson and Netter (2001) hold that privatized firms tend to exaggerate their earnings even more than other firms. In fact, several standard techniques for depriving outside investors their fair share of profits—including manipulating transfer prices, hiding related-party transactions, covertly issuing shares to relatives, and even blatant theft (e.g., Shleifer and Vishny, 1997; OECD, 1999; Johnson et al., 2000; and Volpin, 2002)—imply that Big Four auditors play an important economic role in constraining insiders' discretion over financial reporting. In Pagano and Röell's (1996) model, high-quality financial statements enable controlling shareholders to credibly commit to refrain from exploiting their position as insiders to deny outside investors since diversionary practices are harder to conceal when external monitoring is stricter.

We initially focus on the relation between state ownership and accounting transparency evident in auditor choice. Besides helping to prevent the detection of any expropriation of corporate resources for political purposes, there is a less odious reason that state owners may avoid choosing a Big Four auditor. Consistent with Faccio's (2006b) and Claessens et al.'s (2007) evidence that political connections afford firms access to cheap loans, Wang et al. (2006) argue

that SOEs are more apt to engage a lower-quality auditor since they can raise capital through these connections without having to reduce information asymmetry with more credible financial statements. In fact, Chaney et al. (2007) document that politically-connected firms, despite their poorer quality earnings, are not penalized with higher borrowing costs.[11] Wang et al. (2006) suggest that the privatization of SOEs will reverse distortions in auditor choice by persuading these firms to shift to higher-quality auditors.[12] Consequently, our analysis begins by examining whether the likelihood of selecting a Big Four public accounting firm is decreasing in fractional state ownership, translating into the following prediction (both hypotheses are stated in alternate form):

H_1: State owners are less likely, *ceteris paribus*, to choose Big Four auditors.

In contrast to government owners, foreign investors may prefer to hire a Big Four auditor to improve contracting by moderating agency costs. Leuz et al. (2006) find that foreigners avoid investing in poorly governed firms, which they attribute to these investors suffering serious information problems. Recent research implies that privatized firms become better governed in the presence of foreign investors who require more informative disclosures and are eager to protect their reputations (Boycko et al., 1996; Dyck, 2001; and Boubakri et al., 2007). These typically institutional investors demand high-quality financial reporting to closely monitor and discipline managers according to Boutchkova and Megginson (2000). Supporting Boycko et al.'s (1996) and Dyck's (2001) take that foreign investors in privatized firms are behind better governance and operating performance, D'Souza et al. (2005) examine 129 firms from 23 countries that states divested from 1961 to 1999 and find that greater foreign ownership engenders efficiency gains post-privatization, particularly when the government's equity stake sinks. Indeed, Denis and McConnell (2003: 16) conclude in their comprehensive literature review on the privatization experience that ownership by foreign investors "is most often associated with better performance, while ownership by the government is associated with worse performance."

---

[11] For perspective, we note that Faccio (2006a) documents that politically-connected firms comprise almost 8% of the world's stock market capitalization.

[12] Wang et al. (2006) also highlight that SOEs in financial distress can appeal to soft-budget constraints, rather than the insurance role of Big Four auditors, given that the government will likely rescue the firm before bankruptcy (Faccio et al., 2006). In other words, the "deep pockets" of Big Four auditors are less valuable since these firms can turn to the government for emergency financing (Dye, 1993).

Rajan and Zingales (2003) suggest that companies with strong political connections will resist reforms to domestic institutions that attract foreign investors by improving corporate transparency. Stulz (1999) argues that liberalizing capital markets (i.e., opening equity markets to foreign investors) improves corporate governance practices, including the commitment to better disclosure. In the same vein, Doidge (2004) and Doidge et al. (2004) show that cross-listing in the U.S., which imposes higher disclosure standards on firms, improves corporate governance by limiting the consumption of private benefits by controlling shareholders. Finally, Leuz and Oberholzer-Gee (2006: 436) find evidence implying that "firms with political ties dislike the transparency and scrutiny that come with publicly traded securities" in foreign capital markets, which leads to our second prediction:

H_2:   Foreign owners are more likely, *ceteris paribus*, to choose Big Four auditors.

3. Data and Descriptive Statistics

3.1 Sample

To investigate the role of state and foreign ownership in auditor choice, we compile a sample of 176 firms privatized from 21 emerging markets and 11 industrialized countries over the period 1980 to 2002.[13] This involves updating Guedhami and Pittman's (2006) sample using various sources, including the *World Bank* privatization database for developing countries, the *Privatization Barometer* for OECD countries, and Megginson's (2003) continuously updated list of privatized firms in developed and developing countries.[14] We compare our list of privatized firms to Boubakri et al.'s (2006) to ensure that our sample is comprehensive. We follow the usual practice of excluding firms from the ex-communist countries for two reasons (Denis and

---

[13] This sample compares favorably with multinational studies on privatized firms: Megginson et al. (1994) with a sample of 61 firms from 18 countries, Boubakri and Cosset (1998) with a sample of 79 firms from 21 countries, D'Souza and Megginson (1999) with a sample of 78 firms from 25 countries, Dewenter and Malatesta (2001) with a sample of 61 firms from 8 countries, D'Souza et al. (2005) with a sample of 129 firms from 23 countries, Boubakri et al. (2005) with a sample of 209 from 39 countries, and Guedhami and Pittman (2006) with a sample of 190 from 31 countries.

[14] We were able to identify 222 firms from 36 countries that had data on auditor identity. However, to be included in the final sample, we require each firm to have information on *both* state and foreign ownership. Imposing this additional screen results in a final sample of 176 firms from 32 countries. None of the inferences in this paper are affected by examining the slightly larger samples that become available when focusing on the impact of *either* state or foreign ownership.

McConnell, 2003; Boubakri et al., 2005; and Megginson et al., 2004). First, the process of privatization in these countries takes place within the broader context of major institutional and political shifts. In particular, the traditional law system in these countries is based on the Soviet law, which has undergone fundamental changes in the transition period (La Porta et al., 2000). Second, the post-privatization ownership structure in these countries is overwhelmingly in the hands of insiders (managers and employees).

Table 1 provides some descriptive statistics on the 176 firms used in the hypotheses tests. The firms are fairly evenly spread across geographical regions as categorized by the *World Bank*, with different development levels and legal, political, and institutional environments. For example, 43.18% are domiciled in Africa and the Middle East, 23.30% in East and South Asia and the Pacific, 13.64% in Latin America and the Caribbean, and 19.89% in Europe and Central Asia.[15] Table 1 reveals that our sample is also diversified across Campbell's (1996) industries with 20.45% in finance/real state, 18.18% in utilities, and 17.61% in basic industries. Further, 84.66% of the privatization transactions occurred between 1990 and 2002, with the remaining 15.34% in the 1980s. These figures are largely driven by recent large-scale privatizations, especially in developing countries.[16]

3.2 Regression Variables and Descriptive Statistics

Auditor Choice. Since our research focuses on observing auditor choice around the privatization date, we hand-collect data—mainly from annual reports—on auditor names before privatization, in the privatization year, and over the three years after privatization. We follow convention by defining the privatization event date to reflect when the government divests, for the first time, a certain number of shares (Megginson et al, 1994 and Boubakri et al., 2005). Table 1 summarizes in Panel D the Big Four market share before and after privatization.

---

[15] None of the results reported in this paper are materially sensitive to sequentially removing each country from the analysis, ensuring that our evidence on the predictions in H_1 and H_2 reflects pervasive economic phenomena, rather than firms from any single country swamping the data.

[16] The distributional statistics for our sample closely resemble those for privatized firms on the *World Bank*'s list. For example, the *World Bank* reports that 30.48% of the firms are from Africa and the Middle East, 17.08% from East and South Asia and the Pacific, 42.35% from Latin America, and 10.09% from Europe and Central Asia; 20.52% of the firms are from the financial sector, and another 15.97% are utilities. Additionally, we note that 80% of the privatization transactions worldwide occurred in the 1990s, again implying that our sample is representative of the underlying population.

Prior to privatization, 60 (34%) of the 176 firms chose a Big Four auditor compared to 94 (53%) firms afterward; this difference is statistically significant at the 1% level according to a Chi-Square test. These figures on Big Four market share are considerably lower than the 70.77% reported in Choi and Wong's (2007) for a multinational sample of public firms from 39 countries over 1993-1998.[17] In comparing the pre- and post-privatization periods, it is important to note that 34 out of the 116 (i.e. 29.3%) firms with a non-Big Four auditor prior to privatization switched to a Big Four auditor following privatization.[18] In fact, consistent with the rationale behind our predictions, none of the 60 firms with a Big Four auditor before privatization downgrade to a non-Big Four auditor afterward. Reinforcing that the privatization setting suits our research questions, additional data inspection reveals that none of the 176 sample firms changed auditors during the three years before privatization.

Ownership Variables. Our hypotheses relate to the impact of ownership identity on auditor choice. More specifically, we analyze the incentives of governments and foreign investors to appoint high-quality auditors. Accordingly, we determine the ownership stake held by the government and foreign investors one year prior to privatization, in the privatization year, and over the first three years afterward. The ownership structure and the financial information are hand collected from several data sources including *Moody's International*, *Mergent Online*, *Worldscope Disclosure*, *Bankscope*, Asian, Brazilian, and Mexican Company Handbooks, Kompass Egypt Financial Year Book, and the firms' annual reports and offering prospectuses. Finally, Boubakri and Cosset (1998), Megginson (2003), and Bortolotti and Siniscalco (2004), who all report government and foreign shareholdings information before and immediately after privatization for large multinational samples of privatized firms, provide supplementary data.

