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Earnings quality in privatized firms: The role of state and foreign owners [☆]



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A B S T R A C T

We use a unique dataset of 350 privatized firms from 45 countries to investigate the relationship between shareholder identity and earnings quality. We find robust evidence that state ownership is associated with lower earnings quality while foreign ownership is associated with higher earnings quality. Furthermore, we report evidence suggesting that the impact of foreign ownership on earnings quality varies with the country's institutional environment. Specifically, we find that foreign ownership is associated with higher earnings quality in countries with higher government stability and lower risk of government expropriation.

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1. Introduction

In this paper, we examine the role of state and foreign owners in determining earnings quality. Specifically, we attempt to answer the following questions: Does government ownership affect

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earnings quality? Does foreign ownership affect earnings quality? Does the role of foreign owners vary with the country-level corporate governance?

We conduct our research in the specific context of privatization because major regime shifts, such as privatization, provide a natural laboratory in which we can isolate the determinants of accounting transparency (Bushman and Smith (2003)). Specifically, the drastic change in the ownership structure of former state-owned enterprises, which is accompanied by severe information asymmetry problems (Denis and McConnell, 2003; Dyck, 2001), provides us with a unique opportunity to investigate how the quality of accounting information is related to the new ownership structure given the following considerations. First, Shleifer and Vishny (1994, page 998) argue that: “In principle, there is no magic line that separates firms from politicians once they are privatized.” Indeed, prior empirical research (e.g., Bortolotti and Faccio, 2009; Boubakri et al., 2005) shows that the presence of the government as a particular shareholder characterizes the post-privatization ownership structure, even several years after divestiture. Unlike typical shareholders, governments tend to achieve social goals and short-term political objectives rather than maximizing profits (Shleifer and Vishny, 1993, 1994). This action, in turn, increases the policy risk borne by shareholders. We term the impact of the government’s direct influence on the earnings quality of newly privatized firms (NPFs) as the “political interference hypothesis.” According to this hypothesis, the “grabbing hands” of governments may lead managers/bureaucrats in state-owned firms to manipulate earnings in order to hide “tunneling,” or the expropriation of corporate resources for political purposes.

Second, several studies (e.g., Boubakri et al., 2005) show that a part of the relinquished state ownership is absorbed by foreign shareholders, which leads to more restructuring of privatized firms (Djankov and Murrell, 2002). Given that, we examine whether foreign ownership is associated with better quality of accounting information after privatization. Lastly, we examine how the role of foreign owners varies with the country-level corporate governance in determining earnings quality.

The examination of these issues is timely and important for several reasons. First, despite the prevalence of state-owned firms around the world and the increased government participation in bailed out firms during and as a result of the latest financial crisis, little is currently known about the link between the quality of disclosed information and state participation (Bushman and Smith, 2003).¹ Second, two of the objectives often put forward to justify privatization are the expansion of popular capitalism and boosting the development of local capital markets, both of which typically rely on transparent information. We examine whether these objectives do indeed translate into better earnings quality in NPFs. Third, both academics and regulators recognize the importance of transparency, as well as the quality of the disclosed financial information, in reducing asymmetrical information among investors, increasing market liquidity (Verrecchia, 2001), lowering the cost of equity of firms, and improving the efficiency of investment decisions (Biddle and Hilary, 2006). Efficient investments lead to better resource allocation, hence better functioning of financial markets, and, ultimately, economic growth (Wurgler, 2000; Durnev et al., 2009).² These are all justifications for our interest in examining the impact of post-privatization shareholder identity/ownership on earnings quality.

Using a multinational sample of 350 privatized firms from 45 countries and three different proxies of earnings quality (i.e., discretionary abnormal accruals, earnings response coefficients, and earnings persistence), we find strong evidence that state ownership is associated with lower earnings quality, even after controlling for standard determinants of earnings quality. Specifically, we find that state ownership is associated with: (i) greater abnormal accruals – that is, more earnings management,

¹ State-owned companies today account for a large capitalization of domestic stock markets in the developing world. In developed countries as well, the state is still an important owner of large companies, such as EDF in France (85% state-owned) and Deutsche Telekom in Germany (32% state-owned). Defining a state-owned firm as one in which the state owns more than 10% of the shares (United Nations Conference on Trade and Development, we can assert that the state is now the most powerful shareholder in the world.

² Bushman and Smith (2003, p. 56) define corporate transparency as “the widespread availability of relevant, reliable information about the periodic performance, financial position, investment opportunities, governance, value, and risk of publicly traded firms.” Durnev et al. (2009, p. 1533) define transparency in a broader sense, as “a set of market mechanisms that facilitate information acquisition and processing by investors”. The latter also argue that transparency “could lower cost of capital, increase liquidity, improve value estimates in corporate control contests (Healy and Palepu, 2001); reduce contracting costs associated with managerial compensation (Core, 2001); signal managerial talent (Trueman, 1986); and decrease litigation costs”.

(ii) less earnings informativeness, and (iii) more transitory earnings. These results confirm the political interference hypothesis in that the state is likely to report lower earnings quality in order to hide the expropriation of corporate resources for political purposes.

We also find that foreign ownership is associated with: (i) smaller abnormal accruals, (ii) higher earnings informativeness, and (iii) more persistent earnings. These findings support the conjecture that foreign investors require higher quality accounting information to prevent the expropriation of corporate resources by controlling shareholders. Furthermore, we find that country-level corporate governance conditions the relationship between foreign ownership and earnings quality. We find, in particular, that foreign ownership is associated with higher earnings quality in countries with more stable governments and a lower risk of government expropriation.

Our paper contributes to the literature in several ways. First, we extend the literature that examines the relationship between corporate governance and earnings quality (e.g., [Leuz et al., 2003](#); [Wang, 2006](#); [Koh, 2007](#); [Jaggi et al., 2009](#)) by examining the role of post-privatization shareholder identity/ownership in determining the quality of earnings. Second, we add to the literature on the importance of post-privatization shareholder identity (e.g., [Frydman et al., 1999](#); [D'souza et al., 2005](#); [Boubakri et al., 2008](#); [Guedhami et al., 2009](#); [Ben-Nasr et al., 2012](#); [Boubakri et al., 2013a](#); [Ben-Nasr and Cosset, 2014](#)) by focusing on earnings quality. Third, we add to the literature on institutional environment, particularly the literature concerning the impact of the institutional environment on the post-privatization ownership structure (e.g., [Boubakri et al., 2005](#); [Guedhami and Pittman, 2006](#)) by examining how the role of foreign owners in shaping the reporting incentives of NPFs varies with the country's institutional environment.

The paper is organized as follows. Section 2 develops our testable hypotheses. Section 3 presents our earnings quality proxies, describes the sample, and provides descriptive statistics for the regression variables. Section 4 presents our main empirical evidence, and Section 5 reports the results of our additional tests. Section 6 presents our results for the impact of country-level corporate governance on the relationship between foreign ownership and earnings quality. Section 7 summarizes our findings and offers a conclusion.

2. Hypotheses development

The premise of this paper is that ownership structure, particularly shareholders' identity, influences the quality of released financial information in NPFs. Financial accounting information is typically used to identify investment opportunities, improve resource allocation toward positive net present value projects, and reduce the informational asymmetries between insiders and outsiders. Privatization, defined as the sale of state-owned enterprises to private investors, leads to a change in the nature of ownership and the incentive structures of the firm, which in turn creates differences in the reporting incentives for financial information.

Indeed, the state generally pursues political objectives.³ The government, therefore, has more incentives to tunnel corporate resources – and expropriate other shareholders – for political benefits. To hide this expropriation, the government may lead managers to manipulate earnings, which results in a lower quality of accounting information. Furthermore, because they have access to preferential financing through political connections (i.e., soft-budget constraint), firms with a higher degree of state ownership also have fewer incentives to improve the quality of their financial reporting. For example, [Chahrumilind et al. \(2006\)](#) show that Thai firms with connections to banks and politicians, compared to firms without such connections, obtained more long-term loans and needed less collateral during the period preceding the Asian financial crisis of 1997. Consistent with these arguments, [Wang et al. \(2008\)](#) find that, in China, SOEs (state-owned enterprises) are more likely than private firms to hire smaller auditing companies. In the same vein, [Guedhami et al. \(2009\)](#) find that firms with greater state ownership are less likely to appoint Big Four auditors. More recently, [Liu and Subramaniam \(2013\)](#) show that, in China, SOEs have lower audit fees than non-SOEs.

³ For example, the government may have as an objective to maintain a high level of employment and promote regional development by locating production in politically desirable rather than economically attractive regions (e.g., [Dewenter and Malatesta, 2001](#); [Megginson and Netter, 2001](#)).

Another point of view suggests that governments seeking to build credibility or to tap international markets in order to raise capital could also have incentives to report higher quality earnings, to signal their commitment to market-oriented policies. However, we follow the dominant view that suggests that the state has fewer incentives to report higher quality earnings, and present our first hypothesis as follows:

H1. State Ownership is associated with lower earnings quality, all things being equal.

The literature argues that foreign investors require more transparent accounting information to prevent expropriation by insiders. [Stulz \(1999\)](#), for instance, shows that the openness of domestic capital markets to foreign investors is associated with a greater demand for better corporate governance and increased corporate transparency. [Lang et al. \(2003a\)](#) find that cross-listing is associated with greater analyst coverage and higher forecast accuracy, and therefore greater transparency. In the same vein, [Lang et al. \(2003b\)](#) show that cross-listing is associated with a lower level of earnings management and more earnings conservatism, meaning a higher earnings quality. Similarly, [Bradshaw et al. \(2004\)](#) find a higher degree of US ownership in non-US firms that employ accounting methods consistent with the US GAAP, suggesting that US investors require more transparent accounting information. Furthermore, [Aggarwal et al. \(2005\)](#) report evidence suggesting that US mutual funds prefer investing in non-cross-listed firms with higher transparency in the US. More recently, [Leuz et al. \(2009\)](#) show that US investors prefer firms with lower earnings management. In this paper, we add to this literature by examining whether foreign ownership is associated with better earnings quality in NPFs.

