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State Ownership, Political Institutions, and Stock Price Informativeness: Evidence from Privatization ☆

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ABSTRACT

In this paper, we examine the relation between government ownership and stock price informativeness around the world. Using a sample of privatized firms from 41 countries between 1980 and 2012, we find strong and robust evidence that state ownership is associated with lower firm-level stock price variation, i.e., stock price informativeness. Furthermore, we find that the relation between state ownership and stock price informativeness depends on political institutions. In particular, the adverse effects of state ownership on stock price informativeness are more pronounced in countries with lower political rights (i.e., lower political constraints on the government).

1. Introduction

The information environment, particularly the degree to which firm-specific information is incorporated into stock prices (i.e., stock price informativeness), has recently drawn the interest of numerous scholars. One strand of literature examines the impact of economic development and legal investor protection on stock price informativeness. For instance, Morck et al. (2000) argue that stock price informativeness is lower (higher) in less economically developed countries that have weak investor protections (developed countries that have strong investor protections).[1] Some other emphasizes the quality of accounting

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[1] Morck et al. (2000) use GDP per capita as a measure of economic development.

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information. For example, Jin and Myers (2006) predict higher stock price informativeness in countries with a higher degree of transparency and a lower cost of acquiring private information.[2] Grossman and Stiglitz (1980) further show that a lower cost of acquiring private information encourages informed trading and facilitates the incorporation of firm-specific private information into stock prices, resulting in more informative stock prices. More recently, Kim and Shi (2010) show that enhanced disclosures via voluntary adoption of International Financial Reporting Standards (IFRS) are associated with higher stock price informativeness.

In this study, we extend the aforementioned studies by analyzing the importance of government ownership around the world to stock price informativeness. Specifically, we attempt to answer the following questions: Does the residual government ownership associated with a less transparent environment, which renders private information acquisition costly, discourage informed trading and impede the incorporation of firm-specific information into stock prices? Do the political characteristics of the government, and in particular the degree of political constraints on the government, affect the relation between state ownership and stock price informativeness?

Despite the large privatizations of state-owned enterprises (SOEs) that have occurred in both developing and developed countries, the state remains one of the most important shareholders around the world. Prior research (e.g., Bortolotti and Faccio, 2009; Boubakri et al., 2011) suggests that the state is reluctant to relinquish control in privatized firms even several years after privatization. As a particular shareholder, the state tends to pursue political objectives that do not coincide with profit maximization, for example, maintaining a high level of employment and promoting regional development by locating production in politically desirable rather than economically attractive regions (e.g., Dewenter and Malatesta, 2001; Megginson and Netter, 2001). The state therefore has incentives to tunnel corporate resources — and expropriate other shareholders — for political benefit. To hide this expropriation, governments may lead managers/bureaucrats in state-owned firms to manipulate earnings or selectively disclose accounting information, which results in a less informative environment. Since the collection of private firm-specific information is costly in a less transparent environment, state ownership may discourage informed trading, reducing the incorporation of firm-specific information (Grossman and Stiglitz, 1980) and hence leading to less informative stock prices. With this in mind, we investigate the impact of state ownership on stock price informativeness.

We conduct our research using a multinational sample of privatized firms for several reasons. First, as we mentioned above, the government often continues to be a shareholder in newly privatized firms, even several years after privatization (e.g., Bortolotti and Faccio, 2009; Boubakri et al., 2011), which provides us a natural laboratory to examine the impact of government intervention on stock price informativeness. Second, a worldwide sample of privatized firms involves firms from different countries with different political environments, which gives us a unique setting to investigate the impact of political institutions, in the presence of government participation, on the information environment, and in particular the degree to which firm-specific information is incorporated into stock prices.

Examination of these issues is timely and important for several reasons. First, the recent financial crisis was accompanied by an increase in government participation in bailed-out firms and state ownership appears to be an increasing trend. However, little is known about the link between the firm-level information environment and state participation around the world. Second, stock price informativeness is of paramount importance since it affects capital allocation (Wurgler, 2000; Durnev et al., 2004) and in turn economic growth (Durnev and Fauver, 2010; Wurgler, 2000). Indeed, Chen et al. (2007) show that stock price informativeness is associated with higher investment to stock price sensitivity (i.e., more efficient investments), which contributes to better resource allocation (Durnev et al., 2004; Wurgler, 2000) and ultimately economic growth (Durnev and Fauver, 2010; Wurgler, 2000). These considerations motivate our interest in studying the stock price informativeness of newly privatized firms (NPFs).

Using a multinational sample of privatized firms from 41 countries between 1980 and 2012, we provide strong and robust evidence that state ownership is associated with lower stock price informativeness. This result is consistent with the conjecture that state ownership is associated with a less transparent environment, which discourages investors from trading on private information and impedes the incorporation of private firm-specific information into stock prices. Furthermore, we find that lower political constraints magnify the impact of state ownership on stock price informativeness. In particular, we document that state ownership is associated with lower stock price informativeness in countries with lower political rights (i.e., fewer political constraints on the government). Our results are robust to the use of alternative proxies for the soundness of political institutions and alternative proxies for stock price informativeness.

Our paper contributes to the literature on firm-specific information by providing evidence that stock price informativeness is negatively related to state ownership around the world. In particular, our study is related to those of Brockman and Yan (2009), who examine the impact of block ownership on firm-specific information in the U.S. context; Gul et al. (2010), who examine the impact of government ownership on stock price synchronocity in the specific context of China; and Boubaker et al. (2014), who examine the influence of the divergence between control rights and ownership rights on firm-specific information in the specific context of France. The results of single-country studies could depend on the country's specific conditions. Our study extends this strand of literature using a multinational sample of firms from emerging/developing and advanced countries and the higher-power setting of NPFs. A worldwide sample allows us to examine how political institutions that vary across countries might affect firm-specific information in the presence of government participation.

[2] Similarly, Veldkamp (2006) develops a model in which stock price co-movement is higher, and hence stock price informativeness is lower, when the acquisition of private information is costly.

Our study is also related to cross-country studies that examine the impact of large shareholders on firm-specific information. For example, Bae et al. (2012) examine the impact of stock investiblity by foreign investors on the incorporation of global market information into stock prices in 21 emerging markets. In a more recent study, He et al. (2013) examine the relationship between large-scale foreign ownership and the informativeness of stock prices in 40 markets. We add to this literature by focusing on the role of a particular shareholder, the state. Indeed, as we have noted, the state tends to pursue political objectives that rarely coincide with profit maximization. It is therefore important to examine how the presence of the state as a residual shareholder in NPFs affects firm-specific information around the world.

Furthermore, our study adds to the literature on the impact of post-privatization ownership structure (e.g., Borisova and Megginson, 2011; Boubakri et al., 2005a) by focusing on stock price informativeness. Finally, our study contributes to the literature on the importance of the political environment for firms' post-privatization ownership structure (e.g., Bortolotti and Faccio, 2009; Boubakri et al., 2011) by examining how country-level political factors condition the relation between state ownership and stock price informativeness.

The paper is organized as follows. Section 2 develops our testable hypotheses. Section 3 describes the sample, presents our variables, and provides descriptive statistics. Section 4 presents our main empirical results. Section 5 summarizes our findings and concludes.

2. Hypothesis development

2.1. Government ownership and stock price informativeness

Unlike typical shareholders, governments generally pursue objectives other than profitability maximization — for example, maintaining a high level of employment and promoting regional development by locating production in politically desirable rather than economically attractive regions (e.g., Dewenter and Malatesta, 2001; Megginson and Netter, 2001). Boycko et al. (1996) argue that a greater emphasis will be put on profits and efficiency only if privatization transfers control and ownership from the government to private shareholders, who strive to maximize firm value.[3] In the same vein, Paudyal et al. (1998) argue that both the level of post-privatization political interference and the risk of renationalization (i.e., policy risk) are higher when the government sells a relatively low percentage of its capital. The government therefore has more incentives to tunnel corporate resources — and expropriate other shareholders — for political benefits. To hide this expropriation, managers/bureaucrats in state-owned firms may manipulate earnings and/or disclose selected accounting information, leading to a less transparent environment. Several empirical studies provide support for this view. For example, Wang et al. (2008) find that, in China, SOEs are more likely than private firms to hire smaller auditing companies. Similarly, using a worldwide sample of privatized firms, Guedhami et al. (2009) find that firms with greater state ownership are less likely to appoint Big Four auditors. In the same vein, Liu and Subramaniam (2013) show that, in China, SOEs have lower audit fees than non-SOEs. In addition, Chaney et al. (2011) find that politically connected firms have lower quality accounting information than their non-connected peers. More recently, Ben-Nasr et al. (forthcoming) show that privatized firms with a higher degree of state ownership report lower quality earnings, which is perceived by investors as an indication of tunneling of corporate resources.

The above arguments suggest that higher state ownership is associated with a less transparent environment, which makes collection of private firm-specific information costly and discourages informed trading. State ownership may therefore impede the incorporation of firm-specific information (Grossman and Stiglitz, 1980), resulting in less informative stock prices. Our first hypothesis is thus as follows:

H1. Stock price informativeness of privatized firms is negatively related to state ownership, all things being equal.

2.2. Political environment, state ownership, and stock price informativeness

Political institutions are important because they condition government incentives that are related to the political constraints of the country. Indeed, as Durnev and Fauver (2010) argue, since a government's accountability is lower under weak political constraints, the government's expropriation of corporate resources is expected to be more acute in countries with lower political constraints. Existing studies show that corporate transparency is lower under predatory governments (e.g., Bushman and Piotroski, 2006; Bushman et al., 2004; Durnev and Fauver, 2010). Lower transparency renders private information acquisition costly and discourages informed trading. As a result, government predation leads to less informative stock prices (Morck et al., 2000). We therefore expect that the adverse effects of state ownership on stock price informativeness are more pronounced in environments with lower political constraints. Our second hypothesis is thus as follows:

H2. The association between state ownership and stock price informativeness is stronger in environments with lower political rights.

[3] Several empirical studies support these predictions. Boardman and Vining (1989) compare the performance of private firms, SOEs, and partially privatized firms listed among the 500 largest non-U.S. industrial firms. They report that fully privatized firms outperform partially privatized firms and SOEs. Similarly, Boubakri et al. (2005b) find that, in developing countries, post-privatization performance improves more when the government relinquishes majority control. More recently, Fan et al. (2007) document lower accounting performance and post-IPO long-term performance for privatized Chinese firms when the government maintains control through political connections.

3. Sample and descriptive statistics

3.1. Sample

To investigate the impact of government ownership on stock price informativeness, we construct a sample of 482 privatized firms from 41 countries.[4] To do so we begin with Ben-Nasr et al.'s (2012) sample firms. We then update this sample using several data sources including *The World Bank*'s 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.[5] We obtain stock price data from Datastream.

Table 1 provides descriptive statistics about the sample firms. The 482 firms are diversified across geographical regions as categorized by the World Bank. Specifically, 7.68% are from Africa and the Middle East, 36.51% are from East and South Asia and the Pacific, 5.81% are from Latin America and the Caribbean, and 50.00% are from Europe and Central Asia. Our sample firms are also diversified across legal origin, with 77.80% of sample firms located in civil law countries and the remaining 22.20% located in common law countries. Geographical and legal diversification are important as they reflect different political and institutional environments that affect stock price informativeness (e.g., Morck et al., 2000). Our sample is also diversified across Campbell's (1996) industry classification, with 25.93% of firms in utilities, 12.03% in transportation, 1.87% in textiles/trade, and 2.28% in services. However, only 18.05% of privatization transactions occurred in the 1980s compared to 81.95% between 1990 and 2012.[6]

3.2. Measurement of stock price informativeness

Following prior research (e.g., Fernandes and Ferreira, 2008; Gul et al., 2011; Morck et al., 2000), we estimate our measure of firm-specific variation using a market and industry model. Specifically, we regress the weekly stock return of each firm in our sample on the current and prior week's value-weighted market return as well as the current and prior week's value-weighted industry return as in Brockman and Yan (2009), Kim and Shi (2010), and Beuselinck et al. (2010):

$$RET_{it} = \alpha_i + \beta_{1i} MARKET\_RET_{it-1} + \beta_{2i} MARKET\_RET_{it} + \beta_{3i} INDUST\_RET_{it-1} + \beta_{4i} INDUST\_RET_{it} + \varepsilon_{it} \ldots \quad (1)$$

where RET_{it} is the stock return for firm i in week t, $MARKET\_RET_{it}$ is the value-weighted market return in week t, and $INDUST\_RET_{it}$ is the value-weighted industry return for week t calculated using all firms from our sample countries listed on Worldscope in the industry to which firm i belongs. Industries are based on Campbell's (1996) classification. Lagged returns are introduced to account for the fact that market and industry information may be incorporated into stock prices with a delay. The logic of Model (1) is as follows. Stock prices are more informative when stock returns become less correlated with market and industry returns.