Table 2 reports descriptive statistics on state and foreign ownership around the privatization date, which predictably confirms a steep decline in government ownership

---

[17] In comparison to recent U.S. research—for example, Mansi et al. (2004) report that 99% of U.S. public firm rely on a Big Four auditor in the 1990s—our analysis benefits from ample variation in auditor choice. For example, poor variation in auditor choice largely prevents Wang (2006) from examining whether the presence of a Big Five auditor affects earnings quality in U.S. family firms.

[18] In some ways, it is striking that such a large fraction of firms switch auditors after privatization given U.S. evidence that this frequency is much lower there (e.g., 6% according to Krishnan's (1994) estimates) and that a negative market reaction typically greets this news; e.g., Whisenant et al. (2003).

following privatization.[19] The average government stake slides from 87.9% before privatization to 35.3% afterward, amounting to a drop of 52.6%. Interestingly, control privatizations, in which the government relinquishes its control by selling more than 50% of the shares, comprise 62.2% of the total sample. We include this variable given arguments in the literature that control privatization, in which the government surrenders control, in contrast to revenue privatization (government remains the controlling shareholder) reduces political interference and persuades the new owners to restructure the privatized firm (Boycko et al., 1996). The foreign investors' average stake nearly quadruples from a paltry 4.5% the year before privatization to 15.5% four years later. We also report that 14.8% of the sample firms were partly divested on foreign stock markets (*ISIP*), which is another way for privatizing governments to target foreign investors.

Control Variables. It is important to control for determinants besides shareholder identity that are likely to affect auditor preferences. Our choice and specification of controls closely resembles recent empirical research; e.g. Lennox (2005), Wang et al. (2006), and Choi and Wong (2007).[20] The firm-level control variables reflect that larger, more profitable firms with more complex operations and less debt in their capital structures may be more likely to have a Big Four auditor. We include two proxies for asset structure, current assets to current liabilities (*CATCL*) and inventory to total assets (*INV*), while *LEVERAGE* is measured with the long term debt to total assets ratio and *ROA* stands for the returns on assets ratio to capture profitability. For firm size, we label the natural logarithm of total sales as *SIZE*. We also control for foreign issues by specifying a dummy variable, *ISIP*, that takes the value of one if the firm is partly privatized through international stock markets, and zero otherwise. Stulz (1999), Doidge et al. (2004), and Lang et al. (2003), among others, hold that firms choosing to cross-list on a major U.S stock exchange are "bonding" themselves to increased transparency and higher corporate

---

[19] Although we present in Panel B of Table 2 averages of post-privatization ownership stakes, the evolution of both state and foreign ownership over the initial three years after privatization—available from the authors—is explained by staggered sales (or subsequent share issues). However, it is important to note that the lion's share of the ownership change occurs immediately after privatization. Additionally, we were able to identify other types of private investors (e.g., local institutions, employees, and individuals) participating in the privatization process. The evolution of post-privatization ownership structure as well as the presence of other private investors will be used in the time-series analysis of auditor choice and the robustness of the impact of foreign ownership on auditor choice to controlling for other types of private investors, respectively.

[20] It is important to note that selecting firm-level controls with data available is one way to handle the accounting data constraints endemic to research on privatized firms (Megginson and Netter, 2001).

governance standards, thereby credibly committing that controlling insiders will refrain from expropriating outside investors.[21] In fact, Dyck (2001) argues that cross-listing on a foreign stock exchange particularly benefits privatized firms' by moderating their severe information asymmetry by improving disclosure. For industry affiliation, we include a set of dummy variables representing the 12 industries in Campbell (1996). For macroeconomic conditions, we incorporate the level of economic development with the natural logarithm of GDP per capita (*LGDPC*) given extant evidence that more developed countries enjoy better institutions and more developed capital markets, which may affect the demand for accounting transparency (Leuz et al., 2003). Finally, we control for the country's foreign direct investment (*FDI*) to reflect the positive relation between foreign investment and the demand for high-quality auditors that Choi and Wong (2007) observe. Table A1 in the Appendix provides definitions and data sources for all regression variables, which exhibit ample variation according to Table 2, enabling us to draw meaningful inferences.

4. Empirical Results

Empirical research seldom studies the factors driving firms' demand for high-quality auditing outside the U.S. (DeFond and Francis, 2005), although the prior research outlined above implies that non-U.S. firms typically suffer more severe agency problems stemming from large shareholdings as well as weak legal environments and poor governance structures. Motivating our paper, evidence on whether the identity of shareholders influences agency problems in firms in these countries—that, in turn, affect auditor choice—remains scarce. Our analysis helps rectify this oversight by focusing on the link between shareholder identity and auditor choice in privatized firms around the world. More specifically, we examine the financial reporting incentives of state and foreign shareholders evident in auditor choice using the privatization setting.

We conduct our investigation in two steps. First, we perform univariate comparisons after bisecting our sample into Big Four and non-Big Four clients. Second, we estimate multivariate logistic regressions to analyze whether external monitoring by a high-quality auditor is associated with the extent of state and foreign ownership. In these tests, we capitalize

---

[21] Relevant to our research questions, Lang et al. (2003) suggest that cross-listed firms may be deliberately subjecting themselves to more scrutiny from external auditors to improve their information environment.

on the panel nature of our data, which spans the years surrounding privatization, with logistic regressions that control for unobserved firm-specific effects to accommodate concerns about correlated omitted variables (Bushman et al., 2004 and Claessens et al., 2007). In addition to this time-series approach, we separately estimate the auditor choice models on two timeframes: prior to privatization and afterward. Privatization, by definition, brings a major shift in firms' ownership structures. Consequently, we also extend our analysis to consider whether auditor switches following privatization relate to shareholder identity.

4.1   Univariate Analysis

In Table 3, we compare the means and medians of all explanatory variables for the Big Four and non-Big Four subsamples for the full period. Consistent with the prediction in H_1, we find that the equity stake held by the government is significantly lower for the Big Four subsample. More specifically, the mean (median) stake held by the government is 38.7% (34%) for the Big Four subsample compared to 54.4% (60%) for the non-Big Four subsample. Reinforcing this result, we find a significantly higher (at the 1% level) proportion of firms in which the government is not the controlling owner after privatization for the subsample of Big Four auditors (74%) relative to the subsample of non-Big Four clients (55%).

The measures of central tendency in Table 3 also include that foreigners hold a significantly higher stake in the Big Four subsample, supporting the prediction in H_2. The mean (median) ownership is 18.4% (11.7%) for the subsample of Big Four clients compared to 7.5% (0.7%) for the non-Big Four clients subsample. Similarly, we find that the proportion of privatized firms involving a foreign issue of shares, *ISIP*, is significantly higher (at the 1% level) for the subsample of Big Four clients. Collectively, in a first stab at our research questions, the results for the subsamples of Big Four and non-Big Four clients imply that the extent of state and foreign ownership affects auditor choice in the directions predicted in H_1 and H_2.[22]

Other statistically significant results include that the demand for Big Four auditor is positively related to leverage, firm size, development level, and foreign investment, while negatively related to profitability and asset structure. Although these univariate tests provide strong preliminary support for our hypotheses on the influence of ownership identity on

---

[22] Predictably, the Pearson correlation coefficients reported in Table A2 corroborate these findings. *STATEOWN* (*FOREIGNOWN*) is negatively (positively) correlated at the 1% level with *BIG FOUR*.

auditor choice, they only document binary relations without controlling for other potential determinants. In the next section, we extend our analysis by more rigorously examining whether the evidence on these predictions persists in a multivariate framework.

4.2   Multivariate Analysis

In this section, we report the results of a multivariate logistic regression analysis of the impact of state and foreign ownership on auditor choice over the five years surrounding privatization (one year prior to privatization, the privatization year, and three years after privatization). Reflecting their divergent preferences for high-quality financial reporting, we predict that state ownership will be associated with lower demand for Big Four auditors (H_1), while foreign ownership will be associated with higher demand for Big Four auditors (H_2). We estimate several specifications of the following model to test these predictions (subscripts suppressed for notational convenience):

$$BIG\ FOUR\ = \alpha + \beta_1 STATEOWN\ + \beta_2 FOREIGNOWN + \beta_3 CONTROL + \varepsilon \qquad (1)$$

We specify the regression variables as follows:

BIG FOUR = a dummy variable equal to 1 for firms with Big Four auditors, and zero otherwise;
STATEOWN = the percentage of shares held by the government;
FOREIGNOWN = the percentage of shares held by foreigners; and
CONTROL = a set of firm- and country-level control variables.

The coefficients β_1 and β_2 measure the sensitivity of auditor identity to state and foreign ownership, respectively. To control for firm-specific effects, we estimate random effects regressions. Given that the determinants of auditor choice are likely firm-specific, these specifications control for this unobserved heterogeneity that can lead to spurious correlations.[23] Indeed, apart from tightening our tests by mitigating the omitted variables problem, a random effects framework that exploits the panel structure of our data is particularly constructive since

---

[23] In a natural alternative specification, a fixed effects model decimates the number of observations in the estimation stemming from many firms having no variation in *BIG FOUR* over the sample period. Additionally, a Hausman (1978) specification test fails to reject the null hypothesis of no correlation between the unobserved firm-specific random effects and the explanatory variables, implying that random effects estimation is the proper design choice for the data. Moreover, results from a fixed effects model would only apply to firms in our fairly small sample; the random effects estimation reflects that we are eager to justify inferences that are externally valid.

extant research on newly privatized firms has been hobbled by non-trivial sample attrition caused by missing accounting data (e.g., Megginson and Netter, 2001).