Based on this discussion, we expect that foreign owners require better transparency to prevent insiders from tunneling corporate resources for political purposes. Our second hypothesis states:

H2. Foreign Ownership is associated with higher earnings quality, all things being equal.

The institutional environment that prevails in a particular country could condition the relationship between foreign ownership and earnings quality. In countries with sound legal institutions, expropriation is likely to be less severe. Existing studies show that stronger country-level governance is associated with higher earnings quality. For example, [Leuz et al. \(2003\)](#) find that earnings management is negatively related to the extent of shareholders' rights and legal enforcement. In the same vein, [Haw et al. \(2004\)](#) find that, for East Asian and Western European firms, sound legal environments mitigate the adverse effects of excess control on earnings quality (measured by earnings management). Moreover, [Lang et al. \(2006\)](#) show that the home-country institutional environment of firms cross-listed in the US is very relevant. Specifically, they find that cross-listed firms from countries with weak legal investor protection have lower earnings quality.

Given this discussion, we expect that foreign ownership is associated with better earnings quality in countries with sound legal institutions.

H3. The institutional environment strengthens the impact of foreign ownership on earnings quality, all things being equal.

3. Research design

3.1. Measures of earnings quality

3.1.1. Discretionary abnormal accruals

We use a commonly employed proxy of earnings quality in the accounting and finance literature (i.e., [Park and Park, 2004](#); [Haw et al., 2004](#); [Wang, 2006](#); [Francis and Wang, 2008](#); [Jaggi et al., 2009](#); [Rodriguez and Hemmen, 2010](#); [Degeorge et al., 2013](#); [Higgins, 2013](#)), namely abnormal accruals. Specifically, we use [Dechow and Dichev's \(2002\)](#) measure of abnormal accruals, as modified by [Ball and Shivakumar \(2005\)](#) to include asymmetrically timely loss recognition.⁴ Moreover, for the sake of

⁴ We are aware of recent developments in the earnings management literature. For example, [Dechow et al. \(2012\)](#) offer an approach that incorporates accrual reversals, which improves the performance of the earnings management measures – for instance, [Dechow and Dichev's \(2002\)](#) measure of abnormal accruals. However, to implement this approach one has to identify the period during which earnings reverse.

parsimony, we use current abnormal accruals, in line with [Degeorge et al. \(2013\)](#). We estimate the following piecewise non-linear abnormal accruals model:

$$\frac{CAC_{it}}{TA_{it}} = \theta_0 + \theta_1 \frac{CFO_{it-1}}{TA_{it}} + \theta_2 \frac{CFO_{it}}{TA_{it}} + \theta_3 \frac{CFO_{it+1}}{TA_{it}} + \theta_4 DCFO_{it} + \theta_5 DCFO_{it} * \frac{CFO_{it}}{TA_{it}} + \varepsilon_{it} \quad (1)$$

where

CAC_{it} = firm i 's current accruals in year $t = (\Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STDEBT_{it})$;
 ΔCA_{it} = firm i 's change in current assets between year $t - 1$ and year t ;
 ΔCL_{it} = firm i 's change in current liabilities between year $t - 1$ and year t ;
 $\Delta CASH_{it}$ = firm i 's change in cash and equivalents between year $t - 1$ and year t ;
 $\Delta STDEBT_{it}$ = firm i 's change in short and current long-term debt between year $t - 1$ and year t ;
 TA_{it} = firm i 's average total assets in year t and $t - 1$;
 CFO_{it} = firm i 's cash flows from operations in year $t = NIBE_{it} - CAC_{it}$;
 $NIBE_{it}$ = firm i 's net income before extraordinary items in year t ;
 CFO_{it-1} = firm i 's cash flows from operations in year $t - 1$;
 CFO_{it+1} = firm i 's cash flows from operations in year $t + 1$;
 $DCFO_{it}$ = one if $\frac{CFO_{it}}{TA_{it}} - \frac{CFO_{it-1}}{TA_{it-1}} < 0$, and zero otherwise.

The absolute value of the residuals resulting from Eq. (1), $|AA_BALL|$, is our first proxy of earnings quality. The larger the value of $|AA_BALL|$, the poorer the earnings quality.⁵

To test the relationship between the stake held by state and foreign owners and discretionary abnormal accruals, we estimate the following regression model:

$$|AA_BALL_{it}| = \delta_0 + \delta_1 OWN_{it} + \delta_2 CONTROLS_{it} + \gamma_t + \varepsilon_{it} \quad (2)$$

where

OWN_{it} = the stake held by the state (*STATE*) or foreigners (*FOR*);
 $CONTROLS_{it}$ = a set of firm- and country-level control variables.
 γ_t = year and industry dummies controlling for year and industry fixed effects.
 ε_{it} = the error time.

Following the recent literature on earnings quality (e.g., [Haw et al., 2004](#); [Wang, 2006](#); [Yu, 2008](#); [Chen et al., 2011](#)), we include in *CONTROLS* the following variables: the natural logarithm of the firm's total sales in US dollars (*SIZE*) to control firm size, the ratio of long-term debt to total assets (*LEV*) to control for leverage, the ratio of net income to total assets (*ROA*) to control for profitability, the annual total assets growth (*AG*) to control for growth opportunities, cash flow from operations scaled by the beginning of year total assets (*CFO*) to control for the level of operating cash flows, the volatility of cash flow from operations (*CFO_VOL*), a dummy variable equal to one (1) if the net income of the year is negative, and zero (0) otherwise (*LOSS*) to control for economic losses, and the natural logarithm of the GDP per capita (*LNGDPC*) to control for the level of economic development. Panel B of [Table 2](#) reports descriptive statistics on the variables used in the discretionary abnormal accruals analysis.

3.1.2. Earnings response coefficient

In line with [Fan and Wong \(2002\)](#), [Francis et al. \(2005\)](#), [Wang \(2006\)](#) and [Zhao and Chen \(2009\)](#), we use the Earnings Response Coefficients (ERCs) as a proxy for earnings quality.⁶ Specifically, we adopt the following model employed by [Zhao and Chen \(2009\)](#) to examine the impact of state and foreign ownership on earnings informativeness:

⁵ We estimate Eq. (1) for each of [Campbell's \(1996\)](#) 12 industry groups. We use all firms listed in *Worldscope* that belongs to our sample countries. Then, we merge the estimated coefficients with our sample firm-year observations by country, industry, and year. Finally, we calculate abnormal accruals for each firm-year observation.

⁶ We thank the referee for suggesting to use this proxy of earnings quality.

Table 1

Description of sample of newly privatized firms.

Distribution of privatization					
By country Country	Number	Percentage	By year Year	Number	Percentage
Australia	4	1.14	1985	1	0.29
Austria	10	2.86	1987	4	1.14
Belgium	2	0.57	1988	2	0.57
Brazil	18	5.14	1989	6	1.71
Chile	2	0.57	1990	10	2.86
China	28	8.00	1991	12	3.43
Colombia	1	0.29	1992	12	3.43
Czech Republic	5	1.43	1993	6	1.71
Egypt	36	10.29	1994	23	6.57
Finland	9	2.57	1995	29	8.29
France	21	6.00	1996	36	10.29
Germany	10	2.86	1997	36	10.29
Greece	7	2.00	1998	20	5.71
Hungary	5	1.43	1999	23	6.57
India	18	5.14	2000	21	6.00
Indonesia	8	2.29	2001	13	3.71
Ireland	3	0.86	2002	16	4.57
Israel	2	0.57	2003	16	4.57
Italy	23	6.57	2004	23	6.57
Japan	3	0.86	2005	13	3.71
Jordan	7	2.00	2006	15	4.29
Korea	3	0.86	2007	13	3.71
Lithuania	1	0.29	Total	350	100
Malaysia	12	3.43	By industry		
Mexico	1	0.29	Industry	Number	Percentage
Morocco	1	0.29	Basic industries	65	18.57
Netherlands	3	0.86	Capital goods	9	2.57
New Zealand	3	0.86	Construction	25	7.14
Norway	2	0.57	Consumer durables	27	7.71
Pakistan	13	3.71	Food/tobacco	15	4.29
Peru	2	0.57	Leisure	9	2.57
Philippines	5	1.43	Petroleum	28	8.00
Poland	5	1.43	Services	7	2.00
Portugal	9	2.57	Textiles/trade	12	3.43
Russia	6	1.71	Transportation	39	11.14
Singapore	2	0.57	Utilities	114	32.57
South Africa	2	0.57	Total	350	100
South Korea	1	0.29			
Spain	9	2.57			
Sri Lanka	2	0.57			
Sweden	4	1.14			
Switzerland	1	0.29			
Taiwan	1	0.29			
Thailand	11	3.14			
Turkey	14	4.00			
United Kingdom	15	4.29			
Total	350	100			

Notes: This table provides some descriptive statistics for the sample of 350 privatized firms used to investigate the impact of state ownership and foreign ownership on earnings quality. We report the distribution of our sample of privatized firms by country, year, and industry.

Table 2
Descriptive statistics.