As with previous studies, we define firm-specific return variation (*SPI*) as a logistic transformation of the ratio of idiosyncratic volatility to total volatility ($1 - R^2$):

$$SPI = \log\left(\frac{1-R^2}{R^2}\right), \quad (2)$$

where R^2 is the coefficient of determination for Eq. (1). Higher values for *SPI* indicate higher firm-specific stock return variation relative to market-wide and industry-wide variation i.e., lower synchronicity with the market and the industry.

Stock returns for each firm and weekly market stock returns are obtained from Datastream using the total return index. To avoid problems with outliers, we winsorize our stock price informativeness at the 1st and 99th percentiles. Table 2 reports descriptive statistics for *SPI* by country. We observe a wide variation in *SPI* across countries. Indeed, *SPI* ranges from −0.128 in Russia to 2.795 in Mexico.

3.3. Ownership structure

We hand-collect data on the state ownership of our sample firms mainly relying on annual reports. We also use additional sources such as *Osiris*, *Worldscope*, *Moody's International*, *Kompass Egypt Financial Year Book*, Boubakri et al. (2005a), Megginson (2003), and Bortolotti and Siniscalco (2004). Table 3 reports descriptive statistics for state ownership. We find that average (median) state ownership is 20.7% (5.4%), supporting evidence in Bortolotti and Faccio (2009) and Boubakri et al. (2011) suggesting that the government remains a residual shareholder even several years after privatization.

[4] Our sample does not include firms privatized through direct sale and mass/voucher privatizations because these are not publicly traded and we cannot calculate our proxy for stock price informativeness for such firms. Our sample includes only firms privatized through Share Issue Privatizations (SIPs).

[5] Several privatization studies (e.g., Knyazeva et al., 2013) use the list of privatized firms in the Securities Data Corporation (SDC) database. We cross-check the presence of our sample firms in the SDC. All of our sample firms are also reported in the SDC database.

[6] Our sample firms largely represent privatization transactions that occurred in the late 1990s and early 2000s, especially in emerging markets, European transition economies, and China.

Table 1
Description of sample of newly privatized firms.

Distribution of Privatizations

By year

Year	Number	Percentage
1980	32	6.64
1983	1	0.21
1984	6	1.24
1985	6	1.24
1986	6	1.24
1987	17	3.53
1988	10	2.07
1989	9	1.87
1990	12	2.49
1991	14	2.90
1992	7	1.45
1993	14	2.90
1994	16	3.32
1995	36	7.47
1996	34	7.05
1997	39	8.09
1998	24	4.98
1999	21	4.36
2000	19	3.94
2001	20	4.15
2002	25	5.19
2003	54	11.20
2004	14	2.90
2005	7	1.45
2006	6	1.24
2007	3	0.62
2008	4	0.83
2009	7	1.45
2010	11	2.28
2011	2	0.41
2012	6	1.24
Total	482	100.00

By industry

Industry	Number	Percentage
Basic industries	69	14.32
Capital goods	20	4.15
Construction	24	4.98
Consumer durables	34	7.05
Finance/real estate	76	15.77
Food/tobacco	13	2.70
Leisure	13	2.70
Petroleum	30	6.22
Services	11	2.28
Textiles/trade	9	1.87
Transportation	58	12.03
Utilities	125	25.93
Total	482	100.00

By region

Region (countries)	Number	Percentage
Africa and the Middle East (4)	37	7.68
East and South Asia and the Pacific (11)	176	36.51
Latin America and the Caribbean (5)	28	5.81
Europe and Central Asia (21)	241	50.00
Total (41)	482	100.00

By legal origin

Category (countries)	Number	Percentage
Common Law (12)	107	22.20
Civil Law (29)	375	77.80
Total (41)	482	100.00

This table provides some descriptive statistics for the sample of 482 privatized firms from 41 countries used to investigate the impact of state ownership on stock price informativeness. We report the distribution of privatization in the countries included in the sample by year, industry, region, and legal origin.

We also use alternative measures of government intervention in NPFs. First, we use ultimate state ownership. To measure the ultimate control (voting) rights of the largest shareholders of our sample firms, we use the approach described in La Porta et al. (1999), Claessens et al. (2000), and Faccio and Lang (2002). Corporate ownership is measured by cash-flow rights, and control is measured by voting rights. Following Bortolotti and Faccio (2009), we define a large shareholder as an entity that, directly or indirectly, holds at least 10% of a privatized firm's voting rights. This approach takes into account ownership-leveraging devices such as pyramids, dual-class shares, cross-holdings, and multiple control chains. As can be seen from Table 3, the average (median) ultimate state ownership is 33.5% (34.6%).

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 Table 3 shows, *CONTROL* has an average of 0.209, suggesting that the government is a controlling shareholder in 20.9% of our sample firms. Third, we use a dummy variable (*PARTIAL_PRIV*) equal to one (1) if the firm still has some government ownership and zero (0) otherwise. The results show that *PARTIAL_PRIV* has an average of 0.968, suggesting that the government is a shareholder in 96.8% of our sample firms. Finally, we use a dummy variable equal to one (1) if the government retains a golden share in the privatized firm, and zero (0) otherwise.[7] The results in Table 3 indicate that the government retains a golden share in 35.3% (i.e., 161) of our sample firms.

[7] Following Bortolotti and Faccio (2009, page 2918), we define a golden share as "the system of the State's special powers and statutory constraints on privatized companies. Typically, special powers include (i) the right to appoint members in corporate boards; (ii) the right to consent to or to veto the acquisition of relevant interests in the privatized companies; (iii) other rights such as to consent to the transfer of subsidiaries, dissolution of the company, ordinary management, etc. The above mentioned rights may be temporary or not. Statutory constraints include (i) ownership limits; (ii) voting caps; (iii) national control provisions."

Table 2
Descriptive statistics by country.

Country	N	*SPI*	*STATE*	*POLRIGHTS*
Argentina	2	1.953	0.151	4.500
Australia	5	1.323	0.146	6.000
Austria	12	0.873	0.258	6.000
Belgium	4	1.109	0.366	6.000
Brazil	20	1.158	0.144	4.826
Chile	2	1.409	0.125	5.300
China	85	0.649	0.172	0.000
Czech Republic	5	0.821	0.204	6.000
Egypt	21	1.775	0.039	1.000
Finland	12	1.374	0.240	6.000
France	28	0.568	0.182	6.000
Germany	22	1.132	0.180	6.000
Greece	12	0.640	0.362	5.837
Hungary	8	1.087	0.103	6.000
India	35	0.943	0.391	5.000
Ireland	3	1.739	0.179	6.000
Israel	3	1.165	0.327	6.000
Italy	24	1.114	0.185	5.891
Japan	1	1.769	0.414	6.000
Jordan	9	2.228	0.263	1.551
Malaysia	13	0.892	0.301	2.654
Mexico	3	2.795	0.001	3.333
Netherlands	4	1.201	0.119	6.000
New Zealand	3	1.015	0.148	6.000
Norway	3	0.372	0.386	6.000
Pakistan	11	0.149	0.213	1.977
Philippines	6	0.619	0.186	4.258
Poland	30	0.948	0.166	6.000
Portugal	12	0.858	0.181	6.000
Russia	9	0.128	0.175	1.148
Singapore	5	0.854	0.349	2.258
South Africa	4	1.852	0.168	5.176
Spain	15	1.033	0.122	6.000
Sri Lanka	3	1.669	0.028	2.000
Sweden	10	1.248	0.145	6.000
Switzerland	1	1.475	0.517	6.000
Taiwan	1	2.397	0.218	5.500
Thailand	9	0.876	0.156	3.170
Turkey	13	0.536	0.197	3.923
United Kingdom	13	1.170	0.057	6.000
Venezuela	1	1.720	0.260	4.333

This table provides descriptive statistics by country for our proxy for stock price informativeness (*SPI*), state ownership (*STATE*), and political rights index (*POLRIGHTS*). The full sample comprises 482 firms privatized in 41 countries between 1980 and 2012. Descriptions and data sources for *SPI*, *STATE*, and *POLRIGHTS* are provided in Appendix 1.

3.4. Control variables

We control for foreign participation in privatized firms using the stake held by foreign institutional investors in NPFs. Foreign institutional ownership is collected from several sources, including annual reports, *Osiris*, *Worldscope*, *Moody's International* and *Kompass Egypt Financial Year Book*. Foreign ownership is associated with a higher-quality auditor (Guedhami et al., 2009) and higher earnings quality (Ben-Nasr et al., 2013). Foreign ownership renders the collection of private firm-specific information less costly and encourages informed trading. Consequently, higher value for *FOR* should be associated with more informative stock prices in NPFs (e.g., He et al., 2013). We also control for insider ownership (*INSIDER*) using the proportion of shares held by insiders from *Worldscope*. The empirical literature is still inconclusive regarding the impact of insider ownership on the quality of information transmission into stock prices. On the one hand, private insider ownership may alleviate agency problems between shareholders and insiders by increasing the incentives for insiders to maximize shareholders' wealth (incentive effect). On the other hand, insider ownership may reduce corporate performance because insiders have incentives to expropriate corporate resources (consumption of private benefits of control effect). Therefore, our hypothesis regarding the impact of insider ownership on stock price informativeness is non-directional and states that stock price informativeness is significantly related to insider ownership.

Following the recent literature on stock price informativeness (e.g., Gul et al., 2011; Loureiro and Taboada, 2012), we include a number of firm-level control variables. First, we control for firm size using the natural logarithm of the firm's total sales in U.S. dollars (log (*SIZE*)). We expect a negative coefficient on log (*SIZE*), indicating that stock price movements of large firms tend to be more synchronous with the movements of the market, i.e., less informative (e.g., Chan and Hameed, 2006; Xing and Anderson, 2011). Second,

Table 3
Descriptive statistics for regression variables.

Variable	Mean	Median	SD	Min	Q1	Q3	Max
SPI	0.957	0.832	1.098	−1.090	0.115	1.635	5.092
STATE	0.207	0.054	0.249	0.000	0.007	0.418	0.925
STATE_ULTIMATE	0.335	0.346	0.273	0.000	0.013	0.562	1.000
CONTROL	0.209	0.000	0.406	0.000	0.000	0.000	1.000
PARTIAL_PRIV	0.968	1.000	0.176	0.000	1.000	1.000	1.000
GOLDEN	0.353	0.000	0.478	0.000	0.000	1.000	1.000
FOR	0.146	0.041	0.217	0.000	0.002	0.204	1.000
INSIDER	0.445	0.510	0.284	0.000	0.216	0.666	1.000
SIZE	11.026	2.788	28.163	0.000	0.783	8.473	383.428
LEVERAGE	0.171	0.141	0.146	0.000	0.045	0.264	0.740
ROA	6.391	5.470	5.200	−6.460	2.640	9.150	28.520
MARKET TO BOOK	1.881	1.550	1.239	0.200	0.970	2.420	7.560
VOLUME	11.936	12.228	2.587	−0.693	10.319	13.705	22.872
HERFINDAHL_F	0.341	0.261	0.231	0.094	0.169	0.423	1.000
HERFINDAHL_I	0.441	0.119	0.657	0.000	0.013	0.680	4.000
ADR	0.284	0.000	0.451	0.000	0.000	1.000	1.000
ACOV	10.698	10.000	8.936	0.000	2.000	17.000	36.000
MARKET_SIZE	68.763	54.000	49.085	4.470	36.390	87.080	328.800
GDPC	20,243	15,475.4	17,223.1	410.8	4105	35,457.1	99,635.9
POLRIGHTS	4.579	6.000	2.115	0.000	4.000	6.000	6.000
POLCONV	0.618	0.740	0.284	0.000	0.681	0.775	0.894
EXCONST	6.023	7.000	1.546	1.000	6.000	7.000	7.000
DEMOCRACY	4.828	6.000	1.664	0.000	4.083	6.000	6.000

This table presents descriptive statistics for the regression variables used in our multivariate analysis of the impact of state ownership on stock price informativeness for a sample of 482 privatized firms from 41 countries between 1980 and 2012. The statistics are reported for a period of up to six years starting with the privatization year. Descriptions and data sources for the variables are provided in Appendix 1.