4.2.1 *Main Evidence*

Our empirical strategy includes initially estimating Equation (1) with a parsimonious set of explanatory variables to preserve power by maximizing the number of observations. In practical terms, the samples generally shrink slightly as we add variables to each successive model. The results from the panel regressions reported in Table 4 reveal significant divergent effects of government and foreign ownership on auditor choice, with all models exhibiting impressive explanatory power (pseudo-R^2 ranges from 44% to 59%) relative to prior multinational studies using listed firms (e.g., Choi and Wong, 2007), reinforcing that the privatization setting is opportune for our tests. Model 1, which includes state ownership along with firm size and the country-level controls, provides strong evidence that weak accounting transparency incentives attend government ownership. The coefficient for *STATEOWN* is negative and statistically significant at the 1% level, implying that the demand for a high-quality auditor is decreasing in the government's equity stake.

In Model 2, we focus on the importance of foreign ownership to the likelihood of hiring a Big Four auditor. The coefficient for *FOREIGNOWN* loads positive at the 1% level, suggesting that foreign investors are more likely to engage Big Four auditors, consistent with the prediction in H$_2$. In Model 3, which includes both test variables, we continue to estimate strongly significant negative and positive coefficients for *STATEOWN* and *FOREIGNOWN*, respectively, reinforcing that the demand for high-quality auditors is decreasing in government ownership and increasing in foreign ownership.

In Model 4, we include additional firm-level controls for asset structure, leverage and profitability. Although including these variables slightly reduces the sample size, we continue to report statistically and economically significant effects of state and foreign ownership on auditor choice that support H$_1$ and H$_2$. The negative and statistically significant (at the 1% level) coefficient estimate for *STATEOWN* suggests that increasing state ownership from the first to the third quartile translates into appointing a high-quality auditor becoming 30.77% less likely, from 58.60% to 27.83%; all other variables, including foreign ownership, are set the their mean values. In contrast, the positive and statistically significant coefficient estimate for

FOREIGNOWN (at the 1% level) implies that moving from the first to the third quartile in foreign ownership leads to a 29.81% increase in the probability of engaging a Big Four auditor (i.e., from 22.07% to 51.88%). These findings are robust to specifying controls for industry, region, and time effects in Models 5, 6, and 7, respectively.[24]

Turning to the control variables, we observe several significant relations. First, consistent with extensive prior research, we report a positive and statistically significant coefficient for *SIZE* across all models, supporting theory that larger firms have stronger motives to adopt good governance practices (e.g. Doidge et al., 2007). Second, we find that asset structure captured by the ratio of inventory to total assets (*INV*) is the only additional firm-level control to be associated with the demand for a high-quality auditor. Except for Model 6 (insignificant), the coefficient for *INV* is negative and significant at the 10% level or better. Finally, we find across all models that foreign direct investment at the country-level (*FDI*) and the natural logarithm of GDP per capita (*LGDPC*) load positively at the 1% level, consistent with Choi and Wong (2007). More relevant for our purposes, the findings in this section strongly suggest that auditor choice varies systematically with shareholder identity.

4.2.2   Robustness Checks

Table 5 reports the results for our main robustness tests. In the interest of parsimony, all models include state and foreign ownership as well as the firm- and country-level controls that were statistically significant in Table 4. We begin by analyzing whether our earlier findings hold for an alternative sample period. More specifically, Model 1 examines the effects of state and foreign ownership over the post-privatization period (i.e., the privatization year and three years after privatization). Consistent with the prediction in H_1, we find that *STATEOWN* is significantly and negatively associated with the likelihood of hiring high-quality auditor. Moreover, supporting the prediction in H_2, we estimate a positive and highly significant relation between foreign ownership and the probability of hiring a Big Four auditor. Our core evidence on the relations between ownership structure and auditor choice is robust to re-estimating Equation (1) on a balanced panel in Model 2 to ensure that the composition of the

---

[24] Industry and region effects are based on the classifications in Table 1, while we capture time effects with a trend variable representing the number of years since privatization. We generally avoid specifying time controls to prevent over-parameterization since our predictions reflect ownership shifts in the years after privatization.

sample changing over time is not spuriously behind any evidence consistent with the predictions in H_1 and H_2.

Extant privatization studies show that, compared to revenue privatizations, control privatizations better reduce political interference in SOEs and stimulate restructuring that is responsible for superior post-privatization financial and operating efficiency (e.g., Megginson et al., 1994 and Boycko et al., 1996). After replacing *STATEOWN* with *CONTROL* in Model 3 and limiting the analysis to the post-privatization period (the privatization year and three years after privatization), we estimate a positive and strongly statistically significant coefficient for *CONTROL*, suggesting that the likelihood of a firm hiring a Big Four auditor increases when the government relinquishes control.[25] This finding is also economically material: moving *CONTROL* from 0 to 1 (i.e., government relinquishes control following privatization), while all other variables are held at their mean values, increases the probability of choosing a Big Four auditor by 47.19%, from 17.96% to 65.15%. We note the low demand for a high-quality auditor (18%) in the post-privatization period when the government remains the controlling shareholder, which is comparable to the evidence reported below when we analyze the demand over the pre-privatization period. This evidence remains when we control in Model 4 for the effects of foreign ownership. Importantly, specifying another proxy for the extent of government influence on the newly privatized firm does not affect the positive and significant relation between foreign ownership and the demand for a high-quality auditor.

In Model 5, we control for international share issue privatizations (*ISIP*), which is another way to attract foreign investors and sharpen incentives for better governance. Supporting our prior evidence on the link between foreign ownership and auditor choice, we find a positive and significant (at the 5% level) relation between the likelihood of selecting a high-quality auditor and the decision to sell the shares of the privatized firm on foreign stock markets. Economically, a privatization on foreign markets increases the probability of engaging a high-quality auditor by 47.55%, from 41.44% to 88.99%. This coefficient estimate remains significant (although at only the 10% level) in Model 6 where we include *STATEOWN*, which

---

[25] Although not tabulated for the sake of brevity, these findings are robust to extending the analysis to the full sample period (i.e., before and after privatization). However, the variable *CONTROL*, which reflects whether the government continues to be the dominant shareholder after privatization, does not apply to the pre-privatization period as the government is typically the controlling owner.

continues to load negatively at the 1% level. In unreported horse-race logistic regressions, which incorporate the foreign ownership proxies, *FOREIGNOWN* and *ISIP*, sequentially with *STATEOWN* and *CONTROL*, we continue to estimate significant coefficients in the predicted directions on all ownership variables. These results respond to Leuz's (2003) call for evidence on the interplay between high-quality auditing and the cross-listing decision.

Two important concerns arise when examining the link between foreign ownership and auditor choice after privatization. First, an alternative explanation for the positive association is that foreign owners might rationally choose to invest in firms with better transparency (e.g., Leuz et al., 2006), including those with a high-quality auditor. Since auditors are identified over the three-year period following privatization, we address this concern by re-estimating Equation (1) over the post-privatization period using the foreign ownership stake immediately after privatization. Reinforcing our earlier findings, the results reported in Model 7 indicate that the coefficient for *FOREIGNOWN* retains its positive sign and statistical significance. A second, related concern is that the foreign ownership effect may capture the presence of other types of private investors. Indeed, Boubakri et al. (2005) and Guedhami and Pittman (2006) report that the stake divested by the government is mainly absorbed by local institutions, followed by foreign investors. We handle this concern by controlling for the stake held by local institutions (*LOCALOWN*) when examining the influence of foreign ownership on auditor choice following privatization. Model 8 reveals that including *LOCALOWN*—which enters negatively but insignificantly—does not qualitatively affect the results for *FOREIGNOWN*. This evidence lends support to the argument that foreign investors suffer worse information asymmetry than local investors (Kang and Stulz, 1997 and Choe et al., 2005).

Another potentially competing explanation is that the stronger information environment that cross-listing engenders may mean that these firms are fundamentally different from the rest of the public firm population (e.g., Lang et al., 2003 and Doidge et al., 2004). However, we report in Model 9 that our core evidence is robust to removing cross-listed firms from the sample. Finally, we triangulate the analysis by investigating whether our main findings extend to another type of firm. More specifically, we focus on the banking industry by compiling ownership data and auditor information for a broad sample of 1,727 banks from 87 countries for the year 2003 covered in *BankScope*. The advantage of this database is that it provides the identities and ownership stakes of major shareholders as well as their country of origin, which

facilitates identifying foreign owners. After controlling for similar firm- and country-level controls used in the other models analyzed in Table 5, we find in Model 10 that the coefficients for *STATEOWN* and *FOREIGNOWN* are negative and positive, respectively, corroborating our earlier findings that state and foreign owners diverge in their demand for Big Four auditors as predicted in H_1 and H_2.[26]

In a nutshell, the results from these sensitivity tests reinforce our basic inferences on owners' differing auditor choice preferences: state ownership weakens the incentives for hiring high-quality auditors, while foreign participation in newly privatized firms strengthens these incentives.

4.3   Additional Analysis of the Impact of Ownership Structure on Auditor Choice

The earlier time-series analysis enabled us to examine the role of ownership identity in the demand for high-quality auditing in the years surrounding privatization, which has the virtue of using all available data. In this section, we complement this evidence that shareholder identity looms large in explaining auditor choice by narrowing our focus to the pre-privatization and post-privatization periods in separate tests. We also analyze whether and how the change in ownership structure following privatization is associated with the decision to switch to a Big Four auditor. This analysis is important since we can compare SOE's and newly privatized firm's demand for high-quality auditors. In other words, these tests shed light on whether privatization rectifies any distortions in auditor choice as emphasized by Wang et al. (2006).

For the pre- and post-privatization periods, we use the average of all explanatory variables.[27] Prior research stresses that averaging performance indicators over the two periods

---

[26] The only difference in the set of explanatory variables is the use of the ratio of loans to total assets as a measure for bank's asset structure. We also note that the evidence on state and foreign ownership remains qualitatively valid when we extend the set of explanatory variables to include controls for profitability, growth, capital, and credit risk. Additionally, in unreported tests that control for the effects of other types of owners (e.g., financial institutions, local institutions, individuals), we find that the impact of state and foreign ownership on auditor choice persist, while all other ownership variables are statistically insignificant. Finally, pseudo-R^2 falls dramatically in Model 10 despite its very similar set of explanatory variables, consistent with privatization providing a more fertile testing ground.