Variable	Mean	Median	Standard deviation	Min	Max
<i>Panel A: ownership variables</i>					
STATE	0.492	0.510	0.318	0.000	1.000
PARTIAL_PRIV	0.897	1.000	0.304	0.000	1.000
CONTROL	0.494	0.000	0.500	0.000	1.000
FOR	0.125	0.036	0.186	0.000	1.000
<i>Panel B: discretionary abnormal accruals sample</i>					
[AA_BALL]	0.057	0.033	0.073	0.000	0.488
ISIP	0.529	1.000	0.499	0.000	1.000
FDI	0.029	0.015	0.037	−0.019	0.364
SIZE	14.325	14.462	2.081	9.352	19.412
LEV	0.169	0.139	0.148	0.000	0.766
ROA	0.060	0.047	0.074	−0.417	0.433
AG	0.142	0.066	0.402	−1.000	4.916
CFO	0.052	0.044	0.116	−0.858	0.627
CFO_VOL	0.634	0.095	2.212	0.005	18.407
LOSS	0.078	0.000	0.268	0.000	1.000
LNGDPC	26.350	26.081	1.340	22.859	29.305
<i>Panel C: earnings response coefficients sample</i>					
CAR	0.136	0.116	0.341	−0.500	0.998
UE	0.029	0.010	0.180	−0.587	2.909
ISIP	0.636	1.000	0.481	0.000	1.000
FDI	0.030	0.019	0.035	−0.019	0.364
SIZE	14.917	14.846	1.692	10.421	19.432
LEV	0.173	0.135	0.175	0.000	0.968
LOSS	0.071	0.000	0.258	0.000	1.000
MTB	2.388	1.610	4.004	0.010	61.420
LNGDPC	26.769	26.982	1.251	23.256	29.120
<i>Panel D: earnings persistence sample</i>					
PERSIS	0.355	0.338	0.655	−2.613	2.450
ISIP	0.453	0.000	0.499	0.000	1.000
FDI	0.031	0.025	0.026	0.001	0.166
SIZE	14.185	14.213	1.978	9.493	19.230
ROA	0.062	0.051	0.061	−0.254	0.351
STD_ROA	0.033	0.021	0.036	0.001	0.393

Notes: This table presents descriptive statistics for the regression variables used in our multivariate analysis to examine the impact of state ownership as well as foreign ownership on earnings quality for a sample of 350 privatized firms from 45 countries. Panel A presents descriptive statistics for the ownership variables. Panel B reports descriptive statistics for the discretionary abnormal accruals sample. Panel C reports descriptive statistics for the earnings response coefficients sample. Panel D reports descriptive statistics for the earnings persistence sample. The statistics are reported for a period up to seven years i.e., from two years before privatization to four years after privatization, including the privatization year. Descriptions and data sources for the explanatory variables are outlined in [Appendix A](#).

$$CAR_{it} = \alpha_0 + \alpha_1 UE_{it} + \alpha_2 UE_{it} * OWN_{it} + \alpha_3 UE_{it} * SIZE_{it} + \alpha_4 UE_{it} * LEV_{it} + \alpha_5 UE_{it} * LOSS_{it} + \alpha_6 UE_{it} * MTB_{it} + \gamma_t + \varepsilon_{it} \quad (3)$$

where

CAR_{it} = Cumulative 12-month stock returns for firm i 's ending three months after its fiscal year end;
 UE_{it} = firm i 's unexpected earnings in year $t = (NIBE_{it} - NIBE_{it-1})/MV_{it-1}$;
 MV_{it-1} = firm i 's market value of equity in year $t - 1$;
 MTB_{it} = firm i 's market-to-book ratio in year t ;

The rest of the variables are as previously defined. Panel C of [Table 2](#) reports descriptive statistics on the variables used in the earnings response coefficients analysis.⁷

⁷ We expect a positive coefficient for UE , indicating that unexpected earnings are associated with higher cumulative abnormal returns (e.g., [Fan and Wong, 2002](#); [Zhao and Chen, 2009](#)).

3.1.3. Earnings persistence

In line with Francis et al. (2004) and Ali et al. (2007), we use earnings persistence as a proxy for earnings quality.⁸ Specifically, we use the coefficient for β_1 estimated using the following regression as a proxy for earnings persistence, *PERSIS*:

$$\frac{NIBEI_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{NIBEI_{it-1}}{TA_{it-1}} + \varepsilon_{it} \quad (4)$$

All the variables are as previously defined. Values of β_1 close to 1 indicate that earnings are highly persistent (i.e., higher earnings quality) while values of β_1 close to 0 indicate that earnings are highly transitory (i.e., lower earnings quality).

To test the relationship between the stake held by state and foreign owners and earnings quality, we estimate the following regression model:

$$PERSIS_i = \lambda_0 + \lambda_1 OWN_i + \lambda_2 SIZE_i + \lambda_3 ROA_i + \lambda_4 STD_ROA_i + \gamma + \varepsilon_i \quad (5)$$

where

STD_ROA_i = firm *i*'s standard deviation of return on assets;

The rest of the variables are as previously defined. Panel D of Table 2 reports descriptive statistics on the variables used in the earnings persistence analysis.

3.2. Sample and descriptive statistics

3.2.1. Sample

To investigate the impact of state and foreign ownership on earnings quality, we compile a sample of 350 newly privatized firms from 45 countries. We use Ben-Nasr et al.'s (2012) sample of privatized firms, except firms operating in the financial sector, and complement it with several data sources, including *The World Bank* privatization database for developing countries, the *Privatization Barometer* for OECD countries, and Megginson's (2003) updated list of privatized firms in developed and developing countries. We collect financial data on our sample firms, mainly from annual reports and *Worldscope*. We also use Datastream to collect return data used in the Earnings Response Coefficients analysis.

Table 1 provides reports some descriptive statistics regarding our sample of privatized firms. As we can observe, our sample includes 350 firms from 45 countries with different legal and political environments, giving us a unique setting to examine how the impact of shareholder identity on earnings quality varies with the institutional environment. As reported in Table 1, our sample is diversified across industries, with 8.00% in the petroleum sector, 11.14% in the transportation sector, and 32.57% in the utility sector. Furthermore, 4.00% of privatization transactions occurred in the 1980s compared to 96.00% between 1990 and 2007.⁹

3.2.2. Ownership structure

We manually collect data on the ownership structure of our sample firms, mainly relying on annual reports. We use additional sources such as *Worldscope*, *Moody's International*, *Kompass Egypt Financial Year Book*, the Asian and Brazilian handbooks, and *Osiris*. Furthermore, we exploit information about the identity of major shareholders provided by Megginson (2003), Bortolotti and Siniscalco (2004), and Boubakri et al. (2005). Panel A of Table 2 reports descriptive statistics on the shareholder identity of our sample firms. We observe that the average (median) state ownership (*STATE*) is 49.20% (51.00%), supporting the evidence in Bortolotti and Faccio (2009) that the government is reluctant to relinquish control and remains a major shareholder even several years after privatization.

We also use alternative measures of government intervention in NPFs. First, we use a dummy variable (*PARTIAL_PRIV*) that is equal to one (1) if the firm still has some government ownership and zero

⁸ We thank the referee for suggesting to use this proxy of earnings quality.

⁹ Our sample firms largely represent privatization transactions that occurred in the late nineties and early 2000s, especially in emerging markets, European transition economies, and China.

(0) otherwise. As we can observe in Panel A of Table 2, *PARTIAL_PRIV* has an average of 0.897, suggesting that 89.7% of our sample firms have the government among its shareholders. Second, we use a dummy variable (*CONTROL*), equal to one (1) if the state holds more than 50% of the shares of a privatized firm and zero (0) otherwise, to distinguish between control and revenue privatizations. As we can observe in Panel A of Table 2, *CONTROL* has an average of 49.4%, suggesting that 49.4% of our sample firms have the government as a controlling shareholder.

As for foreign ownership (*FOR*), we observe that the average (median) foreign ownership is 12.50% (3.60%), indicating that a part of the relinquished state ownership is absorbed by foreign shareholders.

4. Empirical analysis

4.1. Impact of state ownership on earnings quality

4.1.1. State ownership and discretionary abnormal accruals

Table 3 reports the random-effects results for the multivariate analysis of state ownership and earnings quality estimated using Ball and Shivakumar's (2005) piecewise non-linear model.¹⁰ Model 1, our basic model, includes *STATE*, firm-level, and country-level controls, as well as dummy variables identifying the post-privatization year and the firm's industry and country. The results show that state ownership varies systematically with Ball and Shivakumar's (2005) unsigned abnormal accruals. Specifically, we find that the coefficient for *STATE* is positive and significant at the 1% level, implying that greater state ownership is associated with greater abnormal accruals. More specifically, a one standard deviation increase in state ownership is associated with a 13.4% increase in abnormal accruals.¹¹ This evidence is consistent with our prediction in H1, suggesting that state owners have fewer incentives to report higher quality earnings.^{12,13,14}

Model 2 tests the robustness of our findings to the use of an alternative proxy of state involvement in the privatized firm. Specifically, it replaces *STATE* by *PARTIAL_PRIV*, a dummy variable that is equal to one (1) if the firm still has some government ownership and zero (0) otherwise. We find that the coefficient for *PARTIAL_PRIV* is positive and significant at the 1% level, implying that partial privatization is associated with lower levels of earnings management. This is also economically highly significant. Indeed, moving *PARTIAL_PRIV* from 0 to 1 (i.e., from a fully privatized firm to a partially privatized firm) increases $|AA_BALL|$ by 0.021, which is a 36.8% increase relative to the mean value of $|AA_BALL|$. This evidence implies that our inferences on the link between the government's influence over privatized firms and earnings quality are not affected by our choice of state-ownership variables.

Model 3 replaces *STATE* with *CONTROL*, a dummy variable equal to one (1) if the state holds more than 50% of the shares of a privatized firm and zero (0) otherwise. We find a positive and significant coefficient at the 1% level for *CONTROL*, suggesting that government-controlled firms report lower earnings quality than non-government-controlled firms, which is consistent with the political interference hypothesis. *CONTROL* is also economically significant. Moving *CONTROL* from 0 to 1 (i.e., from a non-government-controlled firm to a government-controlled firm) increases $|AA_BALL|$ by 0.010, which is a 17.5% increase relative to the mean value of $|AA_BALL|$.

¹⁰ We employ a Hausmann specification test, with the null hypothesis being that fixed and random effects are the same. The results suggest that the coefficients are systematically different. Consequently, a random-effects model is more appropriate for our sample firms. Our analysis is conducted over the period up to seven years around privatization i.e., from two years before privatization to four years afterward, including the privatization year.

¹¹ The average value $|AA_BALL|$ in our sample period is 0.057. The coefficient for *STATE* is equal to 0.024. A 1% increase in *STATE* is associated with a 0.47% increase in abnormal accruals $((0.024 * 0.318) / 0.057 = 0.134)$.