we control for leverage using the ratio of total debt to total assets (*LEVERAGE*). We expect a positive coefficient on *LEVERAGE*, indicating that more levered firms tend to have more firm-specific information incorporated into stock prices (Beuselinck et al., 2010). Third, we control for firm profitability using the ratio of net income to total assets (*ROA*).[8] We expect a negative coefficient on *ROA*, indicating that more profitable firms tend to have less informative stock prices (Gul et al., 2011). Fourth, we control for growth opportunities using the ratio of market value to book value (*MARKET TO BOOK*). We expect a positive coefficient on *MARKET TO BOOK*, indicating that firms with higher growth opportunities are more likely to have less synchronous, i.e., more informative, stock prices (Beuselinck et al., 2010). Fifth, we control for the firm's trading volume using the logarithm of traded shares (*VOLUME*). We expect a negative coefficient on *VOLUME*, indicating that actively traded firms tend to have more synchronous, i.e., less informative, stock prices (Chan and Hameed, 2006; Xing and Anderson, 2011). Sixth, because Fernandes and Ferreira (2008) show that cross-listing in the U.S. increases (decreases) stock price informativeness for firms from developed (emerging) countries, we control for *ADR*, a dummy variable equal to one (1) if the firm is cross listed on a major U.S. exchange (level 2 or 3 ADR) and zero (0) otherwise. Seventh, we control for analyst coverage (*ACOV*) measured as the number of analysts who provided estimates of the forecasted earnings per share reported in I/B/E/S. We expect a positive coefficient on *ACOV*, indicating that firms with higher analyst coverage have more informative stock prices (Chan and Hameed, 2006). Finally, we control for firm and industry concentration at the country level using the firm Herfindahl index, *HERFINDAHL_F*, and the industry Herfindahl index, *HERFINDAHL_I*. *HERFINDAHL_F* is defined as the sum of squares of market shares based on sales for each firm in each country in a given year. *HERFINDAHL_I* is defined as the sum of squares of market shares based on sales for each industry in each country in a given year. A high *HERFINDAHL_F* indicates that few large firms dominate the market and a *HERFINDAHL_I* indicates that few industries dominate the market. We expect that stock price informativeness is negatively related to *HERFINDAHL_F* and *HERFINDAHL_I* (Morck et al., 2000).

We also control for the several country-level control variables. First, we control for the level of economic development using the natural logarithm of GDP per capita (*Log* (*GDPC*)), which may affect stock price informativeness. Second, we control for financial development using the ratio of stock market capitalization to GDP (*MARKET_SIZE*). We expect a positive coefficient on both *LNGDPC* and *MARKET_SIZE*, indicating that firms from more economically and financially developed countries, respectively, tend to have more informative stock prices (Loureiro and Taboada, 2012). Table 3 reports descriptive statistics for our control variables.

Table 4 provides Pearson correlation coefficients between the regression variables. The correlation coefficients that are significant at the 1% level are highlighted in bold. Consistent with our predictions in H1, we find that *STATE* is significantly (at the 1% level) and negatively correlated with *SPI*. As for the control variables, we report several significant correlations that are consistent with our predictions. We generally report low correlation coefficients between state ownership and our control variables, mitigating concerns that multicollinearity could affect our regression results.

[8] We thank the reviewer for suggesting the use of *ROA* as a proxy for profitability. *ROA* is preferable to *ROE* for several reasons. For example, Grullon et al. (2005) argue that "*ROA* is not affected by factors such as special items (i.e., unusual and nonrecurring items reported before taxes), accounting for minority interest, and income taxes that usually obscure the *ROE*" (p. 1671). Our results are also robust to the use of *ROE* as a proxy for profitability.

Table 4
Pearson correlation coefficients.

Variable	*SPI*	*STATE*	*STATE_ULTIMATE*	*CONTROL*	*PARTIAL_PRIV*	*GOLDEN*	*FOR*	*INSIDER*	*Log (SIZE)*	*LEVERAGE*
STATE	−0.07									
STATE_ULTIMATE	−0.08	0.85								
CONTROL	−0.08	0.85	0.74							
PARTIAL_PRIV	−0.17	0.15	0.42	0.09						
GOLDEN	−0.22	−0.15	−0.15	−0.18	−0.02					
FOR	−0.03	−0.16	−0.16	−0.15	0.01	−0.01				
INSIDER	−0.01	0.22	0.26	0.20	0.14	−0.19	−0.02			
Log (SIZE)	−0.21	−0.09	−0.11	−0.05	0.06	0.14	0.04	−0.14		
LEVERAGE	0.02	−0.08	−0.09	−0.06	0.05	0.11	0.03	−0.08	0.17	
ROA	0.06	−0.04	−0.04	−0.01	−0.09	0.05	−0.02	0.04	−0.11	−0.08
MARKET TO BOOK	0.10	−0.07	−0.02	−0.05	−0.01	−0.06	0.01	0.01	0.06	0.03
VOLUME	−0.25	−0.08	0.02	−0.03	−0.02	0.23	−0.05	−0.09	0.41	0.12
HERFINDAHL_F	0.14	0.12	−0.05	0.07	−0.20	−0.02	−0.07	−0.06	−0.04	0.03
HERFINDAHL_I	0.02	0.05	−0.01	0.04	−0.30	0.11	−0.04	−0.06	0.10	0.08
ADR	−0.14	−0.06	−0.04	−0.02	−0.03	0.25	0.00	−0.10	0.38	0.14
ACOV	−0.14	0.07	−0.02	0.09	−0.06	0.08	0.01	−0.05	0.41	0.20
MARKET_SIZE	0.16	0.00	0.05	0.01	−0.05	−0.04	−0.10	0.00	0.09	0.00
Log (GDPC)	0.05	−0.21	−0.27	−0.17	0.00	0.09	0.08	−0.18	0.39	0.29
POLRIGHTS	0.08	0.04	−0.20	0.01	−0.04	0.01	0.04	−0.17	0.25	0.23
POLCONV	0.06	0.05	−0.21	0.02	−0.02	0.08	0.00	−0.16	0.25	0.21
EXCONST	0.07	0.05	−0.01	0.02	−0.02	0.05	0.03	−0.12	0.21	0.21
DEMOCRACY	0.08	0.01	−0.18	−0.01	−0.01	−0.01	0.05	−0.15	0.24	0.21

This table presents Pearson pairwise correlation coefficients between the regression variables for a sample of 482 firms privatized in 41 countries between 1980 and 2012. Boldface indicates statistical significance at the 1% level. The statistics are reported for a period of up to six years starting with the privatization year. Descriptions and data sources for the variables are provided in Appendix 1.

4. Results

4.1. Main evidence

To test the relation between the stake of the state in privatized firms and stock price informativeness, we estimate several specifications of the following model:

$$SPI_{it} = \delta_0 + \delta_1 STATE_{it} + \delta_2 CONTROLS_{it} + \gamma_i + \gamma_t + \varepsilon_{it}, \quad (3)$$

where SPI_{it} is our estimate of the stock price informativeness of firm i in year t based on Eq. (1), $STATE_{it}$ is the state's stake in firm i in year t, $CONTROLS_{it}$ comprises the firm- and country-level variables (log (*SIZE*), *LEVERAGE*, *ROA*, *MARKET TO BOOK, VOLUME, HERFINDAHL_F, HERFINDAHL_I*, *ADR*, *ACOV*, *MARKET_SIZE*, and log (*GDPC*)), γ_i and γ_t are firm and year dummies controlling for firm- and year-fixed effects, and ε_{it} is the error term. γ_i and γ_t are included in Eq. (3) to address the selection bias problem that privatization studies are subject to (Megginson and Netter, 2001).[9]

Model 1 of Table 5 reports firm- and year-fixed effects estimation results obtained by regressing stock price informativeness on state ownership. In all models, we control for foreign institutional and insider ownership as well as for firm- and country-level determinants of stock price informativeness. Our basic regression, Model 1, which includes *STATE* and the control variables, confirms our prediction in H1 that the stock price informativeness of NPFs is decreasing under state ownership. More precisely, we find that the coefficient on *STATE* is negative and statistically significant at the 1% level, suggesting that higher state ownership is associated with higher post-privatization political interference, and hence with lower transparency and lower firm-level stock price variation. We can interpret this evidence as implying that governments may lead managers/bureaucrats in state-owned firms to manipulate earnings or disclose selected accounting information in order to hide the expropriation of corporate resources for political purposes, which results in lower transparency. The latter renders private information acquisition costly and discourages informed trading, reducing the incorporation of firm-level private information into stock prices. The coefficient on *STATE* is also economically highly significant, indicating that a one-standard-deviation increase in state ownership is associated with a 8.56% decrease in stock price informativeness.[10]

To test the robustness of this result we use alternative proxies for state involvement in privatized firms. First, in Model 2 we replace direct state ownership, *STATE*, in our basic regression by ultimate state ownership, *STATE_ULTIMATE*. Although using ultimate ownership results in a smaller sample, the results show that the coefficient on *STATE_ULTIMATE* is negative and significant at the 1% level, in line with our previous finding. *STATE_ULTIMATE* is also economically highly significant, with a one-

[9] The selection bias problem may be related to the fact that governments tend to privatize profitable firms first (Megginson and Netter, 2001). Additionally, governments are less likely to relinquish control in firms from strategic industries (Boubakri et al., 2011). As a result, state ownership may be related to some unobservable firm characteristics.

[10] The average *SPI* in our full sample period is 0.957. The coefficient on *STATE* is equal to −0.348. The standard deviation of state ownership in our sample is 0.249. A one-standard-deviation increase in *STATE* is associated with a 9.05% decrease in stock price informativeness (−0.329*0.249/0.957) = −8.56%).

ROA	MARKET TO BOOK	VOLUME	HERFINDAHL_F	HERFINDAHL_I	ADR	ACOV	MARKET_SIZE	LNGDPC	POLRIGHTS	POLCONV	EXCONST
0.42											
−0.06	−0.01										
0.10	0.06	−0.06									
0.00	0.00	0.10	0.26								
0.05	0.08	0.30	0.14	0.08							
0.01	0.12	0.19	0.03	0.13	0.27						
0.18	0.27	0.15	0.09	0.10	0.07	0.07					
−0.19	0.07	−0.04	0.11	0.03	0.16	0.23	0.07				
−0.10	0.07	−0.27	0.19	0.05	0.04	0.18	−0.10	0.59			
−0.08	0.05	−0.25	0.16	0.04	0.04	0.19	−0.04	0.52	0.88		
−0.06	0.05	−0.24	0.18	0.08	0.00	0.14	−0.17	0.44	0.94	0.83	
−0.05	0.07	−0.27	0.15	0.05	0.00	0.14	−0.04	0.48	0.93	0.87	0.91

standard-deviation increase in *STATE_ULTIMATE* associated with a 19.62% decrease in state ownership. Second, in Model 3 we replace *STATE* in our basic regression by *CONTROL*, a dummy variable equal to one (1) if the state holds more than 50% of a privatized firm's shares and zero (0) otherwise. The results show that the coefficient on *CONTROL* is negative and significant at the 1% level, suggesting that informed trading is less likely to occur and prices are less informative when a government maintains control over the privatized firm. *CONTROL* is also economically highly significant, with a change in *CONTROL* from 0 to 1 (i.e., from a non-government-controlled firm to a government-controlled firm) decreaseing *SPI* by 0.205, which is a 21.42% decrease relative to the mean value of *SPI*. Third, in Model 4 we replace *STATE* by *PARTIAL_PRIV,* a dummy variable equal to one (1) if the firm still has some government ownership and zero (0) otherwise. The results show that the coefficient on *PARTIAL_PRIV* is negative and significant at the 1% level, implying that partial privatization is associated with lower firm-level stock price variation compared to full privatization. The coefficient is also highly economically significant, with a change in *PARTIAL_PRIV* from 0 to 1 (i.e., from a fully privatized firm to a partially privatized firm) decreasing *SPI* by 0.571, which is a 59.66% decrease relative to the mean value of *SPI.* Finally, in Model 5 we replace *STATE* by *GOLDEN*, a dummy variable equal to one (1) if the government retains a golden share in the privatized firm and zero (0) otherwise. The results show that the coefficient on *GOLDEN* is negative and significant at the 1% level, suggesting that firm-level stock price informativeness is lower for firms with a golden share compared to firms without a golden share. *GOLDEN* is also highly economically significant, with a change in *GOLDEN* from 0 to 1 (i.e., from a firm in which the government does not retain a golden share to a firm in which the government retains a golden share) decreasing *SPI* by 0.275, which is a 28.73% decrease relative to the mean value of *SPI*. Overall, these findings imply that our inferences on the link between the government's influence over privatized firms and stock price informativeness are not affected by our choice of state-involvement variable.