[27] It is common practice in privatization research to analyze periods of three years surrounding the privatization date; i.e., compare pre- versus post-privatization to isolate economic outcomes. A summary

alleviates concerns about privatizing governments manipulating accounting data just prior to share issues, especially over the three years before privatization.[28] We report the results for the periods before privatization in Table 6 and afterward in Table 7. In Table 8, we link the switch to a Big Four auditor following privatization to the change in all explanatory variables. To preview, the results corroborate our predictions and earlier findings on the influence of ownership structure on auditor choice.

Evidence before Privatization. Table 6 reports the results of estimating Equation (1) for the pre-privatization period. Model 1 reports the results of the basic regression, which excludes the ownership variables. Consistent with our previous findings as well as prior research, we find that inventory level, firm size, and country's openness to foreign direct investment affect auditor choice. Importantly, we estimate in Model 2 a negative and statistically significant relation at the 1% level between *STATEOWN* and *BIG FOUR*. Economically, moving from 77.7% (first quartile) to 100% (third quartile) in the state ownership distribution comes with a 13.81% decrease in the probability of hiring a Big Four auditor (i.e., from 32.06% to 18.25%), while all variables are evaluated at their sample means. We note that compared to extant evidence on private firms (e.g., Fortin and Pittman, 2007), an average firm that is fully owned by the government is associated with just an 18% probability of hiring a high-quality auditor. However, this statistically and economically significant inverse relation between state ownership and auditor choice for an international sample of SOEs maps into evidence in Wang et al. (2006) that Chinese SOEs shy away from appointing high-quality auditors.

Despite the small stake held by foreigners prior to privatization (average of 4.5%), we document in Model 3 a positive and significant relation at the 1% level between the probability of hiring a Big Four auditor and the extent of foreign ownership, reinforcing our previous findings. Reflecting the first-order economic importance of this point estimate, a one standard deviation increase in *FOREIGNOWN* (i.e., 11.7%) with respect to its median value, while all other explanatory variables are set to their mean values, translates into choosing a Big Four

---

of the major multinational studies, including sample, study period, and methodology appears in Table 4 of Megginson and Netter's (2001) survey.

[28] For example, Dewenter and Malatesta (2001) report some evidence that much of the performance improvements brought by privatization occur over the three years prior to privatization, which they attribute to privatizing governments manipulating financial information before selling shares to investors.

auditor becoming 15.65% more likely (i.e., from 20.30% to 35.95%). This result is compelling that the tipping point for foreign investors to exert influence on auditor choice is quite low given that the state might have relied on its dominant equity position, which averages 87.9% before privatization, to marginalize investors intent on improving accounting transparency. We interpret this evidence as implying that despite the modest foreign participation in SOEs before privatization, their presence leads to more informative financial reporting evident in auditor choice. In Model 4, which includes both government and foreign ownership, we continue to estimate significant negative and positive coefficients for *STATEOWN* (at the 5% level) and *FOREIGNOWN* (albeit at only the 10% level), respectively, supporting that the demand for high-quality auditors is decreasing in government ownership but increasing in foreign ownership. Overall, despite the reduction in power that accompanies analyzing these smaller samples, the findings in this section continue to suggest that shareholder identity explains auditor choice.

Evidence after Privatization. Apart from the impact of state and foreign ownership on auditor choice, evidence in the previous section suggests that SOEs under full government ownership are more apt to expand their discretion over financial reporting by hiring low-quality auditors. We attribute this finding to the extent and significance of agency problems in SOEs, which tend to be political in nature. Indeed, the agency conflicts that beset SOEs largely stem from political incentives with government-appointed managers routinely pursuing objectives contrary to profit or value maximization. For example, these managers may implement policies that strive to: increase employment and wages; stimulate regional development by locating production in politically rather than economically attractive districts; bolster national security; provide low—even under-priced—goods and services; and produce unnecessary goods (Megginson and Netter, 2001). However, Shleifer and Vishny (1997) outline that privatization helps to depoliticize SOEs by ensuring that outside investors acquire equity stakes, which leads to private governance structures (i.e., more emphasis on profits and efficiency) replacing political ones (i.e., more emphasis on political goals).

Still, Shleifer and Vishny (1994: 998) stress that: "In principle, there is no magic line that separates firms from politicians once they are privatized." In fact, Bortolotti and Faccio (2007) find that governments reluctant to genuinely relinquish control over SOEs often remain the largest shareholder after privatization. Moreover, recent evidence suggests that privatizing

governments also typically resort to political connections to protect their interests. For example, Fan et al. (2007) report that nearly 27% of CEOs running newly partially privatized firms in China are current or former government bureaucrats. They also find that these politically-connected CEOs are more apt to appoint other bureaucrats to the board of directors rather than persons with relevant business experience or professional expertise. Similarly, Boubakri et al. (2006) find for a sample of 245 privatized firms from 41 countries that 36% of the firms are politically connected (i.e., a current or former politician serves on the board of directors), with this likelihood positively related to government ownership and negatively related to foreign ownership. An important finding that emerges from their analysis is that political connections lead to poor post-privatization performance. Both Boubakri et al. (2006) and Fan et al. (2007) provide empirical support for Shleifer and Vishny's (1998) perspective that bureaucrats/politicians still extract corporate resources for political purposes after privatization at the expense of firm value maximization.

We contribute to this line of research by examining the importance of auditor choice—specifically, whether state owners bent on obscuring the diversion of corporate resources for political purposes prefer to hire a non-Big Four auditor—as another mechanism available to governments intent on continuing to play a major decision-making role in the formerly state-owned enterprise. In particular, we isolate whether the government relies on its residual ownership stake to choose auditors that help consolidate its interest in keeping the privatized firm oriented towards political objectives.

In our data, descriptive statistics confirm that the state often retains a major stake after privatization: the post-privatization average government ownership is 35.3%, while the government continues to be a controlling owner in 37.8% of the sample firms. Nevertheless, the transfer of ownership to outside investors at privatization should lead to stronger incentives for firms to prefer external monitoring by high-quality auditors (Dyck, 2001 and Wang et al., 2006). We more formally examine this issue by estimating the relations between lingering ownership identity and auditor choice.

Table 7 reports the results of estimating Equation (1) for the post-privatization period. We begin in Model 1 by reporting the results of the baseline regression, which excludes the ownership variables. The results on the control variables are similar to those reported in Tables

4 to 6, including that the probability of choosing a Big Four auditor is increasing in firm size and the country's openness to foreign investment, and decreasing in firm's inventory level across all the specifications.

Importantly, we find in Model 2 that the residual stake held by the government after privatization loads negative at the 5% level. Economically, the coefficient estimate for *STATEOWN* implies that lowering post-privatization government ownership from 62% (third quartile) to 6.67% (first quartile), while all other explanatory variables are held at their mean values, increases the probability of hiring a Big Four auditor by 20.18% (i.e., from 47.57% to 67.75%). Interestingly, the results suggest that the average privatized firm (i.e., post-privatization state ownership and all other explanatory variables are set at their mean values) has a 57.63% probability of appointing a high-quality auditor, which is more than triple the 18% probability for an average firm that is fully owned by the government. This is another result that provides strong support for the contention that the privatization of SOEs reduces distortions in auditor choice.

Model 3 isolates for the impact of foreign ownership. Consistent with the prediction in H_2, we find that the coefficient for *FOREIGNOWN* is positive and statistically significant at the 1% level, suggesting that the likelihood of hiring a Big Four auditors climbs with the extent of post-privatization foreign ownership. This result is also economically fairly large: an increase in *FOREIGNOWN* from 1.10% (first quartile) to 20.11% (third quartile), while all other explanatory variables are set to their mean values, increases the probability of hiring a Big Four auditor by 17.44% (i.e., from 44.20% to 61.64%).

To further investigate the effects of ownership structure on auditor choice, we include in Models 4 and 5 the variables *CONTROL* and *ISIP*. The positive and statistically significant coefficients on these variables suggest that the likelihood of selecting a high-quality auditor is increasing with privatizing government relinquishing control and selling shares on foreign stock markets, respectively. These findings persist in Models 6 through 7, which include our original ownership variables, *STATEOWN* and *FOREIGNOWN*, respectively. In fact, these key test variables remain significant determinants of auditor choice in Models 6 and 7 in addition to the horse-race regression reported in Model 8. Overall, these results lend support to the

predictions that the incentives for hiring high-quality auditors decrease with government control, but increase with foreign participation.

The Impact of Ownership Change on Auditor Switches. We further probe the influence of ownership identity on auditor choice by analyzing in Table 8 whether changes in ownership structure—among other variables—following privatization is associated with the switch to Big Four public accounting firms. Recall that 34 of the 116 firms with non-Big Four auditors before privatization switched to a high-quality auditor afterward. Accordingly, we focus on this sample of firms with non-Big Four auditors prior to privatization and investigate how the drastic shift in ownership that accompanies privatization affects the decision to move to a high-quality auditor.[29] Since we examine the determinants of auditor change, we re-estimate Equation (1) after first-differencing all explanatory variables, including *STATEOWN* and *FOREIGNOWN*.