¹² We test the sensitivity of our findings to the use of an alternative proxy of abnormal accruals, namely the Jones (1991) modified abnormal accruals, $|AA_JONES|$, as a dependent variable instead of Ball and Shivakumar's (2005) abnormal accruals model. The unreported results show that the coefficient for *STATE* is still positive and highly significant.

¹³ We also examine whether the impact of government ownership on earnings quality varies with legal investor protection. To do so, we split our sample based on the median of the anti-self dealing (*ANTISELF*) from La Porta et al. (2006). The unreported results suggest that *STATE* is positive and significant only for the sub-sample of firms with low *ANTISELF*, suggesting that the adverse effects of state ownership on earnings quality are more pronounced in countries with weak legal investor protection.

¹⁴ Our results are also robust to the use of a pooled regression rather than a random effects regression.

Table 3
Discretionary abnormal accruals and state ownership.

Variable	Expected	Basic model (1)	Alternative state variables		Signed abnormal accruals		1990–2000 period (6)	Excluding strategic (7)
			PARTIAL_PRIV (2)	CONTROL (3)	Income-increasing (4)	Income-decreasing (5)		
<i>Intercept</i>	?	0.177 (2.498)**	0.170 (2.379)**	0.186 (2.597)***	0.046 (1.640)	−0.079 (−6.152)***	0.218 (2.938)***	0.156 (1.174)
<i>STATE</i>	+	0.024 (3.416)***			0.015 (1.821)**	−0.011 (−1.979)**	0.025 (2.477)***	0.034 (4.013)***
<i>PARTIAL_PRIV</i>	+		0.021 (3.290)***					
<i>CONTROL</i>	+			0.010 (2.415)***				
<i>SIZE</i>	−	−0.008 (−2.879)***	−0.008 (−2.898)***	−0.008 (−2.788)***	−0.003 (−1.716)**	0.003 (3.311)***	−0.010 (−2.725)***	−0.008 (−1.884)**
<i>LEV</i>	+	−0.058 (−2.723)***	−0.055 (−2.635)***	−0.056 (−2.690)***	0.016 (0.963)	0.041 (2.162)**	−0.065 (−1.788)**	−0.075 (−2.904)***
<i>ROA</i>	?	0.041 (0.513)	0.041 (0.511)	0.041 (0.497)	0.519 (9.837)***	0.582 (5.099)***	0.028 (0.298)	−0.044 (−0.297)
<i>AG</i>	+	0.024 (1.717)**	0.023 (1.688)**	0.024 (1.686)**	0.014 (1.648)*	−0.016 (−2.392)**	0.027 (1.736)**	0.007 (0.454)
<i>CFO</i>	−	−0.077 (−1.261)	−0.077 (−1.257)	−0.078 (−1.270)	−0.484 (−7.940)***	−0.521 (−5.461)***	−0.079 (−1.076)	0.033 (0.565)
<i>CFO_VOL</i>	+	0.000 (0.134)		0.000 (0.179)	0.001 (0.579)	−0.001 (−1.695)*	0.000 (0.380)	0.000 (0.563)
<i>LOSS</i>	+	0.021 (3.414)***	0.021 (3.511)***	0.021 (3.541)***	0.024 (1.525)*	0.000 (0.003)	0.025 (1.534)*	0.019 (1.865)**
<i>LNGDPC</i>	−	−0.001 (−0.159)	−0.001 (−0.155)	−0.001 (−0.228)	0.003 (1.820)*	−0.002 (−0.885)	−0.003 (−0.553)	0.001 (0.124)
INDUSTRY EFFECTS		YES	YES	YES	YES	YES	YES	YES
YEAR EFFECTS		YES	YES	YES	YES	YES	YES	YES
COUNTRY EFFECTS		YES	YES	YES	YES	YES	YES	YES
Adj R ²		0.216	0.215	0.214	0.495	0.444	0.286	0.160
N		815	815	815	439	376	555	352

Notes: This table presents random-effects estimation results from regressing earnings quality on state ownership and firm- and country-level control variables. In all models, we use the absolute value of Ball and Shivakumar's (2005) abnormal accruals as a proxy for earnings quality. The full sample consists of 350 privatized firms from 45 countries. All models report results for a period up to seven years i.e., from two years before privatization to four years after privatization, including the privatization year. The definitions and data sources of the variables are outlined in Appendix A. Beneath each estimate, the robust z-statistic is reported. Statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise, is denoted by ***, **, and *.

We extend our previous analysis by separately examining the impact of state ownership on income-increasing earnings management (i.e., firms with positive abnormal accruals) and income-decreasing earnings management (i.e., firms with negative abnormal accruals).¹⁵ We split our sample into two sub-samples based on the sign of the firm's abnormal accruals. Models 4 and 5 report the results of our basic model for the sample of income-increasing and income-decreasing abnormal accruals, respectively. We find a positive and highly significant coefficient for *STATE* for firms that overstate earnings, suggesting that state ownership is associated with income-increasing earnings-management activities. This finding is consistent with the conjecture that state owners have greater incentives to inflate the privatized firm's reported earnings, potentially to hide the expropriation of corporate resources for political purposes. However, the coefficient of *STATE* is negative and highly significant for firms that understate abnormal earnings, suggesting that state ownership is associated with less earnings management.

The majority (i.e., 65.14%) of our sample firms were privatized during the 1990–2000 period. To ensure that our findings are not driven by privatizations that occurred outside this period, we re-estimate our basic model for the 1990–2000 period. The results reported in Model 6 show that the coefficient for *STATE* remains positive and significant at the 1% level, confirming our earlier findings.

Empirical evidence (e.g., Boubakri et al. (2009)) shows that governments retain a significant stake in privatized firms in strategic industries, both for national security reasons, as well as in order to regulate the price of goods and services provided by such industries. To ensure that our results are not driven by strategic industries, we re-estimate our basic model after excluding firms belonging to one of the five strategic industries (i.e., Steel and Mining, Financial, Petroleum, Transportation and Utilities). The results reported in Model 7 show that the coefficient for *STATE* is still positive and significant at the 1% level, reinforcing our earlier findings.¹⁶

One potential concern is that *STATE* itself may not be exogenous. In fact, state ownership may be governed by unobserved variables that also affect earnings quality, and this can lead to biased and inconsistent OLS estimates. Furthermore, the government tends to retain a higher stake in less profitable firms. In fact, Shleifer and Vishny (1994) develop a model in which politicians are more likely to privatize inefficient firms since they continue to give bribes in exchange of subsidies. We address this issue by using a two-stage instrumental variable approach. The instrumental variables must be highly correlated with *STATE* but not with our proxy for earnings quality (*IAA_BALL*). We use the polity index (*POLITY*) from *POLITY IV* (it ranges from –10 to +10, with a higher index indicating more democratic countries) as an instrument for *STATE*.¹⁷

We re-estimate our basic model (Model 1 of Table 3), using a two-stage least squares regression. In the first stage, we predict *STATE* on the basis of the polity index and the other independent variables used in our basic model, except for the ownership variables. The unreported results show that *POLITY* loads negative and significant at the 1% level, supporting the conjecture that more democratic countries are more committed to market reforms and are associated with complete privatization and control relinquishment. In the second stage, we use the first-stage fitted values as instruments for *STATE*. The unreported results show that the coefficient for *STATE* remains positive and highly significant, corroborating our earlier finding. To validate our choice of *POLITY* as an instrument for *STATE*, we follow Larcker and Rusticus (2010, page 190) and perform an over-identifying restriction test; that is, we regress the residuals of the second stage on the exogenous variables (i.e., *POLITY* and the control variables). We find that the explanatory variables are jointly not significant, suggesting that *POLITY* is exogenous.¹⁸

¹⁵ We thank the referee for suggesting to add this test.

¹⁶ We also re-estimate our basic model after excluding firms from transition economies. The unreported results suggest that *STATE* remains positive and significant, corroborating our earlier findings.

¹⁷ Democratic governments are more likely to introduce market-supporting reforms and thus should be more committed to privatization. Consequently, complete privatization and control relinquishment are more likely to occur in more democratic countries.

¹⁸ Before performing this test, we performed a Hausman test. We included the predicted *STATE* from the first-stage as well as the observed *STATE* in the second stage regression. We find that the coefficient on the predicted *STATE* is significant, rejecting the null of no endogeneity problem.

Table 4

Earnings response coefficients and state ownership.

Variable	Expected	Basic modelM (1)	Alternative state variables		1990–2000 period (4)	Excluding strategic (5)
			PARTIAL_PRIV (2)	CONTROL (3)		
<i>Intercept</i>	?	0.169 (1.926)*	0.180 (2.026)**	0.107 (4.087)***	0.269 (2.185)**	0.175 (1.164)
<i>UE</i>	+	0.433 (0.673)	0.122 (0.177)	0.169 (0.251)	0.456 (0.638)	–8.475 (–1.008)
<i>UE*STATE</i>	–	–1.264 (–3.761)***			–0.823 (–1.979)**	–2.881 (–4.478)***
<i>UE*PARTIAL_PRIV</i>	–		–1.075 (–3.836)***			
<i>UE*CONTROL</i>	–			–0.564 (–3.080)***		
<i>UE*SIZE</i>	+	–0.038 (–0.868)	0.011 (0.219)	–0.043 (–0.964)	–0.057 (–1.189)	0.066 (0.476)
<i>UE*LEV</i>	–	0.017 (0.071)	0.029 (0.154)	0.163 (0.716)	–0.028 (–0.075)	0.165 (0.395)
<i>UE*LOSS</i>	–	0.149 (0.737)	0.284 (1.228)	0.267 (1.373)	0.017 (0.128)	0.756 (2.252)**
<i>UE*MTB</i>	+	0.482 (3.643)***	0.377 (2.641)***	0.446 (3.207)***	0.475 (2.543)***	0.393 (2.380)***
INDUSTRY EFFECTS		YES	YES	YES	YES	YES
YEAR EFFECTS		YES	YES	YES	YES	YES
COUNTRY EFFECTS		YES	YES	YES	YES	YES
Adj R ²		0.12	0.114	0.06	0.096	0.16
N		572	572	572	311	315

Notes: This table presents the least-squares estimation results for the multivariate analysis of earnings response coefficients and state ownership. The full sample consists of 350 privatized firms from 45 countries. All models report results for a period up to seven years i.e., from two years before privatization to four years after privatization, including the privatization year. The definitions and data sources of the variables are outlined in [Appendix A](#). Beneath each estimate, the robust z-statistic is reported. Statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise, is denoted by ***, **, and *.