We report several significant relations between the control variables and stock price informativeness, which are generally consistent with our predictions and prior literature. The coefficient on *VOLUME* is negative and significant at the 1% level across all specifications, consistent with Chan and Hameed (2006) and Xing and Anderson (2011), suggesting that the stock prices movements of large firms and actively traded firms are more synchronous with the movements of the market, i.e., less informative. Furthermore, we find that the coefficient on *MARKET_SIZE* is positive and significant at the 1% level across all specifications, suggesting that firms from more financially developed countries have more informative stock prices.

4.2. Endogeneity of state ownership

One potential concern with the analysis above is that *STATE* may not be exogenous. For instance, state ownership may be governed by unobserved variables that also affect stock price informativeness, which can lead to biased and inconsistent estimates. Furthermore, the government may retain a stake in a firm in a strategic industry for national security reasons, which may introduce bias into our analysis of the impact of state ownership on stock price informativeness. While we address this issue above using the firm- and year-fixed effects model, in this section we further mitigate these concerns using the instrumental variable approach, the Heckman (1979) two-stage approach, and the dynamic GMM approach (see Table 6).

Table 5
Government ownership and stock price informativeness.

Variable	Prediction	*STATE*	*STATE_ULTIMATE*	*CONTROL*	*PARTIAL_PRIV*	*GOLDEN*
		(1)	(2)	(3)	(4)	(5)
STATE	−	−0.329				
		(−2.708)***				
STATE_ULTIMATE	−		−0.688			
			(−2.826)***			
CONTROL	−			−0.205		
				(−2.573)***		
PARTIAL_PRIV	−				−0.571	
					(−3.104)***	
GOLDEN	−					−0.275
						(−2.515)***
FOR	−	0.126	−0.178	0.133	0.133	−0.051
		(1.018)	(−0.645)	(1.097)	(1.054)	(−0.253)
INSIDER	?	0.029	0.110	0.027	0.034	−0.050
		(0.295)	(0.549)	(0.268)	(0.291)	(−0.242)
Log (SIZE)	−	−0.017	−0.091	−0.010	−0.068	−0.071
		(−0.579)	(−1.515)	(−0.338)	(−1.224)	(−1.188)
LEVERAGE	+	0.582	−0.144	0.570	−0.094	0.401
		(2.500)***	(−0.491)	(2.441)***	(−0.319)	(0.799)
ROE	−	−0.005	−0.012	−0.006	−0.009	−0.010
		(−0.899)	(−1.853)**	(−0.973)	(−1.330)*	(−0.813)
MARKET TO BOOK	+	0.023	−0.003	0.020	0.007	−0.020
		(0.938)	(−0.098)	(0.808)	(0.252)	(−0.792)
VOLUME	−	−0.132	−0.131	−0.127	−0.164	−0.174
		(−6.734)***	(−4.354)***	(−6.469)***	(−6.133)***	(−5.100)***
HERFINDAHL_F	−	0.628	−0.114	0.610	0.268	−0.201
		(4.032)***	(−0.433)	(3.755)***	(1.565)	(−0.870)
HERFINDAHL_I	−	0.131	−0.004	0.144	−0.024	−0.123
		(2.831)***	(−0.052)	(3.087)***	(−0.410)	(−2.389)***
ADR	?	−0.244	−0.228	−0.268	−0.002	−0.085
		(−2.525)**	(−1.218)	(−2.816)***	(−0.004)	(−0.543)
ACOV	+	−0.012	−0.009	−0.013	−0.020	−0.034
		(−2.857)***	(−1.245)	(−3.081)***	(−3.534)***	(−5.371)***
MARKET_SIZE	+	0.007	0.007	0.006	0.007	0.010
		(7.745)***	(4.945)***	(7.604)***	(7.714)***	(7.265)***
Log (GDPC)	+	−0.040	0.042	−0.034	0.074	0.136
		(−1.255)	(0.778)	(−1.010)	(0.798)	(1.760)**
Intercept	?	2.554	4.689	3.399	3.293	4.260
		(6.428)***	(6.119)***	(3.713)***	(4.180)***	(4.726)***
R^2		0.400	0.385	0.421	0.541	0.476
N		2036	1013	2036	2036	1087

This table presents fixed effects estimation results obtained by regressing stock price informativeness (*SPI*) on state ownership and control variables. The full sample includes 482 firms privatized in 41 countries between 1980 and 2012. Robust *z*-statistics are shown below each estimate. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made and two-tailed otherwise. Descriptions and data sources for the variables are provided in the Appendix.

The results of the instrumental variable approach are reported in Models 1 and 2 of Table 6. We use political orientation as an instrument for *STATE*. Specifically, we use a dummy variable (*LEFT*) equal to one (1) if the government is left-oriented, and zero (0) otherwise. Left-wing governments are less likely to introduce market-supporting reforms and thus should be less committed to privatization. Consequently, complete privatization is less likely to occur under left-wing governments (Bortolotti and Faccio, 2009). We therefore expect a positive association between *STATE* and *LEFT*.

In the first stage, we predict *STATE* on the basis of *LEFT* and the other independent variables used in our basic model. The results, reported in Model 1 of Table 6, show that *LEFT* loads positive and significant at the 1% level, supporting the conjecture that left-wing governments are less committed to market reforms and are less likely to be associated with complete privatization. In the second stage, we use the first-stage fitted values as instruments for *STATE*. The results, reported in Model 2 of Table 6, show that the coefficient on *STATE* remains negative and significant at the 1% level, corroborating our earlier findings. We are aware of the potential limitations of using political orientation as an instrument for state ownership. In fact, political orientation may also affect information acquisition costs and the incentives to engage in informed trading, hence stock price informativeness. We address this issue in two ways. First, we run over-identification tests to ensure the validity of *LEFT* as an instrument for state ownership. We follow Larcker and Rusticus (2010, p. 190) and perform an over-identifying restriction test — that is, we regress the residuals of the second stage on the exogenous variables (i.e., *LEFT* and the control variables). We find that the explanatory variables are jointly not significant, suggesting that *LEFT* is exogenous. Second, we address the endogeneity issue related to state ownership using the dynamic GMM approach.[11]

[11] 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 6
Endogeneity of government ownership.

Variable	Prediction	Instrumental variable		Heckman		Dynamic GMM
		1st Stage	*2nd Stage*	*1st Stage*	*2nd Stage*	
		(1)	(2)	(3)	(4)	(5)
STATE	−		−2.868		−0.622	−0.370
			(−2.935)***		(−2.780)***	(−1.681)**
SPI_{t-1}	+					0.295
						(6.918)***
SPI_{t-2}	+					0.048
						(1.699)*
FOR	+	0.054	−0.072	−0.243	0.074	−0.104
		(2.847)***	(−0.610)	(−0.760)	(0.610)	(−0.493)
INSIDER	?	0.055	−0.005	1.239	−0.085	−0.173
		(2.249)**	(−0.054)	(5.105)***	(−0.733)	(−3.364)***
Log (SIZE)	−	−0.047	−0.050	0.208	−0.085	−0.009
		(−3.173)***	(−2.320)**	(4.386)***	(−0.989)	(−0.257)
LEVERAGE	+	−0.096	0.606	1.804	−0.370	0.337
		(−1.359)	(3.096)***	(2.743)***	(−1.148)	(0.780)
ROA	−	−0.002	−0.002	−0.035	−0.010	−0.004
		(−1.241)	(−0.366)	(−2.545)***	(−1.335)*	(−0.861)
MARKET TO BOOK	+	−0.002	0.003	−0.029	0.008	−0.027
		(−0.343)	(0.145)	(−0.390)	(0.288)	(−0.570)
VOLUME	−	−0.014	−0.117	−0.089	−0.178	−0.094
		(−2.273)**	(−9.019)***	(−2.315)**	(−6.542)***	(−4.162)***
HERFINDAHL_F	−	0.109	0.598	−1.358	0.194	0.281
		(2.882)***	(4.729)***	(−5.816)***	(1.111)	(1.181)
HERFINDAHL_I	−	−0.018	0.005	−0.340	−0.036	0.096
		(−1.440)*	(0.125)	(−7.350)***	(−0.426)	(1.264)
ADR	?	0.078	−0.191	−0.046	−0.354	−0.160
		(0.904)	(−2.793)***	(−0.300)	(−0.996)	(−1.261)
ACOV	+	0.002	−0.012	−0.023	−0.024	−0.004
		(1.684)**	(−3.639)***	(−2.432)**	(−3.715)***	(−0.617)
MARKET_SIZE	+	0.000	0.005	0.002	0.007	0.005
		(1.535)*	(7.444)***	(1.379)*	(7.450)***	(3.113)***
Log (GDPC)	+	−0.187	0.018	−0.187	0.014	−0.069
		(−7.729)***	(0.654)	(−2.488)**	(0.112)	(−1.581)
LEFT	?	0.047		0.434		
		(3.321)***		(3.040)***		
LAMBADA	?				0.045	
					(0.146)	
Intercept	?	2.628	2.548	0.282	4.143	2.268
		(16.232)***	(8.277)***	(0.345)	(4.818)***	(4.090)***
R^2		0.653	0.270		0.544	
AR(1) test (p-value)						0.000
AR(2) test (p-value)						0.197
Hansen test (p-value)						0.993
N		2036	2036	2036	2036	1960

This table presents the results of instrumental variable and Heckman's (1979) two-stage approaches to addressing potential endogeneity problems with state ownership. The full sample includes 482 firms privatized in 41 countries between 1980 and 2012. Definitions and data sources for the variables are provided in Appendix 1. Robust z-statistics are reported beneath the estimates. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, one-tailed when directional predictions are made and two-tailed otherwise.

The results of the Heckman (1979) two-stage approach are reported in Models 3 and 4 of Table 6. In the first stage, we estimate a probit model to predict a dummy variable equal to one (1) if the government holds a stake in the privatized firm and zero (0) otherwise (*PARTIAL_PRIV*) using *LEFT*, the rest of the independent variables in our basic model, as well as industry-, year-, and country-fixed effects. The results of the first stage are reported in Model 3 of Table 6. As we can see, *LEFT* loads positive and significant at the 1% level, suggesting that left-wing governments are more likely to retain a stake in newly privatized firms. In the second stage, we regress *SPI* on *STATE*, our control variables, industry-, year-, and country-fixed effects, as well as the inverse Mills ratio (*LAMBADA*) calculated in the first stage. The results reported in Model 4 of Table 6 show that the coefficient on *STATE* remains negative and significant at the 1% level, suggesting that our findings are not affected by selection bias.

Finally, we estimate dynamic GMM regressions following Wintoki et al. (2012) to address the endogeneity concerns related to unobservable heterogeneity, simultaneity, and reverse causality.[12] The results are reported in Model 5 of Table 6. Although the significance of STATE is slightly weaker in this Model compared to the OLS regression (Model 1 of Table 5), we still report a negative relation between state ownership and stock price informativeness. The results of The AR (1) and AR (2) first-order and second-order

[12] We thank the reviewer for suggesting this approach.

serial correlation tests and the Hansen test of exogeneity of our instruments are also reported in Model 5. As can be observed, the AR (1) test displays a p-value of 0.000, suggesting that the null hypothesis of no first-order serial correlation is strongly rejected. However, the AR (2) test displays a p-value of 0.197, suggesting that the null hypothesis of no second-order serial correlation cannot be rejected. Hence, two lags of *SPI* are sufficient to capture the dynamic endogeneity. The Hansen test displays a p-value of 0.993, suggesting that the subset of instruments used is exogenous.

4.3. Sub-sample analysis

In this section, we examine the impact of political institutions on the relationship between state ownership and stock price informativeness. We re-run our basic model (Model 1 of Table 5) separately for sub-samples based on the first quartile of the political rights index (*POLRIGHTS*) from Freedom House (2014).[13, 14] As explained by Qi, Roth, and Wald (2010), "A higher political rights rating indicates a political system that includes free and fair elections, those who are elected rule, competitive political parties or other political groupings, the opposition plays an important role and has actual power, and minority groups have reasonable self-government or can participate in the government through informal consensus" (p. 207). The original index ranges from 1 to 7, with a higher score indicating lower political rights. To be consistent with the rest of our political variables, we subtract the original index from 7. The resulting index ranges from 0 to 6, with a higher score indicating greater political constraints on the government, and hence less likelihood of unilateral policy changes afterward (Henisz, 2004, 2005). The results reported in Models 1 and 2 of Table 7 show that the coefficient on *STATE* is negative and significant at the 1% level for the sub-sample of firms from countries with a low political rights index, suggesting that the adverse effects of state ownership on stock price informativeness are more pronounced in countries with less political constraints on the government. An F-test shows that the difference in coefficients between the low *POLRIGHTS* sub-sample and the high *POLRIGHTS* sub-sample is significant at the 1% level. These findings are consistent with the conjecture that government accountability is lower under weaker political constraints, and thus potential government expropriation is more acute.