Table 8 reports these coefficient estimates along with their *z*-statistics. The models generate good explanatory power that ranges from 28% to 51%. Although our primary interest is the impact of shareholder identity, we note some statistically significant associations for the control variables: the likelihood of upgrading to a high-quality auditor following privatization is increasing in the changes in foreign direct investment, firm size, and development level, and decreasing in the changes in inventory level and firm performance. Consistent with the results in Tables 4 through 7, we do not find stable evidence for leverage (*LEVERAGE*) and liquidity (*CATCL*). More important for our purposes, the results indicate that larger stakes divested by the government, especially when this reaches the level of surrendering control, increase the likelihood that a firm will switch to a Big Four auditor after privatization, consistent with the prediction in H$_1$. In particular, the coefficient estimate for *CONTROL* (significant at the 5% level) in Model 4 implies that the government relinquishing control after privatization translates into upgrading to a Big Four auditor becoming 19.82% more likely, with all other explanatory

---

[29] In discussing Bushman et al.'s (2004) study on the political economy, Miller (2004) calls for research that employs a changes methodology to control for within firm and within country dynamics. The reliability of recent research on the political economy has been undermined by concerns about correlated omitted variables (e.g., Claessens et al., 2007). This may play an even more important role when analyzing privatized firms for which it remains difficult to locate accounting data. We consider whether unobserved firm characteristics may be driving evidence supporting our predictions by estimating in changes.

variables evaluated at their mean values. Reinforcing our prior findings and the intuition on foreign participation, we find that the change in foreign ownership and privatizations involving foreign issues remain significant determinants of auditor choice. The results from horse-race regressions that control for all ownership proxies (Models 6 through 8) support without exception the significant relations between ownership changes and the auditor switch decision.

5. Conclusions

In this paper, we assemble a unique data set of 176 privatized firms from 32 countries to extend recent cross-country evidence on the importance of the political economy to accounting transparency by examining the role of auditor choice. Our analysis focuses on whether the identity of major shareholders shapes whether these firms rely on the superior external monitoring that a Big Four auditor brings. Extensive prior evidence implies that severe information asymmetry accompanies the sale of state-owned enterprises to private interests, ensuring that this setting suits the research questions under study.

We expect to observe that government owners eager to conceal their politically-motivated diversion of corporate resources—toward such non-value-maximizing activities as rewarding their supporters with jobs, subsidies, and other benefits—will eschew Big Four auditors to conveniently render the financial statements less informative about actual firm performance. In contrast to the hiding incentives that state owners may harbor, we predict that foreign owners will prefer to hire a Big Four auditor given that they require more precise information for monitoring the privatized firms to prevent expropriation by controlling insiders and their political backers.

Consistent with this intuition, we find strong, robust panel data evidence that privatized firms worldwide become less (more) likely to appoint a Big Four auditor with the presence of state (foreign) owners, after controlling for country-level and other firm-level determinants. Our results, which persist for the years immediately before and after privatization as well as for auditor switches, imply that auditor choice reflects that these investors diverge in their interest in accounting transparency. Collectively, we interpret our research as reinforcing that auditor choice hinges on whether owners genuinely value more informative disclosures.

Besides responding to DeFond and Francis's (2005) call for research on auditor choice outside the U.S., our paper complements emerging evidence on the impact of the political economy on financial accounting transparency (e.g., Bushman et al., 2004; Bushman and Piotroski, 2006; Chaney et al., 2007; and Leuz and Oberholzer-Gee, 2006). Although research on the role of high-quality financial accounting in preventing expropriation remains scarce (Ball, 2001), our paper contributes to recent cross-country evidence on how auditing constrains the siphoning of corporate resources; e.g., Fan and Wong (2005); Guedhami and Pittman (2006, 2007); and Wang et al. (2006). Finally, analyzing the implications of the political economy for financial reporting quality is constructive since "our understanding of the politics of corporate governance around the world remains extremely limited" according to Shleifer and Vishny (1997: 775).

Variables, definitions, and sources

Variable	Definition	Source
BIG FOUR	A dummy variable equal to unity for firms with Big Four auditors, and zero otherwise.	Authors' calculation
STATEOWN	The percentage of shares held by the government.	Authors' calculation
FOREIGNOWN	The percentage of shares held by foreigners.	Authors' calculation
CONTROL	A dummy variable equal to unity for firms in which the state relinquishes control following privatization.	Authors' calculation
ISIP	A dummy variable set to 1 for international share-issue privatizations (i.e., privatization on foreign stock markets), and zero otherwise.	World Bank Privatization Database and Megginson (2003)
LEVERAGE	The ratio of long-term debt divided by total assets.	Authors' calculation
ROA	The ratio of net income divided by total assets.	Authors' calculation
INV	The ratio of inventories divided by total assets.	Authors' calculation
CATCL	The ratio of current assets divided by current liabilities.	Authors' calculation
SIZE	The natural logarithm of total sales.	Authors' calculation
LGDPC	The natural logarithm of the country's GDP per capita.	World Bank (2006)
FDI	Foreign direct investment over GDP.	World Bank (2006)

TABLE A2

Correlations between the regression variables

	BIG FOUR	STATEOWN	FOREIGNOWN	LEVERAGE	ROA	INV	CATCL	SIZE	LGDPC
STATEOWN	**-0.221**								
FOREIGNOWN	**0.299**	**-0.488**							
LEVERAGE	**0.111**	-0.004	0.067						
ROA	-0.071	0.000	-0.008	**-0.203**					
INV	**-0.278**	0.007	-0.051	**-0.170**	**0.144**				
CATCL	-0.016	-0.043	0.029	0.027	0.042	-0.012			
SIZE	**0.324**	**0.180**	0.023	**0.295**	**-0.104**	**-0.245**	-0.102		
LGDPC	**0.363**	0.060	-0.026	**0.122**	**-0.136**	**-0.301**	**-0.118**	**0.585**	
FDI	**0.304**	**-0.153**	**0.178**	**0.097**	-0.044	**-0.194**	0.084	**0.114**	**0.144**

Notes: This table reports Pearson correlations for the regression variables. Boldface indicates statistical significance at the 1% level. The definitions and data sources for the variables are outlined in Table A1.

References

Acemoglu, D. and S. Johnson. 2005. "Unbundling institutions." *American Economic Review* 113: 949-995.

Ball, R. 2001. "Infrastructure requirements for an economically efficient system of public financial reporting and disclosure." *Brookings-Wharton Papers on Financial Services*: 127-169.

Biais, B. and E. Perotti. 2002. "Machiavellian privatization." *American Economic Review* 92: 240-258.

Bortolotti, B. and M. Faccio. 2007. "Government control of privatized firms." Working paper, Vanderbilt University.

Bortolotti, B. and D. Siniscalco. 2004. *The challenges of privatization: an international analysis*. Oxford University Press, New York.

Boubakri, N., and J.-C. Cosset. 1998. "The financial and operating performance of newly privatized firms: Evidence from developing countries." *Journal of Finance* 53: 1081-1110.

Boubakri, N., J.-C. Cosset, and O. Guedhami. 2005. "Postprivatization corporate governance: The role of ownership structure and investor protection." *Journal of Financial Economics* 76: 369-399.

Boubakri, N., J.-C. Cosset, O. Guedhami, and M. Omran. 2007. "Foreign investor participation in privatizations: Does the institutional environment matter?" *Journal of Financial Research* 30: 129-146.

Boubakri, N., J.-C. Cosset, and W. Saffar. 2006. "Political connections of newly privatized firms." Working paper, HEC Montreal.

Boutchkova, M. K. and W. L. Megginson. 2000. "Privatization and the rise of global capital markets." *Financial Management* 29: 31-76.

Boycko, M., A. Shleifer, and R. W. Vishny. 1996. "A theory of privatisation." *Economics Journal* 106: 309-319.

Bushman, R. and J. Piotroski. 2006. "Financial reporting incentives for conservative accounting: The influence of legal and political institutions." *Journal of Accounting and Economics* 42: 107-148.

Bushman, R., J. Piotroski, and A. Smith. 2004. "What determines corporate transparency?" *Journal of Accounting Research* 42: 207-252.

Bushman, R. M. and A. J. Smith. 2003. "Transparency, financial accounting information, and corporate governance?" *FRBNY Economic Policy Review* 9: 65-87.

Campbell, J. Y. 1996. "Understanding risk and return." *Journal of Political Economy* 104: 298-345.

Claessens, S., E. Feijen, and L. Laeven. 2007. "Political connections and preferential access to finance: The role of campaign contributions." *Journal of Financial Economics*, forthcoming.

Chaney, P. K., M. Faccio, and D. C. Parsley. 2007. "The quality of accounting information in politically connected firms." Working paper, Vanderbilt University.

Choe, H., B.-C. Kho, and R. Stulz. 2005. "Do domestic investors have an edge? The trading experience of foreign investors in Korea." *Review of Financial Studies* 19: 795-829.

Choi, J.-H. and T. J. Wong. 2007. "Auditors' governance functions and legal environments: An international investigation." *Contemporary Accounting Research*, forthcoming.

Coffee, J. C. 1999. "Privatization and corporate governance: The lessons from securities market failure." *Journal of Corporate Law* 25: 1-39.

Craswell, A., J. Francis, and S. Taylor. 1995. "Auditor brand name reputations and industry specializations." *Journal of Accounting and Economics* 20: 297-322.

DeFond, M. L. and J. R. Francis. 2005. "Audit research after Sarbanes-Oxley?" *Auditing: A Journal of Practice and Theory* 24: 5-30.

Denis, D. K. and J. J. McConnell. 2003. "International corporate governance." *Journal of Financial and Quantitative Analysis* 38: 1-36.

Dewenter, K. L. and P. H. Malatesta. 2001. "State-owned and privately owned firms: An empirical analysis of profitability, leverage, and labor intensity." *American Economic Review* 91: 320–334.

Doidge, C. 2004. "U.S. cross-listings and the private benefits of control: Evidence from dual-class firms." *Journal of Financial Economics* 72: 519-553.

Doidge, C., G. Karolyi, and R. Stulz. 2004. "Why are foreign firms listed in the U.S. worth more?" *Journal of Financial Economics* 71: 205-238.

Doidge, C., G. Karolyi, and R. Stulz. 2007. "Why do countries matter so much for corporate governance?" *Journal of Financial Economics*, forthcoming.