We report several significant relationships between the control variables and $|AA_BALL|$, which are generally consistent with our predictions and with the literature. Specifically, we find that the coefficient for *SIZE* – our proxy for firm size – is generally negative and significant at the 1% level, indicating that earnings management is less extensive in larger firms. We also find that *AG* is generally positive and highly significant, consistent with [Yu \(2008\)](#). Moreover, we find that the coefficient for *LOSS* is generally positive and highly significant, consistent with the findings of recent studies (e.g., [Wang \(2006\)](#)).

4.1.2. State ownership and earnings response coefficients

[Table 4](#) reports the least-squares estimation results for the multivariate analysis of the earnings response coefficients and the level of state ownership. This analysis is also conducted over the period of up to seven years i.e., from two years before privatization to four years after privatization, including the privatization year. The results of Model 1, our basic model, show that the coefficient for *UE*STATE* is negative and significant at the 1% level, consistent with [H1](#). This finding implies that firms with higher state ownership have a lower ERC i.e., lower earnings informativeness. Economically, an increase by one standard deviation in state ownership is associated with a 92.8% $(0.318 * (-1.264) / 0.433 = -0.928)$ decrease in the ERC.^{19,20}

¹⁹ We also test whether the impact of state ownership on earnings informativeness varies with legal investor protection. To do so, we split our sample based on the median of the anti-self dealing (*ANTISELF*) from [La Porta et al. \(2006\)](#). The unreported results show that *UE*STATE* is negative and significant only for the sub-sample of firms with low *ANTISELF*, suggesting that the adverse effects of state ownership on earnings informativeness are more pronounced in countries with weak legal investor protection.

²⁰ We also re-estimate our basic model after excluding firms from transition economies. The unreported results suggest that *UE*STATE* remains negative and significant, corroborating our earlier findings.

Table 5

Earnings persistence and state ownership.

Variable	Expected	Basic model (1)	Alternative state variables		1990–2000 period (4)	Excluding strategic (5)
			PARTIAL_PRIV (2)	CONTROL (3)		
<i>Intercept</i>	?	0.283 (0.740)	0.531 (1.605)	0.369 (1.152)	0.921 (2.397)**	0.234 (0.459)
<i>STATE</i>	–	–0.459 (–2.865)***			–0.394 (–2.617)***	–0.374 (–1.753)**
<i>PARTIAL_PRIV</i>	–		–0.320 (–2.636)***			
<i>CONTROL</i>	–			–0.162 (–2.092)**		
<i>SIZE</i>	+	0.021 (0.875)	–0.010 (–0.538)	–0.009 (–0.477)	–0.022 (–0.991)	0.027 (0.934)
<i>ROA</i>	–	0.868 (1.389)	1.166 (2.349)**	1.224 (2.529)**	1.090 (1.937)*	3.212 (2.885)***
<i>STD_ROA</i>	+	–0.558 (–1.784)*	–0.702 (–2.802)***	–0.731 (–3.014)***	–0.670 (–2.372)**	0.307 (0.159)
INDUSTRY EFFECTS		YES	YES	YES	YES	YES
YEAR EFFECTS		YES	YES	YES	YES	YES
COUNTRY EFFECTS		YES	YES	YES	YES	YES
Adj R ²		0.131	0.049	0.046	0.092	0.090
N		310	310	310	212	135

Notes: This table presents the least-squares estimation results for the multivariate analysis of earnings persistence and state ownership. In all models, we use the absolute value of Ball and Shivakumar's (2005) abnormal accruals as a proxy for earnings quality. The definitions and data sources of the variables are outlined in Appendix A. Beneath each estimate, the robust z-statistic is reported. Statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise, is denoted by ***, **, and *.

The results of Model 2, which replaces *STATE* by *PARTIAL_PRIV*, show that the coefficient for *UE*PARTIAL_PRIV* is negative and significant at the 1% level. Consistent with H1, this finding suggests that partially privatized firms have a lower ERC. This is also economically highly significant. Indeed, the ERC of partially privatized firms is more than 8 times (i.e., 8.811) lower than the ERC of fully privatized firms.

The results of Model 3, in which we re-estimate our basic model using *CONTROL* as a proxy for government intervention in privatized firms instead of *STATE*, show that the coefficient for *UE*CONTROL* is negative and significant at the 1% level, consistent with H1. This finding suggests that government-controlled firms have a lower ERC. Economically, the ERC of government-controlled firms is more than 3 (i.e., 3.337) times lower than the ERC of non government-controlled firms.

The results of Model 4, in which we re-estimate our basic model for the 1990–2000 period, show that the coefficient for *UE*STATE* is negative and highly significant, reinforcing our earlier findings. Finally, the results of the Model 5, in which we re-estimate our basic model after excluding firms from strategic industries, show that the coefficient for *UE*STATE* is negative and significant at the 1% level, again supporting our earlier findings.

As for the control variables, we report a positive and highly significant coefficient for *UE*MTB* across all specifications. Consistent with prior literature (e.g., Wang (2006) and Ali et al. (2007)), this finding suggests that firms with a higher market-to-book ratio have a higher ERC.

4.1.3. State ownership and earnings persistence

Table 5 reports the least-squares estimation results for the multivariate analysis of earnings persistence and state ownership. The results of Model 1 show that the coefficient for *STATE* is negative and significant at the 1% level, consistent with H1. This finding suggests that earnings of NPFs with higher levels of state ownership are more transitory than those of NPFs with lower levels of state ownership.

More specifically, an increase by one standard deviation in state ownership is associated with a 41.1% ($0.318 * (-0.459)/0.355 = -0.411$) decrease in earnings persistence.^{21,22}

The results of Model 2 show that the coefficient for *PARTIAL_PRIV* is negative and significant at the 1% level. Consistent with H1, this finding suggests that earnings of partially privatized NPFs are more transitory than those of fully privatized NPFs. This is also economically highly significant, as moving *PARTIAL_PRIV* from 0 to 1 (i.e., from fully privatized firm to a partially privatized firm) decreases earnings persistence by 0.320, a 90.14% decrease relative to the mean value of *PERSIS*.

The results of Model 3 show that the coefficient for *CONTROL* is negative and highly significant, consistent with H1. This finding suggests that earnings of NPFs in which the government maintains control are more transitory than those in which the government relinquishes control. *CONTROL* is also economically significant. For example, moving *CONTROL* from 0 to 1 (i.e., from a non-government-controlled firm to a government-controlled firm) decreases earnings persistence by 0.162, which is a 45.6% decrease relative to the mean value of *PERSIS*.

The results of Model 4 show that the coefficient for *STATE* remains negative and significant at the 1% level when we re-estimate our basic model for the 1990–2000 period. Furthermore, the results of Model 5 show that the coefficient for *STATE* is still positive and highly significant when we re-estimate our basic model after excluding firms from strategic industries. Both of these results reinforce our earlier findings.

4.2. Impact of foreign ownership on earnings quality

4.2.1. Foreign ownership and discretionary abnormal accruals

Table 6 reports the random-effects results for the multivariate analysis of foreign ownership and earnings quality estimated using Ball and Shivakumar's (2005) piecewise non-linear model. The results of Model 1, our basic Model, show that the coefficient for *FOR* is negative and significant at the 1% level, suggesting that greater foreign ownership is associated with smaller abnormal accruals. More specifically, an increase by one standard deviation in foreign ownership is associated with a 12.1% ($0.186 * (-0.037)/0.057 = -0.121$) decrease in abnormal accruals. This evidence is consistent with our H2, the conjecture that foreign investors require higher transparency to prevent insiders from expropriating their wealth.²³

Models 2 and 3 report the results for the income-increasing abnormal accruals sub-sample and the income-decreasing abnormal accruals sub-sample, respectively. We find a negative and highly significant coefficient for *FOR* only for the income increasing sub-sample (i.e., firms that overstate earnings). This finding suggests that foreign ownership is associated with less income-increasing earnings-management.

Models 4 and 5 control for additional variables related to the presence of foreign investors. Model 4 introduces a dummy variable, *ISIP*, which is equal to one (1) for firms privatized on foreign stock markets and zero (0) otherwise. We find that the coefficient for *ISIP* is negative and significant at the 1% level, implying that firms privatized on foreign markets have smaller abnormal accruals (i.e., higher earnings quality) than firms privatized on local stock markets. The coefficient for *FOR* remains negative and significant at the 1% level, reinforcing our earlier findings.

Model 5 adds the ratio of foreign direct investment over GDP (*FDI*) to control for foreign direct investment. As argued by Choi and Wong (2007, page 20): “a country's relative level of foreign direct investment is positively associated with the number of international investors in its equity market.” We expect that the presence of international investors is associated with a higher quality of accounting information. The results reported in Model 5 show that the coefficient for *FDI* is negative and

²¹ We also test whether the impact of state ownership on earnings persistence varies with legal investor protection. To do so, we split our sample based on the median of the anti-self dealing (*ANTISELF*) from La Porta et al. (2006). The unreported results show that *STATE* is negative and significant only for the sub-sample of firms with low *ANTISELF*, suggesting that the adverse effects of state ownership on earnings persistence are more pronounced in countries with weak legal investor protection.

²² We also re-estimate our basic model after excluding firms from transition economies. The unreported results suggest that *STATE* remains negative and significant, corroborating our earlier findings.

²³ We also re-estimate our basic model after excluding firms from transition economies. The unreported results suggest that *FOR* remains negative and significant, corroborating our earlier findings.

Table 6

Discretionary abnormal accruals and foreign ownership.