In the rest of Table 7, we report results of the sub-sample analysis based on alternative political variables. First, we repeat our sub-sample analysis using the first quartile of Henisz's (2000) assessment of a country's political constraints (*POLCONV*) instead of *POLRIGHTS* to divide our sample into high and low political constraints sub-samples. A higher score for *POLCONV* indicates stronger political constraints on the government. The results are reported in Models 3 and 4. As we can see, *STATE* is negative and significant at the 1% level only for the low *POLCONV* sub-sample. An F-test shows that the difference in coefficients between the low and high *POLCONV* sub-samples is significant at the 1% level. These results suggest that the adverse effects of state ownership on stock price informativeness are more pronounced in countries with lower constraints on the government, and hence a higher risk of political interference (Henisz, 2004, 2005).

Models 5 and 6 report results of the sub-sample analysis based on the first quartile of POLITY IV's assessment of the extent of constraints on the decision-making power of the government's chief executive (*EXCONST*) instead of *POLRIGHTS*. A higher score for *EXCONST* implies stronger political constraints on government executives. Our results again remain qualitatively unchanged. In particular, we find that the coefficient on *STATE* is negative and significant at the 1% level only for the low *EXCONST* sub-sample. An F-test shows that the difference in coefficients between the low and high *EXCONST* sub-samples is significant at the 1% level. These findings imply that lower constraints on the decision-making power of the government's chief executive magnifies the impact of state ownership on stock price informativeness. Models 7 and 8 report the results of the sub-sample analysis based on the first quartile of ICRG's assessment of a country's level of democracy (*DEMOCRACY*). A higher score for *DEMOCRACY* implies lower checks and balances (i.e., less political constraints on the government), and hence greater risk of political interference in the firm's operations. The coefficient on *STATE* is negative and highly significant only for the low *DEMOCRACY* sub-sample. We also find that the difference in coefficients between the low and high *DEMOCRACY* sub-samples is significant at the 1% level. These results corroborate our earlier findings and suggest that the adverse effects of state ownership on the incorporation of private information into stock prices are more pronounced in less democratic countries, consistent with the conjecture that less democratic countries have less political constraints on the government and hence more risk of political interference.

4.4. Alternative proxies for stock price informativeness

We next employ alternative proxies for stock price informativeness to ensure the robustness of our findings. First, in line with Fernandes and Ferreira (2008, 2009) and Fresard (2012), we use Llorente et al. (2002) measure of private information trading. To calculate this measure, for each firm-year observation we estimate the following regression using weekly stock returns (R_{it}):

$$R_{it} = \alpha_i + \gamma_i R_{i,t-1} + \theta_i R_{i,t-1} V_{i,t-1} + \varepsilon_{it}, \quad (4)$$

[13] As shown in Table 3, the median equals the maximum value of *POLRIGHTS*. To ensure that our findings are not driven by particular countries, we split our sample based on the first quartile of *POLRIGHTS* rather than on the median of *POLRIGHTS*.

[14] We use the full time-series of the political rights index. We are aware that the political rights index is sticky and the impact of political rights on the relation between state ownership and stock price informativeness is likely due to cross-country rather than within-country variation in the political rights index. To ensure robustness of our results, we use the average of the political rights index over our sample period, instead of the annual value of this index. The unreported results show that our results remain qualitatively unchanged.

Table 7
Government ownership and stock price informativeness: sub-sample analysis.

Variable	Prediction	*POLRIGHTS*		*POLCONV*		*EXCONST*		*DEMOCRACY*	
		High	Low	High	Low	High	Low	High	Low
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STATE	?	−0.044	−0.689	−0.192	−0.972	−0.142	−0.868	−0.197	−0.827
		(−0.273)	(−2.445)**	(−1.309)	(−3.180)***	(−1.069)	(−2.446)***	(−1.474)	(−2.435)***
FOR	+	−0.054	0.031	−0.046	0.605	−0.191	0.490	−0.200	0.276
		(−0.379)	(0.115)	(−0.346)	(2.541)***	(−1.567)	(1.859)**	(−1.555)	(0.970)
INSIDER	?	0.180	−0.023	0.407	−0.065	0.269	−0.039	0.165	−0.164
		(1.264)	(−0.118)	(3.159)***	(−0.320)	(2.552)**	(−0.169)	(1.414)	(−0.795)
Log (SIZE)	−	−0.135	0.058	−0.119	0.061	−0.117	−0.034	−0.122	0.085
		(−3.008)***	(0.926)	(−3.412)***	(0.812)	(−4.449)***	(−0.489)	(−4.417)***	(1.341)
LEVERAGE	+	0.320	−0.624	0.629	0.893	0.222	0.805	0.346	0.850
		(0.994)	(−1.013)	(2.435)***	(1.241)	(1.116)	(1.140)	(1.486)*	(1.227)
ROA	−	−0.007	−0.022	−0.007	−0.015	−0.008	−0.018	−0.005	−0.005
		(−0.952)	(−1.805)**	(−0.900)	(−1.189)	(−1.261)	(−1.436)*	(−0.679)	(−0.467)
MARKET TO BOOK	+	−0.001	0.073	−0.032	0.050	0.013	0.044	−0.007	0.069
		(−0.035)	(1.249)	(−1.171)	(0.745)	(0.534)	(0.670)	(−0.283)	(1.250)
VOLUME	−	−0.112	−0.186	−0.080	−0.185	−0.085	−0.155	−0.078	−0.175
		(−4.114)***	(−4.845)***	(−3.940)***	(−4.575)***	(−5.352)***	(−4.714)***	(−4.465)***	(−5.035)***
HERFINDAHL_F	−	0.197	0.463	0.370	0.567	0.210	1.248	0.443	1.328
		(1.042)	(1.581)	(1.936)*	(1.689)*	(1.444)	(3.438)***	(2.717)***	(3.279)***
HERFINDAHL_I	−	0.014	−0.031	0.052	0.010	0.128	0.268	0.115	−0.023
		(0.216)	(−0.312)	(0.861)	(0.094)	(3.136)***	(2.472)**	(2.716)***	(−0.180)
ADR	?	0.041	−0.256	−0.045	−0.611	−0.029	−0.956	−0.137	−0.434
		(0.193)	(−0.990)	(−0.353)	(−2.817)***	(−0.355)	(−4.394)***	(−1.532)	(−1.486)
ACOV	+	−0.012	−0.026	−0.022	−0.030	−0.007	−0.017	−0.008	−0.001
		(−2.044)**	(−2.643)***	(−4.678)***	(−2.373)**	(−2.030)**	(−1.628)	(−2.122)**	(−0.074)
MARKET_SIZE	+	0.010	0.003	0.008	0.007	0.008	0.005	0.008	0.004
		(9.561)***	(1.979)**	(7.111)***	(4.358)***	(8.908)***	(3.144)***	(8.447)***	(3.224)***
Log (GDPC)	+	0.060	0.265	−0.047	0.008	0.052	0.292	0.026	0.239
		(0.771)	(2.349)**	(−0.629)	(0.088)	(1.802)**	(2.737)***	(0.852)	(3.191)***
Intercept	?	2.991	0.686	4.379	3.606	3.626	2.199	2.851	−0.520
		(3.678)***	(0.558)	(4.359)***	(3.447)***	(4.130)***	(2.633)***	(7.100)***	−0.534
Difference in coefficients		7.760		12.270		27.960		16.090	
significance test		0.000		0.000		0.000		0.000	
R^2		0.482	0.625	0.446	0.698	0.297	0.586	0.333	0.540
N		1467	569	1544	492	1567	469	1530	506

This table presents results of sub-sample analysis of the impact of state ownership on stock price informativeness. Models 1 and 2 report results of stock price informativeness regressed on state ownership for high and low *POLRIGHTS*. Models 3 and 4 report results of stock price informativeness regressed on state ownership for high and low *POLCONV*. Models 5 and 6 report results of stock price informativeness regressed on state ownership for high and low *EXCONST*. Models 7 and 8 report results of stock price informativeness regressed on state ownership for high and low *DEMOCRACY*. The full sample comprises 482 firms privatized in 41 countries between 1980 and 2012. Definitions and data sources for the variables are provided in Appendix 1. Robust z-statistics are reported beneath the estimates. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, one-tailed when directional predictions are made and two-tailed otherwise.

where V_{it} is the logarithm of weekly turnover for firm i in week t detrended by substracting its 26-week moving average. The regression coefficient θ_i on the interaction variable is Llorente et al.'s (2002) proxy for private information trading. This approach yields an estimated θ for each firm-year observation in our sample. Following Fernandes and Ferreira (2008, 2009), we interpret a higher value for θ as implying more information-based trading, which suggests that we should observe a positive return autocorrelation for stocks with a high degree of private information-based trading in periods of high trading volume.

In Model 1 of Table 8 we re-run our basic regression (Model 1 of Table 5) using θ as a proxy for stock price informativeness. The results show that the coefficient on *STATE* is negative and significant at the 1% level, suggesting that state ownership is associated with a low degree of private information-based trading, in line with H_1. We also repeat our sub-sample analysis based on the median value of *POLRIGHTS* when using θ as a proxy for stock price informativeness. The unreported results show that *STATE* is again negative and significant at the 1% level for the low *POLRIGHTS* sub-sample, in line with H2.

Second, we test the robustness of our findings to the use of the future earnings response coefficient (FERC) as a proxy for stock price informativeness. We cannot apply the approach of Durnev et al. (2003), as estimating their model for each industry–country in our sample while requiring at least 10 firm-year observations in each industry substantially reduces our sample size. To address this problem, we estimate the following regression for each firm-year observation in our sample:

$$\begin{aligned} RET_{it} = {} & \alpha_0 + \alpha_1 \Delta E_{it} + \alpha_2 \Delta E_{it+1} + \alpha_3 \Delta E_{it+2} + \alpha_4 STATE_{it} \\ & + \alpha_5 \Delta E_{it} * STATE_{it} + \alpha_6 \Delta E_{it+1} * STATE_{it} + \alpha_7 \Delta E_{it+2} * STATE_{it} \\ & + \alpha_8 RET_{it+1} + \alpha_9 RET_{it+2} + \alpha_{10} FOR + \alpha_{11} INSIDER + \alpha_{12} MARKET\_SIZE_t + \alpha_{13} Log(GDPC)_t + \gamma_t + \varepsilon_{i,t} \end{aligned} \quad (5)$$

Table 8
Alternative proxies for stock price informativeness.

Variable	Prediction	New *SPI*	Variable	Prediction	FERC
		(1)			(2)
STATE	−	−0.210	*STATE*	?	−0.035
		(−4.748)***			(−1.611)
FOR	+	−0.026		+	0.201
		(−0.669)			(4.753)***
INSIDER	?	−0.010		+	0.259
		(−0.245)			(2.763)***
Log (SIZE)	−	0.012		+	0.093
		(0.510)			(1.456)
LEVERAGE	+	0.084		−	−0.946
		(0.753)			(−3.475)***
ROA	−	0.000		−	−0.781
		(0.132)			(−2.405)***
MARKET TO BOOK	+	0.006		−	−0.197
		(0.687)			(−0.744)
VOLUME	−	−0.038		−	−0.168
		(−0.682)			(−5.358)***
HERFINDAHL_F	−	−0.012		−	−0.061
		(−0.513)			(−2.100)**
HERFINDAHL_I	−	0.014	*FOR*	?	−0.011
		(1.630)			(−0.561)
ADR	?	0.003	*INSIDER*	?	0.038
		(1.625)			(1.797)*
ACOV	+	−0.177	*MARKET_SIZE*	+	0.000
		(−1.797)*			(2.364)**
MARKET_SIZE	+	0.000	*LNGDPC*	+	0.004
		(0.068)			(0.639)
Log (GDPC)	+	−0.084	Intercept	?	−0.081
		(−1.740)*			(−1.1600)
Intercept	?	0.267	R^2		0.236
		(0.589)	N		1793
R^2		0.286			
N		2244			

This table presents results using alternative proxies for stock price informativeness. The sample comprises 482 privatized firms from 41 countries between 1980 and 2012. Definitions and data sources for the variables are provided in Appendix 1. Robust z-statistics are reported beneath the estimates. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, one-tailed when directional predictions are made and two-tailed otherwise.

where RET_{it} is the cumulative 12-month stock return for firm i at its fiscal year-end, ΔE_{it} is the change in net income before extraordinary items between year t and year $t-1$ scaled by market capitalization in year $t-1$. The remainder of the variables are as previously defined.