D'Souza, J. and W. Megginson. 1999. "The financial and operating performance of privatized firms during the 1990s." *Journal of Finance* 54: 1397-1438.

D'Souza, J., W. Megginson, and R. Nash. 2005. "Effect of institutional and firm-specific characteristics on post-privatization performance: Evidence from developed countries." *Journal of Corporate Finance* 11: 747-766.

Dyck, A. 2001. "Privatization and corporate governance: Principles, evidence, and future challenges." *The World Bank Research Observer* 16: 59-84.

Dyck, A. and L. Zingales. 2004. "Private benefits of control: An international comparison." *Journal of Finance* 59: 537-600.

Dye, R. A. 1993. "Auditing standards, legal liability, and auditor wealth." *Journal of Political Economy* 101: 887-914.

Faccio, M. 2006a. "Politically connected firms." *American Economic* Review 96: 369-386.

Faccio, M. 2006b. "The characteristics of politically connected firms." Working paper, Vanderbilt University.

Faccio, M., R. Masulis, and J. J. McConnell 2006. "Politically connected and corporate bailouts." *Journal of Finance* 61: 2597-2635.

Fan, J. and T. J. Wong. 2005. "Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia." *Journal of Accounting Research* 43: 35-72.

Fan, P. H., T. J. Wong, and T. Zhang. 2007. "Politically-connected CEOs, corporate governance and post-IPO performance of China's newly partially privatized firms." *Journal of Financial Economics* 84: 330-357.

Fortin, S. and J. A. Pittman. 2007. "The role of auditor choice in debt pricing in private firms." *Contemporary Accounting Research*, forthcoming.

Francis, J. R. 2004. "What do we know about audit quality?" *The British Accounting Review* 36: 345-368.

Guedhami, O. and J. A. Pittman. 2006. "Ownership concentration in privatized firms: The role of disclosure standards, auditor choice, and auditing infrastructure." *Journal of Accounting Research* 44: 889-929.

Guedhami, O. and J. A. Pittman. 2007. "The choice between private and public capital markets: The importance of disclosure standards and auditor discipline to countries divesting state-owned enterprises." Working paper, Hong Kong University of Science & Technology.

Gul, F. 2006. "Auditors' response to political connections and cronyism in Malaysia." *Journal of Accounting Research* 44: 931-963

Hausman, J. A. 1978. "Specification tests in econometrics." *Econometrica* 46: 1251–1271.

Johnson, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer. 2000. "Tunneling." *American Economic Review* 90: 22-27.

Jones, S., W. L. Megginson, R. Nash, and J. Netter. 1999. "Share issue privatizations as financial means to political and economic ends." *Journal of Financial Economics* 53: 217-253.

Kang, J.-K. and R. Stulz. 1997. "Why is there a home bias? An analysis of foreign portfolio equity ownership in Japan." *Journal of Financial Economics* 46: 3-28.

Keloharju, M., S. Knüpfer, and S. Torstila. 2007. "Do retail incentives work in privatizations?" *Review of Financial Studies*, forthcoming.

Krishnan, J. 1994. "Auditor switching and conservatism." *The Accounting Review* 69: 200-215.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny. 1998. "Law and finance." *Journal of Political Economy* 106: 1113-1155.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny. 2000. "Agency problems and dividend policies around the world." *Journal of Finance* 55: 1-33.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny. 2002. "Investor protection and corporate valuation." *Journal of Finance* 57: 1147-1170.

Lang, M. H., K. V. Lins, and D. P. Miller. 2003. "ADRs, analysts, and accuracy: Does cross-listing in the United States improve a firm's information environment and increase market value?" *Journal of Accounting Research* 41: 317-345.

Lennox, C. 2005. "Management ownership and audit firm size." *Contemporary Accounting Research* 22: 205-227.

Leuz, C. 2003. "Discussion of ADRs, analysts, and accuracy: Does cross-listing in the United States improve a firm's information environment and increase market value?" *Journal of Accounting Research* 41: 347-362.

Leuz, C., K. Lins, and F. Warnock. 2006. "Do foreigners invest less in poorly governed firms?" NBER, working paper No. W12222.

Leuz, C., D. Nanda, and P. Wysocki. 2003. "Earnings management and investor protection: An international comparison." *Journal of Financial Economics* 69: 505-527.

Leuz, C. and F. Oberholzer-Gee. 2006. "Political relationships, global financing, and corporate transparency." *Journal of Financial Economics* 81: 411-439.

Lindbeck, A. 1976. "Stabilization policies in open economies with endogenous politicians." *American Economic Review* 66: 1-19.

Lopez-de-Silanes, F., A. Shleifer, and R. W. Vishny. 1997. "Privatization in the United States." *Rand Journal of Economics* 28: 447-471.

Ljungqvist, A. P., T. Jenkinson, and W. J. Wilhelm, Jr. 2003. "Global integration in primary equity markets: The role of U.S. banks and U.S. investors." *Review of Financial Studies* 16: 63-99.

Mansi, S. A., W. Maxwell, and D. P. Miller. 2004. "Does auditor quality and tenure matter to investors? Evidence from the bond market." *Journal of Accounting Research* 42: 755-793.

Megginson, W. L. 2003. "Appendix 1: Details of share issue privatizations, 1961-2002." in William L. Megginson, *Financial Economics of Privatization*. Oxford University Press: New York.

Megginson, W. L., R. Nash, J. N. Netter, and A. B. Poulsen. 2004. "The choice of private versus public capital markets: Evidence from privatizations." *Journal of Finance*, 59: 2835-2870.

Megginson, W. L., R. Nash, J. N. Netter, and A. L. Schwartz. 2000. "The long run returns to investors in share issue privatizations." *Financial Management* 29: 67-77.

Megginson, W. L., R. Nash, and M. van Randenborgh. 1994. "The financial and operating performance of newly privatized firms: An international empirical analysis." *Journal of Finance* 49: 403-452.

Megginson, W. L. and J. N. Netter. 2001. "From state to market: A survey of empirical studies on privatization." *Journal of Economic Literature* 39: 321-389.

Miller, G S. 2004. "Discussion of 'What determines accounting transparency?'." *Journal of Accounting Research* 42: 253-268.

North, D. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

Olson, M. 1965. *The Logic of Collective Action*. Cambridge: Harvard University Press.

Olson, M. 1993. "Dictatorship, democracy, and development." *American Economic Review* 87: 567-576.

Organisation for Economic Co-Operation and Development. 1999. *OCED Principles of Corporate Governance*. Paris: OECD.

Organisation for Economic Co-Operation and Development. 2005. OECD Guidelines on Corporate Governance of State-owned Enterprises. OECD Publications: Paris.

Pagano, M. and A. Röell. 1996. "The choice of stock ownership structure: Agency costs, monitoring, and the decision to go public." *Quarterly Journal of Economics* 113: 187-225.

Perotti, E. 1995. "Credible privatization." *American Economic Review* 85: 847-859.

Rajan, R. and L. Zingales. 2003. "The great reversals: The politics of financial development in the twentieth century." *Journal of Financial Economics* 69: 5-51.

Shleifer, A. 1998. "State versus private ownership." *Journal of Economic Perspectives* 12: 133-150.

Shleifer, A. and R. W. Vishny. 1993. "Corruption." *Quarterly Journal of Economics* 108: 599-618.

Shleifer, A. and R. W. Vishny. 1994. "Politicians and firms." *Quarterly Journal of Economics* 109: 995-1025.

Shleifer, A. and R. W. Vishny. 1997. "A survey of corporate governance." *Journal of Finance* 52: 737-783.

Shleifer, A. and R. W. Vishny. 1998. The grabbing hand: Government pathologies and their cures. Harvard University Press: Cambridge, MA.

Stigler, G. 1971. "The theory of economic regulation." *Bell Journal of Economics and Management Science* 2: 3-21

Stulz, R. 1999. "Globalization, corporate finance, and the cost of capital." *Journal of Applied Corporate Finance*: 8-25.

Volpin, P. 2002. "Governance with poor investment protection: Evidence from top executive turnover in Italy." *Journal of Financial Economics* 64: 61-91.

Wang, D. 2006. "Founding family ownership and earnings quality." *Journal of Accounting Research* 44: 619-656

Wang, Q., T. J. Wong, and L. Xia. 2006. "State ownership, institutional environment, and auditor choice: Evidence from China." Working paper, Chinese University of Hong Kong.

Watts, R. L. 1977. "Corporate financial statements, a product of market and political processes." *Australian Journal of Management* 2: 53-75.

Watts, R. L. and J. L. Zimmerman. 1978. *Positive Accounting Theory*. Englewood Cliffs, N. J.: Prentice Hall.

Whisenant, J. S., S. Sankaraguruswamy, and K. Raghunandan. 2003. "Market reactions to disclosure of reportable events." *Auditing: A Journal of Theory and Practice* 22: 181-194.

World Bank. 1995. *Bureaucrats in Business*. London: Oxford University Press.

World Bank. 2006. World Development Indicators. CD-ROM. Washington, D.C.