Variable	Expected	Basic model (1)	Signed abnormal accruals		Additional controls		1990–2000 period (6)	State ownership (7)
			Income-increasing (2)	Income-decreasing (3)	ISIP (4)	FDI (5)		
<i>Intercept</i>	?	0.189 (3.272)***	0.030 (0.826)	0.056 (3.545)***	0.076 (1.914)*	0.049 (1.573)	0.216 (3.537)***	0.203 (2.607)***
<i>FOR</i>	–	–0.037 (–2.802)***	–0.041 (–2.196)**	–0.014 (–0.889)	–0.037 (–2.720)***	–0.030 (–2.311)**	–0.041 (–2.024)**	–0.037 (–2.106)**
<i>ISIP</i>	–				–0.027 (–2.654)***			
<i>FDI</i>	–					–0.189 (–2.929)***		
<i>STATE</i>	+							0.021 (2.016)**
<i>SIZE</i>	–	–0.009 (–2.943)***	–0.001 (–0.538)	–0.004 (–1.527)	–0.014 (–2.233)**	–0.021 (–2.964)***	–0.012 (–2.956)***	–0.009 (–2.959)***
<i>LEV</i>	+	–0.044 (–2.161)**	–0.029 (–1.893)**	–0.024 (–1.315)	–0.044 (–2.126)**	–0.052 (–2.306)**	–0.059 (–1.783)*	–0.053 (–1.807)*
<i>ROA</i>	?	0.069 (0.718)	0.594 (13.309)***	–0.774 (–7.616)***	0.069 (0.724)	0.053 (0.551)	0.046 (0.415)	0.024 (0.191)
<i>AG</i>	+	0.026 (1.857)**	0.006 (0.970)	0.003 (0.405)	0.026 (1.674)*	0.025 (1.700)**	0.034 (2.022)**	0.029 (1.504)*
<i>CFO</i>	–	–0.032 (–0.436)	–0.483 (–6.420)***	0.656 (7.837)***	–0.031 (–0.420)	–0.029 (–0.394)	–0.032 (–0.436)	–0.040 (–0.546)
<i>CFO_VOL</i>	+	0.000 (0.069)	0.001 (0.452)	0.001 (2.300)**	0.000 (0.190)	0.000 (0.091)	0.000 (0.025)	0.000 (0.180)
<i>LOSS</i>	+	0.029 (3.260)***	0.060 (2.493)***	–0.014 (–0.848)	0.028 (2.724)***	0.027 (2.918)***	0.034 (1.793)**	0.028 (2.850)***
<i>LNGDPC</i>	–	0.001 (0.247)	0.003 (0.846)	0.005 (1.053)	0.001 (0.332)	0.003 (0.858)	0.003 (1.248)	–0.002 (–0.256)
INDUSTRY EFFECTS		YES	YES	YES	YES	YES	YES	YES
YEAR EFFECTS		YES	YES	YES	YES	YES	YES	YES
COUNTRY EFFECTS		YES	YES	YES	YES	YES	YES	YES
Adj <i>R</i> ²		0.140	0.474	0.582	0.141	0.139	0.187	0.190
<i>N</i>		505	279	226	505	501	370	482

Notes: This table presents random-effects estimation results from regressing earnings quality on foreign ownership and firm- and country-level control variables. In all models, we use the absolute value of [Ball and Shivakumar's \(2005\)](#) abnormal accruals as a proxy for earnings quality. The full sample consists of 350 privatized firms from 45 countries. All models report results for a period up to seven years i.e., from two years before privatization to four years after privatization, including the privatization year. The definitions and data sources of the variables are outlined in [Appendix A](#). Beneath each estimate, the robust z-statistic is reported. Statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise, is denoted by ***, **, and *.

significant at the 1% level, suggesting that country-level foreign investment is associated with smaller abnormal accruals (i.e., higher abnormal accruals). More importantly for our purposes, we still report a negative and highly significant coefficient for *FOR*, further validating our earlier findings. Additionally, the results of Model 6, in which we re-estimate our basic model for the 1990–2000 period, show that only the coefficient for *FOR* remains negative and highly significant, corroborating our earlier findings. Furthermore, in Model 7, we control for state ownership. The results show that the coefficient for *STATE* (*FOR*) is positive and highly significant, reinforcing our earlier inferences.

One concern is that *FOR* could be also not exogenous. Indeed, unobserved variables that determine earnings quality could also have the potential to affect foreign ownership. Moreover, foreign owners prefer to invest in firms with a higher quality of accounting information (i.e., Bradshaw et al., 2004; Aggarwal et al., 2005; Leuz et al., 2009). To address this issue, we use a two-stage instrumental variable approach. We use the political rights index (*POLRIGHTS*) from Freedom House (2010) as an instrument for *FOR*. The index ranges from 1 to 7, with higher scores indicating higher political constraints on the government. Under high political constraints, governments' ad-hoc political interference is less likely. Therefore, policy changes that might affect the post-privatization valuation of the firms and result in a modification of the shareholders' control and ownership rights are less likely to be observed. The potential predation and expropriation behavior of the government is more mitigated in countries with stronger political constraints (Boubakri et al. (2013b)). Foreign investors are more likely to invest in firms from countries with sound political institutions (Boubakri et al. (2007)). As such, we expect a positive association between *FOR* and *POLRIGHTS*.

We re-estimate our basic model (Model 1 of Table 6) using a two-stage least squares regression. In the first stage, we predict *FOR* on the basis of *POLRIGHTS* along with the other independent variables used in our basic model. The unreported results show that the coefficient for *POLRIGHTS* is positive and highly significant, consistent with the conjecture that foreigners prefer investing in countries with sound political institutions (Boubakri et al. (2007)). In the second stage, we use the first-stage fitted values as instruments for *FOR*. The unreported results show that the coefficient for *FOR* remains negative and significant at the 1% level, corroborating our earlier findings.²⁴

Finally, we test the robustness of our findings if *FOR* is replaced by *ADR*, a dummy variable that is equal to one (1) if the firm is cross listed on a major US exchange (level 2 or 3 *ADR*) and zero (0) otherwise. We collected this variable from different sources, including the Bank of New York, Citibank, NYSE, NASDAQ, and JP Morgan. We also use the information on *ADR* available in *The World Bank* privatization database, the *Privatization Barometer* for OECD countries, and Megginson's (2003) updated list of privatized firms. We re-estimate Model 1 of Table 6 using *ADR* instead of *FOR*. The unreported results show that the coefficient for *ADR* is negative and significant at the 1% level, implying that NPFs cross-listed in the US have lower levels of earnings management. This evidence is consistent with the conjecture that firms cross-listed in the US have to meet stringent disclosure requirements (Hail and Leuz (2009)), and therefore have a better quality of accounting information.²⁵

4.2.2. Foreign ownership and earnings response coefficients

Table 7 reports the results for the analysis of earnings response coefficients and foreign ownership. The results of Model 1, our basic model, show that the coefficient for $UE*FOR$ is positive and significant at the 1% level. Consistent with H2, this finding suggests that NPFs with higher foreign ownership have a higher ERC (i.e., more informative earnings). Economically, a one standard deviation increase in foreign ownership is associated with a 97.9% $(0.186 * (2.053)/0.390 = -0.979)$ decrease in the ERC.²⁶

²⁴ We performed a Hausman test. We included the predicted *FOR* from the first-stage as well as the observed *FOR* in the second stage regression. We find that the coefficient on the predicted *FOR* is significant, rejecting the null of no endogeneity problem. In line with Larcker and Rusticus (2010), we perform an over-identifying restriction test to validate our choice of *POLRIGHTS* as an instrument for *FOR*. We regress the residuals of the second stage on the exogenous variables (i.e., *POLRIGHTS* and the control variables included in Model 1 of Table 5). We find that the explanatory variables are jointly not significant, suggesting that *POLRIGHTS* is exogenous.

²⁵ We thank the referee for suggesting to add this test.

²⁶ We also re-estimate our basic model after excluding firms from transition economies. The unreported results suggest that $UE*FOR$ remains positive and significant, corroborating our earlier findings.

Table 7

Earnings response coefficients and foreign ownership.

Variable	Expected	Basic model (1)	Additional Controls		1990–2000 period (4)	State ownership (5)
			ISIP (2)	FDI (3)		
<i>Intercept</i>	?	0.012 (0.091)	0.006 (0.040)	0.017 (0.128)	0.220 (1.271)	–0.027 (–0.223)
<i>UE</i>	+	–0.390 (–0.528)	–1.238 (–0.982)	–0.920 (–1.127)	0.419 (0.943)	4.128 (1.763)**
<i>UE*FOR</i>	+	2.053 (3.408)***	2.270 (3.516)***	1.701 (3.104)***	1.268 (2.738)***	4.128 (1.763)**
<i>UE*ISIP</i>	+		–0.349 (–0.778)			
<i>UE*FDI</i>	+			8.791 (1.808)**		
<i>UE*STATE</i>	–					–2.740 (–3.787)***
<i>UE*SIZE</i>	+	0.004 (0.090)	0.072 (0.794)	0.024 (0.545)	–0.020 (–0.803)	–0.113 (–0.814)
<i>UE*LEV</i>	–	0.230 (0.613)	0.626 (0.863)	0.505 (1.347)	–0.559 (–2.148)**	1.560 (1.503)
<i>UE*LOSS</i>	–	0.030 (0.191)	–0.007 (–0.041)	0.171 (0.843)	–0.107 (–0.794)	0.613 (1.145)
<i>UE*MTB</i>	+	0.039 (3.360)***	0.036 (3.125)***	0.030 (2.534)***	0.043 (4.384)***	0.369 (1.504)*
INDUSTRY EFFECTS		YES	YES	YES	YES	YES
YEAR EFFECTS		YES	YES	YES	YES	YES
COUNTRY EFFECTS		YES	YES	YES	YES	YES
Adj R ²		0.236	0.238	0.240	0.362	0.282
N		382	382	381	202	226

Notes: This table presents the least-squares estimation results for the multivariate analysis of earnings response coefficients and foreign ownership. The full sample consists of 350 privatized firms from 45 countries. All models report results for a period up to seven years i.e., from two years before privatization to four years after privatization, including the privatization year. The definitions and data sources of the variables are outlined in [Appendix A](#). Beneath each estimate, the robust z-statistic is reported. Statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise, is denoted by ***, **, and *.