We expect a positive sign for α_1, given that current returns reflect the current component of unexpected returns (e.g., Fan and Wong, 2002). We also expect positive coefficients for α_2 and α_3, suggesting that future unexpected earnings are also incorporated into stock prices. Additionally, we expect a negative sign for both α_8 and α_9, suggesting that current stock returns are negatively related to future stock returns (Collins et al., 1994). Regarding the interaction variables, we expect a negative and significant estimate for α_5, α_6, and α_7 or $\alpha_5+\alpha_6+\alpha_7$ consistent with H1, suggesting that firms with higher state ownership have a lower FERC, i.e., lower stock price informativeness.

In unreported results, we estimate regression (5) without *STATE*, the interaction terms, or the control variables. We find positive coefficients for α_1, α_2, and α_3. We also find negative coefficients for α_8 and α_9, consistent with Collins et al. (1994). The results of regression (5) are reported in Model 2 of Table 8. As we can see, the coefficients on $\Delta E_t{}^*STATE$ and $\Delta E_{t+1}{}^*STATE$ are negative and significant at the 1% level, consistent with H_1. An F-test (unreported to save space) on the sum of the coefficients on the interaction terms show that this sum is negative and significant at the 1% level. We also re-run our sub-sample analysis based on *POLRIGHTS* using the FERC approach. The unreported results show that the coefficient on $\Delta E_t{}^*STATE$ and $\Delta E_{t+1}{}^*STATE$ are only negative and significant for the low *POLRIGHTS* sub-sample. These findings further corroborate H2 and suggest that the adverse effects of state ownership on a firm's FERC, i.e., stock price informativeness, are more pronounced in countries with lower political constraints on the government.

4.5. Additional tests

In this section, we describe additional tests conducted to ensure the robustness of our findings. The results of these tests, reported in Table 9, generally confirm the core findings presented in Table 5**:** stock price informativeness is decreasing under state ownership.

4.5.1. Control versus revenue privatization

Our main hypothesis is based on the notion that the government will try to compel managers/bureaucrats in state-owned to manipulate earnings and/or disclose selected accounting information in order to hide expropriation activities. These activities involve government control. Therefore, we expect that our previous results hold only for privatized firms in which the government remains the controlling shareholder. We define firms in which the government remains the controlling shareholder as those in which the government holds more than 50% of shares, in line with Guedhami et al. (2009) and Boubakri et al. (2013). Our results are robust to the use of a lower threshold (i.e., 20%). Models 1 and 2 of Table 9 report the results of our basic regression (Model 1 of Table 5) separately for the sub-sample of firms in which the government relinquishes control and the sub-sample in which the government maintains control. We find that the coefficient for *STATE* is negative and significant at the 1% level only for the sub-sample in which the government maintains control, suggesting that government ownership adversely affects stock price informativeness only when the government maintains control of the privatized firm.

Golden shares may act as a substitute for government control. In fact, Bortolotti and Faccio (2009) report evidence suggesting that the government can still influence privatized firms even when the control is relinquished via golden shares. Thus we expect that golden shares are associated with lower stock price informativeness even when the government relinquishes control of the privatized firm. To test this point of view, we re-run our golden shares model (Model 5 of Table 5) separately for the sub-sample of firms in which the government relinquishes control and the sub-sample in which the government maintains control. The results reported in Models 3 and 4 of the current version of the paper show that the coefficient for *GOLDEN* is negative and significant at the 1% level for the sub-sample of firms in which the government relinquishes control, consistent with the conjecture that golden shares and government control are substitutes.

4.5.2. 1990–2012 period

The majority of our sample firms were privatized during the 1990–2012 period. To ensure that our findings are not driven by privatizations that occurred outside this period, we re-estimate our basic model (Model 1 of Table 5) for the sub-sample of firms

Table 9
Additional tests—set 1.

Variable	Prediction	*STATE*		*GOLDEN*		1990–2012	Excluding	Excluding	Excluding
		CONTROL = 0	*CONTROL* = 1	*CONTROL* = 0	*CONTROL* = 1	Period	Transition	Financial	Strategic
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STATE	−	0.024	−2.234			−0.430	−0.647	−0.350	−0.570
		(0.103)	(−3.301)***			(−3.283)***	(−3.984)***	(−2.471)***	(−3.431)***
GOLDEN				−0.385	−0.396				
				(−3.578)***	(−1.380)				
FOR	+	0.143	0.061	−0.206	−0.882	−0.175	−0.004	−0.018	0.050
		(1.086)	(0.127)	(−0.796)	(−0.838)	(−1.463)	(−0.028)	(−0.138)	(0.342)
INSIDER	?	0.129	−0.081	0.059	−0.296	−0.007	−0.185	0.063	0.062
		(1.025)	(−0.350)	(0.243)	(−0.690)	(−0.076)	(−1.363)	(0.568)	(0.453)
Log (SIZE)	−	−0.068	0.149	−0.027	0.099	−0.053	−0.107	−0.049	0.030
		(−1.984)**	(1.929)*	(−0.417)	(0.811)	(−2.288)**	(−2.397)***	(−1.615)*	(0.913)
LEVERAGE	+	0.556	0.335	1.086	1.436	0.364	−0.205	0.432	0.288
		(1.932)**	(0.641)	(2.528)***	(1.792)**	(1.733)**	(−0.697)	(1.819)**	(1.028)
ROA	−	−0.011	0.007	0.000	0.044	−0.002	−0.008	−0.014	0.004
		(−1.576)*	(0.450)	(0.065)	(2.256)**	(−0.382)	(−1.313)*	(−2.181)**	(0.467)
MARKET TO BOOK	+	0.047	−0.061	0.029	−0.061	0.010	−0.073	0.042	−0.001
		(1.678)**	(−0.851)	(1.107)	(−0.909)	(0.420)	(−2.493)**	(1.713)**	(−0.037)
VOLUME	−	−0.114	−0.214	−0.111	−0.268	−0.106	−0.130	−0.108	−0.128
		(−5.262)***	(−4.019)***	(−2.699)***	(−4.797)***	(−7.868)***	(−4.898)***	(−6.031)***	(−6.507)***
HERFINDAHL_F	−	0.742	0.129	0.951	−0.683	0.462	0.666	0.151	0.092
		(4.131)***	(0.319)	(2.496)**	(−1.219)	(3.301)***	(2.861)***	(1.013)	(0.525)
HERFINDAHL_I	−	0.134	0.070	−0.151	−0.152	0.099	0.058	−0.057	−0.066
		(2.609)***	(0.569)	(−2.533)***	(−1.103)	(2.258)**	(1.075)	(−1.218)	(−1.321)
ADR	?	−0.162	−0.368	−0.246	−0.484	−0.205	−0.001	−0.290	−0.194
		(−1.428)	(−1.424)	(−1.524)	(−1.362)	(−2.738)***	(−0.003)	(−3.081)***	(−1.790)*
ACOV	+	−0.005	−0.028	−0.021	−0.035	−0.009	−0.009	−0.009	−0.017
		(−1.070)	(−2.463)**	(−3.438)***	(−2.422)***	(−2.267)**	(−1.504)	(−2.131)**	(−3.399)***
MARKET_SIZE	+	0.007	0.007	0.006	0.009	0.005	0.008	0.004	0.003
		(6.871)***	(3.211)***	(3.826)***	(4.691)***	(6.980)***	(8.816)***	(5.242)***	(4.428)***
Log (GDPC)	+	−0.059	−0.035	−0.130	0.139	0.044	0.033	0.101	0.142
		(−1.369)	(−0.623)	(−1.319)	(1.779)**	(1.616)*	(0.611)	(3.004)***	(3.761)***
Intercept	?	3.123	2.781	2.109	1.497	3.342	3.503	2.232	1.699
		(7.086)***	(2.421)**	(1.857)*	(0.744)	(3.639)***	(4.337)***	(4.745)***	(1.412)
R^2		0.435	0.462	0.328	0.540	0.271	0.452	0.353	0.392
N		1609	427	766	321	1560	1716	1713	976

This table presents results of additional tests of stock price informativeness on state ownership. The full sample comprises 482 firms privatized in 41 countries between 1980 and 2012. Definitions and data sources for the variables are provided in Appendix 1. Robust z-statistics are reported beneath the estimates. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, one-tailed when directional predictions are made and two-tailed otherwise.

privatized during the 1990–2012 period. The results are reported in Model 5 of Table 9. We find that the coefficient on *STATE* remains negative and significant at the 1% level, reinforcing our earlier findings. The result is also economically highly significant, with a one-standard-deviation increase in state ownership associated with 46.43% decrease in stock price informativeness.

4.5.3. Alternative samples

We next run our basic regression using alternative samples. First, we re-run our basic model after excluding firms from transition economies. The results reported in Model 6 of Table 9 show that the coefficient on *STATE* is negative and significant at the 1% level, providing additional support for our earlier findings. Second, we re-run our basic model after excluding financial firms. The results reported in Model 7 of Table 9 show that the coefficient on *STATE* is negative and significant at the 1% level, suggesting that our earlier findings are not driven by financial firms. Third, we re-run 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 8 of Table 9 show that the coefficient on *STATE* is still negative and highly significant, suggesting that our previous results are not driven by strategic industries.

Fourth, we re-run our basic model separately for firms from (i) emerging and developing countries, and (ii) advanced countries. We use the IMF's classification of countries into emerging/developing and advanced. The results reported in Models 1 and 2 of Table 10 show that stock price informativeness is decreasing under state ownership for firms from both emerging/developing and advanced countries, confirming our previous findings. Fifth, we examine whether the recent financial crisis affects the relationship between state ownership and stock price informativeness. To do so, we re-run our basic model separately for the pre-crisis and post-crisis periods. The results show that the coefficient for *STATE* is negative and highly significant for both the sub-sample of the pre-crisis period and the sub-sample of the post-crisis period, suggesting that impact of state ownership on stock price informativeness is not affected by the recent financial crisis. Sixth, we examine whether legal investor protection affects the relationship between state ownership and stock price informativeness. We use the anti-self-dealing index (*ANTISELF*) from Djankov et al. (2008) as a proxy

Table 10
Additional tests—set 2.

Variable	Prediction	Emerging	Advanced	Pre-crisis	Post-crisis	*ANTISELF*		Monthly	International
		Countries	Countries	Period	Period	High	Low	Returns	Model
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STATE	−	−0.583	−0.369	−0.491	−0.604	−0.299	−0.551	−0.571	−0.558
		(−2.849)***	(−2.138)**	(−1.681)**	(−3.433)***	(−1.770)**	(3.237)***	(−2.765)***	(−2.579)***
FOR	+	0.408	−0.264	0.054	0.259	−0.085	−0.195	0.219	0.010
		(2.198)**	(−1.744)*	(0.210)	(1.102)	(−0.471)	(−1.385)	(1.071)	(0.049)
INSIDER	?	−0.072	0.169	0.168	0.102	−0.343	0.377	0.041	−0.031
		(−0.510)	(0.920)	(0.843)	(0.641)	(−2.843)***	(2.918)***	(0.244)	(−0.189)
Log (SIZE)	−	0.010	−0.091	0.101	−0.043	−0.025	−0.119	−0.018	0.015
		(0.180)	(−2.953)***	(1.526)	(−0.992)	(−0.768)	(−3.954)***	(−0.408)	(0.395)
LEVERAGE	+	−0.094	0.545	0.229	1.038	0.104	0.273	0.494	0.144
		(−0.202)	(2.282)**	(0.414)	(3.111)***	(0.382)	(1.031)	(1.212)	(0.400)
ROA	−	−0.008	−0.015	0.004	−0.002	−0.003	−0.011	0.006	0.002
		(−0.852)	(−1.607)	(0.268)	(−0.178)	(−0.403)	(−1.449)	(0.636)	(0.164)
MARKET TO BOOK	+	0.017	0.044	0.039	−0.059	−0.029	0.043	0.030	−0.018
		(0.380)	(1.495)	(0.566)	(−1.808)*	(−0.813)	(1.515)	(0.681)	(−0.394)
VOLUME	−	−0.192	−0.062	−0.167	−0.124	−0.144	−0.074	−0.118	−0.072
		(−5.764)***	(−3.690)***	(−3.498)***	(−4.179)***	(−7.927)***	(−4.462)***	(−4.045)***	(−2.854)***
HERFINDAHL_F	−	0.403	0.367	1.922	0.295	0.368	0.465	0.338	0.438
		(1.560)	(2.052)**	(2.863)***	(1.438)	(2.000)**	(2.441)**	(1.381)	(1.868)*
HERFINDAHL_I	−	0.166	0.066	0.085	0.156	−0.001	0.099	0.006	0.003
		(1.681)*	(1.431)	(0.401)	(2.829)***	(−0.025)	(1.654)*	(0.071)	(0.038)
ADR	?	−0.486	−0.094	−0.187	−0.258	−0.313	−0.043	−0.163	0.197
		(−2.029)**	(−1.039)	(−0.850)	(−1.871)*	(−3.291)***	(−0.442)	(−1.055)	(1.411)
ACOV	+	0.004	−0.015	−0.012	−0.011	−0.006	−0.004	−0.013	−0.003
		(0.357)	(−3.976)***	(−1.294)	(−1.808)*	(−1.139)	(−1.022)	(−2.076)**	(−0.558)
MARKET_SIZE	+	0.004	0.007	0.005	0.007	0.004	0.006	0.004	0.004
		(3.393)***	(7.986)***	(1.608)*	(5.307)***	(4.674)***	(4.872)***	(3.072)***	(3.310)***
Log (GDPC)	+	−0.339	−0.429	−0.248	−0.012	0.074	0.091	0.059	−0.039
		(−2.741)***	(−3.632)***	(−3.304)***	(−0.269)	(1.928)**	(2.209)**	(1.183)	(−0.804)
Intercept	?	5.557	7.965	2.782	2.963	3.372	3.301	2.032	2.513
		(5.439)***	(5.986)***	(2.868)***	(4.791)***	(5.286)***	(3.851)***	(1.608)	(4.082)***
Adj R^2		0.554	0.355	0.564	0.474	0.287	0.276	0.229	0.142
N		972	1064	664	1063	948	1063	2003	1993