TABLE 1

Description of the sample of newly privatized firms

Distribution of privatizations					
Panel A. By year			Panel B. By industry		
Year	Number	Percentage	Industry	Number	Percentage
1980	1	0.57	Basic industries	31	17.61
1981	1	0.57	Consumer durables	9	5.11
1985	3	1.7	Construction	17	9.66
1986	2	1.14	Finance/real estate	36	20.45
1987	1	0.57	Food/tobacco	18	10.23
1989	19	10.8	Leisure	2	1.14
1990	9	5.11	Petroleum	11	6.25
1991	12	6.82	Services	1	0.57
1992	12	6.82	Textiles/trade	9	5.11
1993	8	4.55	Transportation	10	5.68
1994	10	5.68	Utilities	32	18.18
1995	21	11.93	Total	176	100.00
1996	32	18.18			
1997	23	13.07	Panel C. By region*		
1998	10	5.68	Region (countries)	Number	Percentage
1999	4	2.27	Africa and the Middle East (4)	76	43.18
2000	6	3.41	East and South Asia and the Pacific (10)	41	23.30
2001	1	0.57	Latin America and the Caribbean (7)	24	13.64
2002	1	0.57	Europe and Central Asia (11)	35	19.89
Total	176	100.00	Total (32)	176	100.00
Panel D. By auditor size			Panel E. By development level		
Size	Before_Priv	After_Priv	Category (countries)	Number	Percentage
Big Four	60	94	Developing countries (21)	144	81.82
Non-Big Four	116	82	Industrialized countries (11)	32	18.18
Total	176	176	Total (32)	176	100.00

Notes: This table reports the distribution of the sample of 176 privatized firms by year, industry, region, auditor size, and development level.

*World Bank country group classification.

TABLE 2

Descriptive statistics for the explanatory variables

	Mean	Median	Std. Deviation	Min	Max
Panel A. Before Privatization					
STATEOWN	0.879	1.000	0.202	0.187	1.000
FOREIGNOWN	0.045	0.000	0.117	0.000	0.494
LEVERAGE	0.464	0.413	0.399	0.000	3.496
ROA	0.050	0.040	0.083	-0.190	0.596
INV	0.155	0.099	0.151	0.000	0.632
CATCL	1.523	1.108	1.411	0.062	10.403
SIZE	11.846	11.801	2.664	4.627	18.939
LGDPC	8.237	7.975	1.084	6.308	10.403
FDI	1.786	1.486	1.655	0.037	14.531
Panel B. After Privatization					
STATEOWN	0.353	0.349	0.281	0.000	0.929
FOREIGNOWN	0.155	0.066	0.209	0.000	1.000
CONTROL	0.622	1.000	0.486	0.000	1.000
ISIP	0.148	0.000	0.356	0.000	1.000
LEVERAGE	0.416	0.387	0.272	0.000	0.988
ROA	0.066	0.055	0.065	-0.190	0.278
INV	0.143	0.091	0.145	0.000	0.779
CATCL	1.616	1.206	1.583	0.112	12.923
SIZE	12.168	11.773	2.537	6.396	18.694
LGDPC	7.812	7.495	1.341	5.814	10.556
FDI	2.451	1.391	2.298	-1.448	13.040
Panel C. Total Sample Period					
STATEOWN	0.472	0.490	0.353	0.000	1.000
FOREIGNOWN	0.125	0.027	0.182	0.000	0.930
LEVERAGE	0.402	0.353	0.434	0.000	8.977
ROA	0.065	0.051	0.079	-0.584	0.596
INV	0.159	0.106	0.163	0.000	0.856
CATCL	1.606	1.175	1.612	0.001	16.306
SIZE	11.651	11.683	2.803	3.183	18.721
LGDPC	7.666	7.318	1.311	5.727	10.610
FDI	2.299	1.311	2.313	-3.029	18.822

Notes: This table reports summary descriptive statistics for the explanatory variables used in the hypotheses tests to examine the impact of state and foreign ownership on auditor choice for a sample of 176 privatized firms from 32 countries. The definitions and data sources for the regression variables are outlined in Table A1.

TABLE 3

Univariate tests by auditor size

	Means		*T*-Statistics	Medians		Z-Statistics
	Big Four (A)	Non-Big Four (B)		Big Four (C)	Non-Big Four (D)	
STATEOWN	0.387	0.544	-6.045***	0.340	0.600	-6.045***
FOREIGNOWN	0.184	0.075	8.656***	0.117	0.007	7.334***
CONTROL	0.740	0.550	4.885***			
ISIP	0.139	0.027	5.067***			
LEVERAGE	0.455	0.358	2.954***	0.413	0.280	6.240***
ROA	0.059	0.070	-1.935**	0.043	0.060	-2.946***
INV	0.110	0.201	-7.486***	0.054	0.157	-7.726***
CATCL	1.577	1.630	-0.426	1.180	1.171	-0.862
SIZE	12.656	10.831	9.161***	12.749	10.775	8.552***
LGDPC	8.184	7.228	10.758***	8.090	7.251	10.439***
FDI	3.063	1.652	8.813***	2.433	1.196	9.916***

Notes: This table reports measures of central tendency for all explanatory variables for the Big Four and non-Big Four subsamples. The full sample includes 176 privatized firms from 32 countries. Except for the variables *CONTROL* and *ISIP*, which are measured over the post-privatization period, all other variables are measured over the total sample period. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. The definitions and data sources for the variables are outlined in Table A1.

TABLE 4

Regressions of auditor size on firm-level and macroeconomic variables

Variable	Exp. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	(?)	-12.683***	-15.688***	-14.891***	-13.793***	-12.181***	-10.877***	-14.110***
		(-7.633)	(-8.024)	(-7.786)	(-6.314)	(-5.245)	(-3.430)	(-6.389)
STATEOWN	(-)	-3.429***		-2.141***	-2.273***	-2.178***	-2.097***	-1.789**
		(-5.900)		(-3.294)	(-3.116)	(-2.896)	(-2.831)	(-2.096)
FOREIGNOWN	(+)		9.735***	7.035***	6.992***	8.161***	7.924***	6.990***
			(5.962)	(3.964)	(3.713)	(3.968)	(3.945)	(3.669)
LEVERAGE	(-)				-0.608	-0.274	-0.320	-0.560
					(-0.611)	(-0.269)	(-0.312)	(-0.564)
ROA	(+)				-0.142	-0.700	1.734	-0.328
					(-0.055)	(-0.249)	(0.663)	(-0.123)
INV	(-)				-3.691***	-2.709*	-1.948	-3.593**
					(-2.371)	(-1.541)	(-1.172)	(-2.311)
CATCL	(-)				0.059	0.022	0.024	0.065
					(0.444)	(0.168)	(0.173)	(0.483)
SIZE	(+)	0.318***	0.247***	0.277***	0.329***	0.345***	0.193*	0.318***
		(3.052)	(2.413)	(2.647)	(2.715)	(2.709)	(1.483)	(2.628)
LGDPC	(+)	1.243***	1.378***	1.414***	1.271***	1.077***	1.339***	1.258***
		(5.002)	(5.075)	(5.327)	(4.318)	(3.421)	(3.755)	(4.321)
FDI	(+)	0.328***	0.325***	0.301***	0.355***	0.333***	0.339***	0.353***
		(3.587)	(3.508)	(3.278)	(3.138)	(2.929)	(2.969)	(3.142)
INDUSTRY EFFECTS		NO	NO	NO	NO	YES	NO	NO
YEARS EFFECTS		NO	NO	NO	NO	NO	NO	YES
REGION EFFECTS		NO	NO	NO	NO	NO	YES	NO
Chi-Square for Model		100.13	84.72	101.74	98.50	93.77	107.04	99.52
P-value		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo. R^2		0.44	0.45	0.46	0.56	0.59	0.58	0.56
N		717	717	717	595	595	595	595

Notes: This table presents random effects logit estimation results from regressing auditor size on firm-level and macroeconomic variables. The full sample includes 176 privatized firms from 32 countries. Beneath each estimate is reported the *z*-statistic. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise. The definitions and data sources for the variables are outlined in Table A1.

TABLE 5
Robustness checks

Variable	Exp. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intercept	(?)	-11.508*** (-4.495)	-13.825*** (-3.282)	-13.115*** (-5.080)	-12.994*** (-5.129)	-11.086*** (-5.088)	-9.704*** (-4.008)	-12.386*** (-4.864)	-10.392*** (-4.056)	-10.734*** (-4.044)	-2.106**** (-5.253)
STATEOWN	(-)	-2.102** (-1.809)	-3.011*** (-2.686)				-3.969*** (-3.491)	-1.912** (-1.725)	-3.066** (-2.060)	-3.429*** (-2.642)	-0.602** (-2.315)
FOREIGNOWN	(+)	7.983*** (3.799)	8.014*** (2.376)		8.283*** (4.007)			11.755*** (4.867)	8.568*** (3.197)	8.439*** (3.468)	1.203*** (6.239)
CONTROL	(+)			2.145*** (3.230)	1.126** (1.630)						
ISIP	(+)					2.436** (1.937)	2.402* (1.361)				
LOCALOWN	(+)								-0.310 (-0.181)		
LOANS/ASSETS	(+)										-0.398 (-1.259)
INV	(-)	-1.823 (-1.048)	-5.151** (-2.153)	-1.787 (-1.033)	-1.820 (-1.038)	-1.969 (-1.202)	-1.925 (-1.072)	-1.685 (-0.979)	-2.275 (-1.225)	-3.105* (-1.642)	
SIZE	(+)	0.239** (1.770)	0.310** (1.729)	0.261** (1.965)	0.236** (1.752)	0.147 (1.173)	0.224** (1.644)	0.355*** (2.472)	0.213* (1.482)	0.194* (1.325)	0.062** (1.818)
LGDPC	(+)	1.121*** (3.205)	1.526*** (2.538)	1.095*** (3.182)	1.118*** (3.255)	1.174*** (3.806)	1.075*** (3.166)	1.041*** (3.012)	1.122*** (3.070)	1.198*** (3.177)	0.319*** (6.233)
FDI	(+)	0.189** (1.728)	0.119 (0.743)	0.209** (1.870)	0.188** (1.696)	0.257** (2.295)	0.201** (1.819)	0.145* (1.330)	0.093 (0.724)	0.148* (1.314)	0.002 (0.834)
INDUSTRY EFFECTS		YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
Chi-Square for Model		73.05	49.81	59.15	68.90	76.28	64.31	80.89	75.98	61.05	135.77
P-value		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo. R^2		0.64	0.33	0.62	0.64	0.61	0.63	0.66	0.69	0.68	0.10
N		487	320	487	487	487	487	468	427	446	1,727

Notes: This table presents random effects logit estimation results from regressing auditor size on firm-level and macroeconomic control variables. The full sample includes 176 privatized firms from 32 countries. Except for Model 2, all models report the results for the post-privatization period (including the privatization year). Model 2 uses a balanced panel for the period of one year prior to privatization to four years after privatization (including the privatization year). Model 7 controls for foreign ownership immediately following privatization. Model 8 controls for the effects of ownership stakes held by local institutions (*LOCALOWN*). Model 9 excludes cross-listed firms from the sample. Model 10 examines the effects of state and foreign ownership on auditor choice for an alternative sample covering 1,727 banks from 87 countries collected from *BankScope* for the year 2003. Beneath each estimate is reported the robust *z*-statistic. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise. With the exception of *LOANS/ASSETS* (i.e., the ratio of loans to total assets), the definitions and data sources for the variables are outlined in Table A1.