The results of Model 2, in which we re-estimate our basic model after controlling for international share issue privatizations, show that the coefficient for *UE*ISIP* is not significant, thereby failing to provide support for the conjecture that firms privatized in foreign markets have more informative earnings than those privatized in local markets. More importantly for our purposes, we find that the coefficient for *UE*FOR* is still positive and highly significant at the 1% level, confirming our earlier findings.

The results of Model 3, in which we re-estimate our basic model after controlling for foreign direct investment, show that the coefficient for *UE*FDI* is positive and highly significant, suggesting that country-level foreign investment is associated with higher earnings informativeness. Moreover, we still report a positive and significant coefficient at the 1% level for *UE*FOR*, reinforcing our earlier findings. Additionally, the results of Model 4, in which we re-estimate our basic model for the 1990–2000 period, show that the coefficient for *UE*FOR* remains positive and significant at the 1% level, continuing to support our prior results. Moreover, in Model 5, we control for state ownership. The results show that the coefficient for *UE*STATE* is negative and significant at the 1% level and the coefficient for *UE*FOR* is positive and highly significant, further supporting our earlier findings. Finally, we test the strength of our test when *FOR* is replaced by *ADR*. We re-estimate Model (1) of [Table 7](#) using the *ADR* dummy. The unreported results show that the coefficient for *UE*ADR* is positive and significant at the 1% level, suggesting that NPFs cross-listed in the US have a higher ERC, and therefore more informative earnings.

Table 8

Earnings persistence and foreign ownership.

Variable	Expected	Basic model (1)	Additional controls		1990–2000 period (4)	State ownership (5)
			ISIP (2)	FDI (3)		
<i>Intercept</i>	?	0.146 (0.341)	0.233 (0.495)	0.096 (0.224)	0.654 (1.232)	0.328 (0.928)
<i>FOR</i>	+	0.417 (1.973)**	0.416 (1.973)**	0.387 (1.812)**	0.505 (1.879)**	0.405 (1.972)**
<i>ISIP</i>	+		0.064 (0.612)			
<i>FDI</i>	+			1.008 (0.688)		
<i>STATE</i>	–					–0.452 (–2.400)***
<i>SIZE</i>	+	0.002 (0.087)	–0.007 (–0.234)	0.004 (0.156)	–0.028 (–0.884)	–0.002 (–0.081)
<i>ROA</i>	–	0.797 (1.332)	0.813 (1.356)	0.818 (1.355)	0.907 (1.402)	1.229 (1.951)*
<i>STD_ROA</i>	+	–0.469 (–1.864)*	–0.476 (–1.890)*	–0.480 (–1.892)*	–0.520 (–1.927)*	–0.250 (2.202)**
INDUSTRY EFFECTS		YES	YES	YES	YES	YES
YEAR EFFECTS		YES	YES	YES	YES	YES
COUNTRY EFFECTS		YES	YES	YES	YES	YES
Adj R ²		0.077	0.078	0.080	0.116	0.080
N		225	225	224	142	196

Notes: This table presents the least-squares estimation results for the multivariate analysis of earnings persistence and foreign ownership. In all models, we use the absolute value of Ball and Shivakumar's (2005) abnormal accruals as a proxy for earnings quality. The definitions and data sources of the variables are outlined in Appendix A. Beneath each estimate, the robust z-statistic is reported. Statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise, is denoted by ***, **, and *.

4.2.3. Foreign ownership and earnings persistence

Table 8 reports the results for the multivariate analysis of earnings persistence and foreign ownership. The results of Model 1 show that the coefficient for *FOR* is positive and highly significant. This finding, in agreement with H2, suggests that NPFs with higher foreign ownership have more persistent earnings. *FOR* is also economically highly significant, showing that an increase by one standard deviation in foreign ownership is associated with a 21.8% $(0.186 * (0.417)/0.355 = 0.218)$ increase in earnings persistence.²⁷

The results of Model 2 show that the coefficient for *FOR* remains positive and significant at the 1% level after controlling for international issue privatizations. The results of Model 3 show that the coefficient *FOR* remains positive and highly significant after controlling for foreign direct investment. Additionally, the results of Model 4 show that the coefficient for *FOR* remains positive and highly significant when we re-estimate our basic model for the 1990–2000 period. Furthermore, in Model 5, we control for state ownership. The results show that the coefficient for *STATE* is negative and significant at the 1% level and the coefficient for *FOR* is positive and highly significant, again supporting our earlier findings. Finally, we test the strength of our findings when *FOR* is replaced by the ADR dummy. The unreported results show that the coefficient for ADR is positive and significant at the 1% level, suggesting that cross-listed NPFs have more persistent earnings.

²⁷ We also re-estimate our basic model after excluding firms from transition economies. The unreported results suggest that *FOR* remains positive and significant, corroborating our earlier findings.

5. Additional tests

We introduce additional control variables to ensure the robustness of our findings.²⁸ First, we control for the quality of the legal environment by introducing the revised anti-director rights (*REV_ANTIDR*) from Djankov et al. (2008). Second, we control for the country's political economy using political risk rating (*PRISK*) from ICRG.²⁹ Third, we control for the development of capital markets using the ratio of stock market capitalization over GDP (*MARKET_SIZE*), in line with Leuz et al. (2003). The unreported results, for the sake of space, confirm our core findings displayed in tables from 3 to 8, indicating that state ownership is associated with greater discretionary abnormal accruals, lower earnings informativeness, and more transitory earnings, while foreign ownership is associated with smaller discretionary abnormal accruals, higher earnings informativeness, and more earnings persistence.

As an additional test, we also examine whether the impact of state ownership as well as foreign ownership varies with the privatization method.³⁰ We re-run Model 1 of Table 3, Model 1 of Table 4, and Model 2 of Table 5 separately for the sub-sample of firms privatized through SIPs and those privatized through private sale.³¹ The unreported results suggest that state ownership is associated with lower earnings quality only for the sub-sample of firms privatized through SIPs, supporting the conjecture that governments using SIPs tend to manipulate earnings (e.g., Dewenter and Malatesta (2001)). We also re-run Model 1 of Table 6, Model 1 of Table 7, and Model 1 of Table 8 separately for the sub-sample of firms privatized through SIPs and those privatized through private sale. The unreported results suggest that foreign ownership is associated with higher earnings quality for the subsample of firms privatized through SIPs and those privatized through private sale.

6. Foreign ownership, institutional environment, and earnings quality

In this section, we examine the impact of the institutional environment (i.e., government stability and legal investor protection) on the relationship between foreign ownership and earnings quality. We use the government stability index from ICRG. The index ranges from 0 to 12, with higher indexes denoting higher government stability. *GOVSTAB* measures the credibility of the government and its ability to implement its policies (Busse and Hefeker (2007)). We also use the investment profile index (*INVPROF*) from ICRG. *INVPROF* measures the risk of outright confiscation or forced nationalization by the state. It ranges from 0 to 12, with higher scores indicating a lower probability that the government will interfere in the economy to extract rents (e.g., Bushman and Piotroski, 2006). We expect that foreign ownership is associated with higher earnings quality in firms from countries with more stable governments and a lower risk of government expropriation.

We bisect our sample firms at the median value of *GOVSTAB* and re-run Model 1 of Table 6, Model 1 of Table 7, and Model 1 of Table 8 separately for sub-samples of firms from countries with high *GOVSTAB* and firms from countries with low *GOVSTAB*, respectively. The results for the discretionary abnormal accruals are reported in Models 1 and 2 of Table 9. We find that the coefficient for *FOR* is negative and highly significant only for the sub-sample of firms from countries with high *GOVSTAB*, supporting H3. The results for the analysis of the earnings response coefficients are reported in Models 5 and 6 of Table 9. We find that the coefficient for *UE*FOR* is positive and highly significant only for the sub-sample of firms from countries with high *GOVSTAB*, consistent with H3. The results for the earnings per-

²⁸ We thank the referee for suggesting to include these additional controls.

²⁹ The index includes: government stability, socio-economic conditions, investment risk, internal conflict, external conflict, corruption, military influence in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and the quality of bureaucracy. The original index ranges from 0 (high political risk) to 100 (low political risk). We inverted the original index from 100 to change the scaling from 100 (low political risk)-to-0 and from 0-to-100 (high political risk).

³⁰ Firms privatized through share-issue privatizations may have a lower quality of accounting information (Guedhami and Pittman, 2011). For example, Dewenter and Malatesta (2001) note that the evidence concerning share-issue privatization suggests that governments using this mode of privatization manipulate earnings just before issuing shares. There are also some studies (e.g., Teoh et al., 1998a,b, among others) that show that there is evidence of earnings management even prior to share issues of private firms. The authors also suggest earnings management prior to share issues might explain the long run negative stock performance of IPOs and SEOs.

³¹ We thank the referee for suggesting this test.

Table 9

The impact of the institutional environment on the relationship between foreign ownership and earnings quality.