This table presents results of additional tests of stock price informativeness on state ownership. The full sample comprises 482 firms privatized in 41 countries between 1980 and 2012. Definitions and data sources for the variables are provided in Appendix 1. Robust z-statistics are reported beneath the estimates. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, one-tailed when directional predictions are made and two-tailed otherwise.

for legal investor protection. We re-run our basic model separately for the sub-sample of firms with high *ANTISELF* and the sub-sample with low *ANTISELF*. The results reported in Models 5 and 6 of Table 10 show that the coefficient for *STATE* is negative and highly significant for both sub-samples, suggesting that legal investor protection does not affect the relationship between state ownership and stock price informativeness.

4.5.4. Alternative specifications

We also test the robustness of our findings to the use of monthly returns instead of weekly returns to estimate stock price informativeness. To do so, we re-estimate Eq. (1) using monthly instead of weekly returns. The results reported in Model 7 of Table 10 show that the coefficient on *STATE* remains negative and significant at the 1% level, suggesting that our findings are not affected by serial and cross-serial correlation in weekly returns. Additionally, we test the robustness of our findings to the use of an international model, in line with Morck et al. (2000), instead of a local model when estimating stock price informativeness. In this model, U.S. stock market returns are included to take into account the fact that the majority of economies are open to foreign capital. Specifically, we regress the weekly stock return in US$ for each firm in our sample on the current week value-weighted local market return in US$ as well as the current week value-weighted U.S. market return. The logic of this model is that firm-level stock returns are correlated not only with local market stock returns but also with U.S. market stock returns. The results reported in Model 8 of Table 10 show that the coefficient on *STATE* is still negative and significant at the 1% level, corroborating our earlier findings that stock price informativeness is negatively related to state ownership.

4.6. Additional controls

In this section, we introduce additional control variables to further check the robustness of our findings. The results of these tests, reported in Table 10, generally confirm the core findings presented in Table 5: stock price informativeness is decreasing under state ownership.

4.6.1. Earnings management

Earnings quality may affect stock price informativeness (Fernandes and Ferreira, 2008). Better earnings quality is associated with lower information acquisition costs, which encourages investors to trade based on private information and facilitates the incorporation of firm-specific information (Grossman and Stiglitz, 1980), and hence results in more informative stock prices (e.g., Jin and Myers, 2006; Morck et al., 2000; Veldkamp, 2006). An alternative view, however, posits that higher earnings quality is associated with increased availability of public information about the firm (Kim and Verrecchia, 2001), which discourages private information collection and informed trading, in which case higher earnings quality may be associated with lower firm-specific stock price variation and hence lower stock price informativeness. We test the robustness of our findings to the inclusion of a proxy for earnings management. Specifically, in line with Gul et al. (2011), we use the absolute value of Dechow and Dichev's (2002) measure of abnormal accruals as modified by Ball and Shivakumar (2005) (*ABS_ABNORMAL)* as a proxy for earnings management. A higher value for *ABS_ABNORMAL* indicates higher earnings management — that is, lower earnings quality. The results reported in Model 1 of Table 11 show that the coefficient on *STATE* remains negative and significant at the 1% level, providing additional support for our earlier findings. We also find that the coefficient on *ABS_ABNORMAL* is negative and significant at the 1% level, supporting the conjecture that lower earnings quality discourages private information collection and informed trading, and hence results in lower stock price informativeness.

4.6.2. Additional country-level controls

We test the robustness of our findings to the introduction of additional country-level determinants of stock price informativeness. First, we separately include the CIFAR index (*CIFAR*) from Bushman et al. (2004) as a proxy for disclosure quality, as doing so reduces our sample size.[15] The index is created by examining and rating companies' 1995 annual reports on their inclusion or omission of 90 items. These items fall into seven categories: general information, income statements, balance sheets, funds flow statement, accounting standards, stock data, and special items. A minimum of three companies in each country were studied. The results reported in Model 2 of Table 11 show that the coefficient on *STATE* remains negative and significant at the 1% level, corroborating our earlier findings.

The rest of the additional country-level control variables are introduced in Model 4. In line with Morck et al. (2000) and Fernandes and Ferreira (2008, 2009), we control for the following variables: First, we include the standard deviation of GDP growth (*STD_GDPG*) to control for macroeconomic instability, which may affect firm-specific stock variation (Morck et al., 2000). In fact, countries with unstable market fundamentals tend to have stock prices that move together. Consequently, firms from countries with higher GDP growth volatility tend to have higher stock price synchronocity (i.e., lower stock price informativeness). Second, we include the logarithm of the number of listed firms in each sample country (*N_LISTED*) to control for stock market size. In a market with few securities, each security is a more important part of the market index (Morck et al., 2000). We therefore expect a negative (positive) relation between market size and stock price synchronocity (informativeness). Third, we include the country's geographic size in square kilometers (*COUNTRY_SIZE*) to control for country size. Country size may affect firm-specific stock variation for two reasons: According to Morck et al. (2000), "Country size per se could matter in at least two ways.

[15] We do not include *CIFAR* with the rest of the country-level variables included in Model 4 of Table 10 for the sake of parsimony: as we can see in Model 3, the introduction of *CIFAR* reduces our sample size from 862 observations to 662 observations.

Table 11
Additional controls.

Variable	Prediction	*ABS_ABNORMAL*	*CIFAR*	Additional variables
		(1)	(2)	(3)
STATE	−	−0.372	−0.358	−0.352
		(−2.728)***	(−2.707)***	(−2.725)***
FOR	+	0.035	−0.203	0.057
		(0.269)	(−1.475)	(0.435)
INSIDER	?	−0.049	0.052	0.057
		(−0.443)	(0.498)	(0.540)
Log (SIZE)	−	0.001	−0.075	−0.048
		(0.022)	(−2.971)***	(−1.724)**
LEVERAGE	+	0.426	0.150	0.472
		(1.635)	(0.741)	(2.126)**
ROE	−	−0.007	−0.001	0.003
		(−1.049)	(−0.115)	(0.548)
MARKET TO BOOK	+	0.023	−0.024	0.000
		(0.842)	(−1.062)	(0.015)
VOLUME	−	−0.119	−0.092	−0.109
		(−6.335)***	(−6.127)***	(−5.917)***
HERFINDAHL_F	−	0.415	0.265	0.586
		(2.622)***	(1.909)*	(3.658)***
HERFINDAHL_I	−	0.018	0.107	0.141
		(0.358)	(2.502)**	(2.689)***
ADR	?	−0.221	−0.165	−0.245
		(−2.290)**	(−2.275)**	(−2.684)***
ACOV	+	−0.012	−0.008	−0.010
		(−2.676)***	(−2.318)**	(−2.715)***
MARKET_SIZE	+	0.006	0.005	0.004
		(6.623)***	(6.138)***	(4.555)***
Log (GDPC)	+	0.006	0.133	0.019
		(0.176)	(4.543)***	(0.352)
ABS_ABNORMAL	?	−0.155		
		(−2.653)***		
CIFAR	+		−0.011	
			(−2.460)**	
STD_GDPG	−			−0.102
				(−4.852)***
N_LISTED	+			0.197
				(1.790)**
COUNTRY_SIZE	+			0.021
				(0.520)
ANTISELF	+			−0.729
				(−2.060)**
GOVEXPROP	−			0.065
				(2.809)***
SOCIOECO	+			0.111
				(3.563)***
CORRUPTION	−			0.224
				(5.600)***
FREEDOM_OF_PRESS	+			0.014
				(3.960)***
UAI	−			−0.010
				(−3.158)***
R^2		0.319	0.205	0.384
N		1646	1621	2015

This table presents results of additional tests of stock price informativeness on state ownership. The full sample comprises 482 firms privatized in 41 countries between 1980 and 2012. Definitions and data sources for the variables are provided in Appendix 1. Robust z-statistics are reported beneath the estimates. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively, one-tailed when directional predictions are made and two-tailed otherwise.

First, economic activity in a small country could be geographically localized, so that nearby geopolitical instability or localized environmental catastrophes such as earthquake or monsoons might have market-wide effects that would not be as evident in a larger country …. Second, … larger countries having factor endowments that exhibit less uniformity, and this relation in turn suggests that the stocks of firms in large countries might move more independently than those in small countries" (p. 231). Consequently, we expect that firms from larger countries exhibit lower stock price synchronocity (i.e., higher stock price informativeness).

Following prior literature on the impact of political institutions on corporate finance (e.g., Qi et al., 2010), we also add: (i) government extraction, as proxied by the expropriation risk index and the corruption index from ICRG, (ii) socio-economic conditions, proxied by the socio-economic index from ICRG, and (iii) freedom of the press, which comes from Freedom House (2014).

Furthermore, in line with prior research (e.g., Fernandes and Ferreira, 2008; Kim and Shi, 2010), we control for legal investor protection. We use the anti-self-dealing index (*ANTISELF*) from Djankov et al. (2008). Finally, we control for national culture. Several studies show that national culture has an impact on corporate transparency (e.g., Hope et al., 2008), which may affect stock price informativeness. We use the uncertainty avoidance index (*UAI*) from Hofstede (2001) as a proxy for national culture. Hope et al. (2008) explain that "Countries with high uncertainty avoidance tend to restrict information disclosures so as to avoid conflict and competition and to preserve security" (p. 361). Accordingly, we expect that uncertainty avoidance is associated with lower stock price informativeness.

Model 3 of Table 11 reports significant coefficients on several of the additional control variables. As we can see, the coefficient on *STD_GDPG* is negative and significant at the 1% level, consistent with Morck et al. (2000) and suggesting that firms from countries with unstable market fundamentals tend to have higher stock price synchronocity (i.e., lower stock price informativeness). We also find that the coefficient on *N_LISTED* is positive and highly significant, consistent with Kim and Shi (2010) and suggesting that firms from countries with large stock markets have more informative stock prices. Additionally, it is worth noting that some of the added institutional variables (i.e., *SOCIOECO* and *FREEDOM_OF_PRESS*) are significant and consistent with our predictions. Furthermore, we find that the coefficient on *UAI* is negative and significant at the 1% level, consistent with our prediction. More importantly for our purposes, we still report a negative and significant coefficient on *STATE* at the 1% level, further supporting our earlier findings.

5. Conclusion

We contribute to the literature on stock price informativeness by employing the privatization framework as a testing laboratory. Specifically, using a multinational sample of 482 newly privatized firms from 41 countries, we examine the impact of government intervention on stock price informativeness. We find strong and robust evidence that state ownership is associated with lower stock price informativeness, consistent with the conjecture that state ownership is associated with less transparency, which discourages investors from trading based on private information and reduces the incorporation of private firm-specific information into stock prices. We also find that government predation magnifies the impact of state ownership on stock price informativeness. In particular, state ownership is associated with lower stock price informativeness in countries with lower political rights (i.e., lower political constraints on the government).