TABLE 6

Regressions of auditor size before privatization on firm-level and macroeconomic variables

Variable	Exp. sign	(1)	(2)	(3)	(4)
Intercept	(?)	-6.133***	-4.498**	-9.287***	-7.004***
		(-2.794)	(-2.143)	(-3.583)	(-2.756)
STATEOWN	(-)		-3.355***		-2.661**
			(-2.728)		(-1.981)
FOREIGNOWN	(+)			6.699***	3.686*
				(3.070)	(1.548)
LEVERAGE	(-)	-0.350	-0.537	-0.576	-0.561
		(-0.733)	(-1.003)	(-1.044)	(-1.016)
ROA	(+)	-1.007	-0.952	-0.547	-0.652
		(-0.444)	(-0.438)	(-0.222)	(-0.283)
INV	(-)	-3.960**	-3.917**	-3.923**	-3.824**
		(-1.982)	(-1.927)	(-2.083)	(-1.948)
CATCL	(-)	-0.054	-0.086	0.026	-0.032
		(-0.327)	(-0.501)	(0.164)	(-0.186)
SIZE	(+)	0.279***	0.282**	0.323***	0.302***
		(2.557)	(2.274)	(2.634)	(2.377)
LGDPC	(+)	0.289	0.442*	0.573**	0.625**
		(0.967)	(1.310)	(1.694)	(1.757)
FDI	(+)	0.478**	0.501***	0.440***	0.468***
		(2.435)	(2.711)	(2.581)	(2.685)
INDUSTRY EFFECTS		YES	YES	YES	YES
Chi-Square for Model		43.57	42.28	46.20	47.13
P-value		0.00	0.00	0.00	0.00
Pseudo. R^2		0.29	0.32	0.34	0.35
N		147	144	142	142

Notes: This table presents logit estimation results from regressing auditor size before privatization on firm-level and macroeconomic variables. The full sample includes 176 privatized firms from 32 countries. Beneath each estimate is reported the *z*-statistic adjusted for heteroskedasticity. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise. The definitions and data sources for the variables are outlined in Table A1.

TABLE 7

Regressions of auditor size after privatization on firm-level and macroeconomic variables

Variable	Exp. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	(?)	-3.065**	-3.038**	-3.119*	-4.489***	-1.802	-1.773	-4.558**	-3.096*
		(-2.041)	(-2.034)	(-1.777)	(-2.808)	(-1.186)	(-1.145)	(-2.398)	(-1.762)
STATEOWN	(-)		-1.517**				-1.655**		-1.147*
			(-1.871)				(-1.822)		(-1.275)
FOREIGNOWN	(+)			3.721***				2.939**	3.120**
				(2.711)				(2.079)	(2.238)
CONTROL	(+)				1.281***			1.255***	
					(2.743)			(2.390)	
ISIP	(+)					3.047**	3.043**		
						(2.247)	(1.994)		
LEVERAGE	(-)	-0.678	-0.982	-1.694**	-0.901	-0.927	-1.248*	-1.867**	-1.851**
		(-0.824)	(-1.062)	(-1.923)	(-1.006)	(-1.115)	(-1.298)	(-2.104)	(-2.014)
ROA	(+)	0.204	-0.016	-0.175	0.549	-0.273	-0.435	0.258	-0.380
		(0.060)	(-0.004)	(-0.049)	(0.155)	(-0.081)	(-0.129)	(0.073)	(-0.109)
INV	(-)	-2.900**	-2.847**	-3.288**	-3.022**	-2.745**	-2.647**	-3.228**	-3.086**
		(-1.913)	(-1.974)	(-1.902)	(-2.139)	(-1.764)	(-1.811)	(-2.082)	(-1.883)
CATCL	(-)	-0.050	-0.044	-0.042	-0.084	-0.043	-0.033	-0.080	-0.036
		(-0.509)	(-0.455)	(-0.393)	(-0.849)	(-0.435)	(-0.346)	(-0.766)	(-0.366)
SIZE	(+)	0.218***	0.281***	0.252***	0.294***	0.127*	0.194**	0.315***	0.288***
		(2.422)	(2.783)	(2.493)	(2.931)	(1.378)	(1.882)	(2.759)	(2.518)
LGDPC	(+)	0.086	0.085	0.040	0.087	0.024	0.024	0.054	0.050
		(0.564)	(0.631)	(0.276)	(0.696)	(0.181)	(0.192)	(0.393)	(0.347)
FDI	(+)	0.494***	0.455***	0.559***	0.432***	0.558***	0.503***	0.513***	0.530***
		(3.509)	(3.294)	(3.368)	(3.205)	(3.695)	(3.456)	(3.220)	(3.273)
INDUSTRY EFFECTS		YES	YES	YES	YES	YES	YES	YES	YES
Chi-Square for Model		35.52	35.30	31.98	38.43	35.03	34.44	30.27	31.32
P-value		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pseudo. R^2		0.26	0.29	0.33	0.31	0.31	0.34	0.36	0.34
N		155	151	141	151	155	151	140	140

Notes: This table presents logit estimation results from regressing auditor size after privatization on firm-level variables and macroeconomic control variables. The full sample includes 176 privatized firms from 32 countries. Beneath each estimate is reported the *z*-statistic adjusted for heteroskedasticity. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise. The definitions and data sources for the variables are outlined in Table A1.

TABLE 8

Regressions of auditor changes on firm-level and macroeconomic variables

Variable	Exp. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	(?)	-0.780	-2.287**	-2.001***	-2.107**	-0.908	-2.457**	-3.311***	-3.594***
		(-1.262)	(-2.171)	(-3.713)	(-2.522)	(-1.407)	(-2.428)	(-5.159)	(-2.677)
STATEOWN	(-)		-2.498**				-2.573**		-3.170*
			(-1.838)				(-1.900)		(-1.459)
FOREIGNOWN	(+)			11.543***				10.445***	8.918**
				(2.915)				(2.569)	(2.271)
CONTROL	(+)				1.556**			1.785***	
					(2.333)			(2.749)	
ISIP	(+)					2.491***	2.495**		
						(2.359)	(2.093)		
LEVERAGE	(-)	1.853	1.380	1.113	1.403	1.375	0.957	0.688	0.756
		(0.944)	(0.870)	(1.113)	(0.772)	(0.781)	(0.881)	(0.641)	(0.993)
ROA	(+)	-3.935	-8.992**	-6.904	-6.356	-5.751	-11.078**	-7.636	-12.226**
		(-0.798)	(-1.768)	(-1.062)	(-1.097)	(-1.096)	(-2.040)	(-1.243)	(-2.034)
INV	(-)	-4.419*	-4.657*	-5.813*	-4.582*	-4.871*	-5.218*	-6.022*	-5.896*
		(-1.501)	(-1.564)	(-1.395)	(-1.518)	(-1.582)	(-1.625)	(-1.413)	(-1.384)
CATCL	(-)	-0.139	-0.383**	-0.262	-0.367**	-0.162	-0.418**	-0.391**	-0.413*
		(-0.880)	(-1.946)	(-1.175)	(-1.712)	(-1.034)	(-2.145)	(-1.819)	(-1.547)
SIZE	(+)	0.643***	0.567***	0.656**	0.600**	0.688***	0.614***	0.688**	0.638**
		(2.835)	(2.423)	(2.266)	(2.235)	(3.004)	(2.549)	(2.295)	(2.150)
LGDPC	(+)	1.123*	0.527	0.582**	0.436	1.107	0.544	0.584**	0.545**
		(1.419)	(0.777)	(2.013)	(0.644)	(1.365)	(0.739)	(1.955)	(2.053)
FDI	(+)	0.604***	0.663***	0.740***	0.610***	0.553***	0.623***	0.722***	0.843***
		(2.532)	(2.830)	(2.975)	(2.665)	(2.675)	(2.826)	(2.930)	(2.508)
INDUSTRY EFFECTS		YES	YES	YES	YES	YES	YES	YES	YES
Chi-Square for Model		15.97	15.50	20.10	24.25	25.09	21.81	27.31	21.67
P-value		0.10	0.16	0.04	0.01	0.00	0.03	0.00	0.04
Pseudo. R^2		0.28	0.33	0.47	0.33	0.32	0.37	0.51	0.50
N		94	91	86	91	94	91	86	86

Notes: This table presents logit estimation results from regressing auditor switches on changes in firm-level and macroeconomic control variables. The sample includes firms with non-Big Four auditors prior to privatization. Except for dummy variables *ISIP* and *CONTROL*, all variables are expressed in terms of changes (value after privatization minus value before privatization). Beneath each estimate is reported the *z*-statistic adjusted for heteroskedasticity. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise. The definitions and data sources for the variables are outlined in Table A1.