Variable	GOVSTAB		INVPROF		Variable	GOVSTAB		INVPROF		Variable	GOVSTAB		INVPROF	
	(1) High	(2) Low	(3) High	(4) Low		(5) High	(6) Low	(7) High	(8) Low		(9) High	(10) Low	(11) High	(12) Low
<i>Panel A: Discretionary abnormal accruals</i>					<i>Panel B: Earnings response coefficients</i>					<i>Panel C: Earnings persistence</i>				
Intercept	0.160 (2.309)**	0.210 (5.091)***	0.185 (2.235)**	0.171 (7.141)***	Intercept	0.080 (0.519)	−0.032 (−0.216)	−0.058 (−0.312)	0.049 (0.265)	Intercept	0.273 (0.873)	0.048 (0.211)	0.250 (1.800)*	0.163 (0.580)
FOR	−0.054 (−2.306)**	−0.016 (−0.981)	−0.061 (−3.101)***	0.013 (0.824)	UE	0.301 (0.200)	1.085 (1.042)	1.311 (0.850)	0.145 (0.163)	FOR	0.861 (2.980)***	0.024 (0.080)	0.630 (2.643)***	0.284 (0.559)
SIZE	−0.010 (−2.433)***	−0.008 (−2.796)***	−0.007 (−1.549)*	−0.007 (−4.474)***	UE*FOR	3.429 (2.015)**	1.054 (0.829)	2.647 (1.699)**	0.731 (0.559)	SIZE	0.360 (0.908)	0.478 (1.963)**	0.453 (1.661)*	0.262 (0.864)
LEV	−0.077 (2.941)***	−0.020 (−0.719)	−0.053 (−1.952)**	−0.018 (−1.806)**	UE*SIZE	−0.020 (−0.139)	−0.078 (−1.265)	−0.133 (−1.064)	−0.034 (−0.630)	ROA	0.902 (0.792)	1.316 (1.171)	−0.018 (−0.023)	2.453 (1.529)
ROA	−0.043 (−0.237)	0.196 (2.107)**	0.064 (0.510)	0.134 (1.603)	UE*LEV	2.624 (1.372)	−0.348 (−0.889)	1.468 (1.408)	0.431 (0.930)	STD_ROA	−0.524 (−1.081)	1.379 (0.977)	−0.129 (−0.373)	1.143 (0.734)
AG	0.046 (3.261)***	−0.008 (−0.856)	0.035 (1.473)	0.007 (0.500)	UE*LOSS	−0.571 (−1.904)**	−0.282 (−0.925)	−0.568 (−1.270)	−0.147 (−0.508)	INDUSTRY EFFECTS	YES	YES	YES	YES
CFO	0.101 (1.014)	−0.161 (−1.977)**	−0.010 (−0.107)	−0.167 (−2.106)**	UE*MTB	−0.094 (−0.904)	0.030 (4.063)***	0.359 (1.290)*	0.027 (3.256)***	YEAR EFFECTS	0.151	0.129	0.130	0.195
CFO_VOL	−0.001 (−0.892)	0.001 (0.835)	0.003 (0.641)	0.000 (0.286)	INDUSTRY EFFECTS	YES	YES	YES	YES	N	108	116	147	77
LOSS	0.039 (2.787)***	0.028 (1.238)	0.039 (3.081)***	0.013 (1.142)	YEAR EFFECTS	0.174	0.120	0.178	0.131					
LNGDPC	0.006 (1.423)	−0.005 (−1.744)**	−0.002 (−0.383)	−0.003 (−0.850)	Adj R ²	178	204	188	194					
INDUSTRY EFFECTS	YES	YES	YES	YES	N									
YEAR EFFECTS	YES	YES	YES	YES										
Adj R ²	0.173	0.220	0.146	0.193										
N	253	252	352	153										

Notes: This table presents the results of our sub-sample analysis. The full sample consists of 350 privatized firms from 45 countries. All models report results for a period up to seven years i.e., from two years before privatization to four years after privatization, including the privatization year. The definitions and data sources of the variables are outlined in [Appendix A](#). Beneath each estimate, the robust z-statistic is reported. Statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise, is denoted by ***, **, and *.

sistence analysis are reported in Models 9 and 10 of Table 9. We find that the coefficient for *FOR* is positive and significant at the 1% level only for the sub-sample of firms from countries with high *GOV-STAB*, consistent with H3.

Additionally, we bisect our sample firms at the median value of *INVPROF* and re-run Model 1 of Table 6, Model 1 of Table 7, and Model 1 of Table 8 separately for sub-samples of firms from countries with high *INVPROF* and firms from countries with low *INVPROF*, respectively. The results reported in Models 3 and 4 of Table 9 show that the coefficient for *FOR* is negative and significant at the 1% level only for the sub-sample of firms from countries with high *INVPROF*, which also supports H3. Again consistent with H3, the results reported in Models 7 and 8 of Table 9 also show that the coefficient for *UE*FOR* is positive and highly significant only for the sub-sample of firms from countries with high *INVPROF*. Finally, the results reported in Models 11 and 12 of Table 9 show that the coefficient for *FOR* is positive and significant at the 1% level only for the sub-sample of firms from countries with high *INVPROF*, once again supporting H3.

Our results remain sound when we use of alternative institutional variables.³² We use the public enforcement index (*ENFORCEMENT*) from La Porta et al. (1998), which is the average of the following variables: (i) the efficiency of the judicial system, (ii) an assessment of rule of law, and (iii) the corruption index. A higher score indicates higher investor protection. The unreported results show that foreign ownership is associated with higher earnings quality only in the sub-sample with high investor protection (i.e., high *ENFORCEMENT*), corroborating our earlier findings. We also use the disclosure requirements index (*DISC_REQ*) from La Porta et al. (2006), a higher index implying stringent disclosure requirements. The unreported results show that foreign ownership is associated with higher earnings quality only in the sub-sample with high investor protection (i.e., high *DISC_REQ*), also reinforcing our earlier findings.

7. Conclusions

We chose to use the privatization framework as a testing laboratory to contribute to the sparse literature on the link between shareholders' identity and earnings quality. Specifically, we examine the impact of residual state ownership on earnings quality using the drastic change in ownership structure and incentives that occur around privatization, gathering an international sample of 350 newly privatized firms from 45 countries. We find robust evidence that state ownership is associated with lower earnings quality, even after controlling for standard firm- and country-level determinants of earnings quality. In particular, we find that state ownership is associated with greater abnormal accruals, lower earnings informativeness, and more transitory earnings. This result confirms the "political interference hypothesis" in that the state has greater incentives to report lower earnings quality to hide the potential tunneling of corporate resources for political purposes.

We also find that foreign ownership is associated with higher earnings quality in the following ways: (i) smaller abnormal accruals, (ii) higher earnings informativeness, and (iii) more persistent earnings. This finding supports the conjecture that foreign owners require higher earnings quality to prevent the expropriation of corporate resources by insiders. Moreover, we report evidence suggesting that the institutional environment conditions the relationship between foreign ownership and earnings quality. Above all, we find that foreign ownership is associated with higher earnings quality in firms from countries with more stable governments and a lower risk of government expropriation.

Our findings have several policy implications. First, the achievement of privatization objectives may not materialize when the government maintains the control of the privatized firm. In fact, our study shows that government control is associated with lower earnings quality, which may impede the expansion of popular capitalism and the development of local capital markets. Second, reducing barriers to foreign investment and improving the country-level corporate governance lead to higher earnings quality, which renders equity financing costs (Francis et al. (2004)), improves the efficiency of investment decisions (Biddle and Hilary, 2006) and fosters economic growth (Wurgler, 2000; Durnev et al., 2009).

³² We thank the referee for suggesting to use alternative institutional variables.

Appendix A

Variables, descriptions, and sources.

Variable	Description	Source
STATE	The stake held by the government	Authors' calculation
PARTIAL_PRIV	A dummy variable that is equal to one (1) if the firm still has some government ownership, and zero (0) otherwise	Authors' calculation
CONTROL	A dummy variable equal to one (1) if the government maintains control of the privatized firm and zero (0) otherwise	Authors' calculation
FOR	The stake held by foreign investors	Authors' calculation
ISIP	A dummy variable equal to one (1) for firms privatized on foreign stock markets and zero (0) otherwise	Authors' calculation
FDI	The ratio of foreign direct investment over GDP	World Development Indicators
AA_BALL	Absolute value of abnormal accruals estimated using Ball and Shivakumar's (2005) model outlined in Section 3.1	Authors' estimation
CAR	Cumulative 12-month stock returns ending three months after the firm's fiscal year end	Datastream
UE	The difference between the net income before extraordinary items at year t and the net income before extraordinary items at year $t - 1$ scaled by market value at year $t - 1$	Authors' calculation
PERSIS	The slope coefficient, β_1 , from the following times series regression: $\frac{NIBEI_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{NIBEI_{it-1}}{TA_{it-1}} + \varepsilon_{it}$ where $NIBEI_{it}$ is net income before extraordinary items for firm i at year t and TA_{it-1} total assets for firm at year t	Authors' calculation
SIZE	The logarithm of the firm's total sales in US dollars	Authors' calculation
LEV	The ratio of long-term debt to total assets	Authors' calculation
ROA	The ratio of net income to total assets	Authors' calculation
STD_ROA	The standard deviation of return on assets	Authors' calculation
AG	Assets growth for the year	Authors' calculation
CFO	Cash flow from operations calculated as the difference between net income before extraordinary items and current accruals scaled by the beginning of the year total assets	Authors' calculation
CFO_VOL	The volatility of Cash flow from operations	Authors' calculation
LOSS	A dummy variable equal to one (1) if the firm's net income is negative in a given year and zero (0) otherwise	Authors' calculation
MTB	The ratio of market value over book value	Authors' calculation
LNGDPC	The natural logarithm of GDP per capita	World Development

(continued on next page)

Appendix A (continued)

Variable	Description	Source
<i>REV_ANTIDR</i>	The revised anti-director rights index	Indicators Djankov et al. (2008)
<i>PRISK</i>	The ICRG political risk index. The components of this index are: government stability, socio-economic conditions, investment risk, internal conflict, external conflict, corruption, military influence in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and the quality of bureaucracy. A higher score indicates lower political risk. The original index ranges from 0 (high political risk) to 100 (low political risk). We subtract the original index from 100, so the scaling from 100 (low political risk)-to-0 and from 0-to-100 (high political risk)	ICRG
<i>MARKET_SIZE</i>	The ratio of stock market capitalization over GDP	World Development Indicators
<i>GOVSTAB</i>	The ICRG's assessment of the country's government stability. The index ranges from 0 to 12, with higher scores for more stable countries	ICRG
<i>INVPROF</i>	The ICRG's assessment of the risk of outright confiscation or forced nationalization by the state. The index ranges from 0 to 12, with higher scores for lower risk	ICRG

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