Our findings have several policy implications. The continued participation of the government in newly privatized firms leads to a less transparent information environment, which renders the acquisition of firm-specific information costly and discourages informed trading, which may work against achievement of privatization objectives such as the expansion of capitalism and the development of local capital markets. Economic growth is also at stake, as lower stock price informativeness implies less efficient resource allocation (Durnev et al., 2004; Wurgler, 2000), which may reduce economic growth. Country-level governance institutions also condition the relation between state ownership on earnings informativeness. It follows that achievement of the objectives of privatization and the development of local capital markets require that political institutions be enhanced in such a way that investors are protected from government expropriation.

Appendix 1

Variables: descriptions and sources.

Variable	Description	Source
SPI	Annual firm-specific return variation proxy ($\log(1 - R^2 / R^2)$ estimated by regressing the firm's weekly returns on current and lagged market returns as well as current and lagged industry returns.	Datastream
STATE	The direct stake held by the government.	Authors' calculation
STATE_ULTIMATE	The government's ultimate ownership.	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
PARTIAL_PRIV	A dummy variable equal to one (1) if the firm still has some government ownership and zero (0) otherwise.	Authors' calculation
GOLDEN	A dummy variable equal to one (1) if the government retains a golden share in the privatized firm and zero (0) otherwise.	Authors' calculation
FOR	The stake held by foreign institutional investors.	Authors' calculation
INSIDER	The proportion of shares held by insiders.	Worldscope
SIZE	The logarithm of the firm's total sales in millions of U.S. 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
MARKET TO BOOK	The market-to-book ratio.	Worldscope
VOLUME	The logarithm of the value of traded shares.	Authors' calculation
HERFINDAHL_F	The sum of squares of the firm's market share based on sales.	Authors' calculation
HERFINDAHL_I	The sum of squares of the industry's market share based on sales.	Authors' calculation
ADR	A dummy variable equal to one (1) if the firm is cross-listed in the U.S. and zero (0) otherwise.	Authors' calculation
ACOV	The number of analysts who provided estimates of the forecasted earnings per share reported in I/B/E/S.	Authors' calculation
MARKET_SIZE	The ratio of stock market capitalization to GDP.	World Development Indicators

(*continued on next page*)

Appendix 1 (*continued*)

Variable	Description	Source
LNGDPC	The natural logarithm of GDP per capita.	World Development Indicators
POLRIGHTS	An index of political rights from 1980 to 2010. The original index ranges from 1 to 7, with a higher score indicating lower political rights. To be consistent with the rest of our political variables, we subtract the original index from 7. The resulting index ranges from 0 to 6, with a higher score indicating stronger political rights. The original index is available at http://www.freedomhouse.org/report types/freedomworld#.U8fQsfmSyBI.	Freedom House (2014)
POLCONV	Henisz's (2000) assessment of a country's political constraints. The index ranges from 0 to 1, with a higher score indicating countries with stronger political constraints on the government.	Henisz (2005)
EXCONST	An assessment of the extent of constraints on the decision-making power of the country's chief executive. The index ranges from 0 to 7, with a higher score indicating stronger political constraints.	POLITY IV
DEMOCRACY	The ICRG's assessment of democracy in a country. The score ranges from 0 to 6, with a higher score indicating more democratic countries.	ICRG
LEFT	A dummy variable equal to one (1) for left-oriented governments and zero (0) otherwise.	Database of Political Institutions
ABS_ABNORMAL	Absolute value of abnormal accruals estimated using Ball and Shivakumar's (2005) model.	Authors' calculation
STD_GDPG	The standard deviation of the growth in GDP per capita in a given country-year.	World Development Indicators
N_LISTED	The logarithm of the number of listed companies in a given country-year.	World Development Indicators
COUNTRY_SIZE	The logarithm of the country's geographic size in square kilometers.	Authors' calculation
ANTISELF	Anti-self-dealing index.	Djankov et al. (2008)
CIFAR	The Cifar index from Bushman et al. (2004). The index is created by examining and rating companies' 1995 annual reports on their inclusion or omission of 90 items.	Bushnan et al. (2004)
GOV_EXPROP	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 indicating higher risk.	ICRG
SOCIOECO	The ICRG's assessment of the socio-economic conditions in a country. The score ranges from 0 to 4, with a higher score indicating countries with better socio-economic conditions.	ICRG
CORRUPTION	The ICRG's assessment of corruption in a government. The index ranges from 0 to 6, with higher scores indicating higher levels of corruption in a country.	ICRG
FREEDOM_OF_PRESS	The Freedom House's assessment of freedom of the press. The index ranges from 0 to 10, with higher scores indicating countries with greater freedom of the print and broadcast media.	Freedom House (2014)
UAI	Hofstede's (2001) cultural uncertainty avoidance index.	Hofstede (2001)

References

Bae, K.H., Ozoguz, A., Tan, H., Wirjanto, T., 2012. Do foreigners facilitate information transmission in emerging markets? J. Financ. Econ. 105, 209–227.
Ball, R., Shivakumar, L., 2005. Earnings quality in UK private firms: comparative loss recognition. J. Account. Econ. 38, 83–128.
Ben-Nasr, H., Boubakri, N., Cosset, J.C., 2012. The political determinants of the cost of equity: evidence from newly privatized firms. J. Account. Res. 50, 605–646.
Ben-Nasr, H., Boubakri, N., Cosset, J.C., 2014g. Earnings quality in privatized firms: the role of state and foreign owners. J. Account. Public Policy Forthcoming.
Beuselinck, C., Joos, P., Khurana, I.K., Meulen, S.V.D., 2010. Mandatory IFRS Reporting and Stock Price Informativeness. Working paper. Tilburg University.
Boardman, A.E., Vining, A.R., 1989. Ownership and performance in competitive environments: a comparison of the performance of private, mixed, and state-owned enterprises. J. Law Econ. 32, 1–33.
Borisova, G., Megginson, W.L., 2011. Does government ownership affect the cost of debt? Evidence from privatization. Rev. Financ. Stud. 24, 2693–2737.
Bortolotti, B., Faccio, M., 2009. Government control of privatized firms. Rev. Financ. Stud. 22, 2907–2939.
Bortolotti, B., Siniscalco, D., 2004. The Challenges of Privatization: An International Analysis. Oxford University Press, New York.
Boubaker, S., Mansali, H., Rjiba, H., 2014. Large controlling shareholders and stock price synchronicity. J. Bank. Financ. 40, 80–96.
Boubakri, N., Cosset, J.C., Guedhami, O., 2005a. Post-privatization corporate governance: the role of ownership structure and investor protection. J. Financ. Econ. 76, 369–399.
Boubakri, N., Cosset, J.C., Guedhami, O., 2005b. Liberalization, corporate governance and the performance of privatized firms in developing countries. J. Corp. Financ. 11, 767–790.
Boubakri, N., Cosset, J.C., Guedhami, O., Saffar, W., 2011. The political economy of residual state ownership in privatized firms: evidence from emerging markets. J. Corp. Financ. 17, 244–258.
Boubakri, N., Cosset, J.C., Saffar, W., 2013. The role of state and foreign owners in corporate risk-taking: evidence from privatization. J. Financ. Econ. 108, 641–658.
Boycko, M., Shleifer, A., Vishny, R., 1996. A theory of privatization. Econ. J. 106, 309–319.
Brockman, P., Yan, X., 2009. Block ownership and firm-specific information. J. Bank. Financ. 33, 308–316.
Bushman, R.M., Piotroski, J., 2006. Financial reporting incentives for conservative accounting: the influence of legal and political institutions. J. Account. Econ. 42, 107–148.
Bushman, R.M., Piotroski, J.D., Smith, A.J., 2004. What determines corporate transparency? J. Account. Res. 42, 207–252.
Campbell, J.Y., 1996. Understanding risk and return. J. Polit. Econ. 104, 298–345.
Chan, K., Hameed, A., 2006. Stock price synchronicity and analyst coverage in emerging markets. J. Financ. Econ. 80, 115–147.
Chaney, P.K., Faccio, M., Parsley, D.C., 2011. The quality of accounting information in politically connected firms. J. Account. Econ. 51, 58–76.
Chen, Q., Goldstein, I., Jiang, W., 2007. Price informativeness and investment sensitivity to stock price. Rev. Financ. Stud. 20, 619–650.
Claessens, S., Djankov, S., Lang, L., 2000. The separation of ownership and control in East Asian corporations. J. Financ. Econ. 58, 81–112.
Collins, D.W., Kothari, S.P., Shanken, J., Sloan, R.G., 1994. Lack of timeliness and noise as explanations for the low contemporaneous return-earnings Association. J. Account. Econ. 18, 289–324.
Dechow, P.M., Dichev, I.D., 2002. The quality of accruals and earnings: the role of accruals estimation errors. Account. Rev. 77, 35–59.
Dewenter, K.L., Malatesta, P.H., 2001. State-owned and privately owned firms: an empirical analysis of profitability, leverage, and labour Intensity. Am. Econ. Rev. 91, 320–334.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2008. The law and economics of self-dealing. J. Financ. Econ. 88, 403–465.
Durnev, A., Fauver, L., 2010. Stealing from Thieves: firm Governance and Performance when States are Predatory. Working paper. McGill University.
Durnev, A., Morck, R., Yeung, B., Zarowin, P., 2003. Does greater firm-specific return variation mean more or less informed stock pricing? J. Account. Res. 41, 797–836.
Durnev, A., Morck, R., Yeung, B., 2004. Value-enhancing capital budgeting and firm-specific stock return variation. J. Financ. 59, 65–105.
Faccio, M., Lang, L., 2002. The ultimate ownership of Western European corporations. J. Financ. Econ. 65, 365–395.
Fan, J.P.H., Wong, T.J., 2002. Corporate ownership structure and the informativeness of accounting earnings in East Asia. J. Account. Econ. 33, 401–425.
Fan, J.P.H., Wong, T.J., Zhang, T., 2007. Politically-connected CEOs, corporate governance and post-IPO performance of China's newly partially privatised firms. J. Financ. Econ. 84, 330–357.
Fernandes, N., Ferreira, M.A., 2008. Does international cross-listing improve the information environment? J. Financ. Econ. 88, 216–244.
Fernandes, N., Ferreira, M.A., 2009. Insider trading laws and stock price informativeness. Rev. Financ. Stud. 22, 1845–1887.
Freedom House, 2014. Annual freedom in the world survey: political rights and civil liberties rating 1973-2014. http://www.freedomhouse.org.
Fresard, L., 2012. Cash savings and stock price informativeness. Eur. Finan. Rev. 16, 985–1012.
Grossman, S.J., Stiglitz, J.E., 1980. On the impossibility of informationally efficient markets. Am. Econ. Rev. 70, 393.
Grullon, G., Michaely, R., Benartzi, S., Thaler, R.H., 2005. Dividend changes do not signal changes in future profitability. J. Bus. 78, 1659–1682.
Guedhami, O., Pittman, J.A., Saffar, W., 2009. Auditor choice in privatized firms: empirical evidence on the role of state and foreign owners. J. Account. Econ. 48, 151–171.
Gul, F.A., Kim, J., Qiu, A.A., 2010. Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: evidence from China. J. Financ. Econ. 95, 425–442.
Gul, F.A., Srinidhi, B., Ng, A.C., 2011. Does board gender diversity improve the informativeness of stock prices? J. Account. Econ. 51, 314–338.
He, W., Li, D., Shen, J., Zhang, B., 2013. Large foreign ownership and stock price informativeness around the world. J. Int. Money Financ. 36, 211–230.
Heckman, J., 1979. Sample selection bias as a specification error. Econometrica 47, 153–161.
Henisz, W., 2000. The institutional environment for economic growth. Econ. Polit. 12, 1–31.
Henisz, W., 2004. Political institutions and policy volatility. Econ. Polit. 16, 1–27.
Henisz, W., 2005. The Political Constraint Index (POLCON) dataset. Wharton School of the University of Pennsylvania, Philadelphia.
Hofstede, G.H., 2001. Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations. Sage, Thousand Oaks, CA.
Hope, O.K., Kang, T., Thomas, W., Yoo, Y.K., 2008. Culture and auditor choice: a test of the secrecy hypothesis. J. Account. Public Policy 27, 357–373.
Jin, L., Myers, S.C., 2006. R^2 around the world: new theory and new tests. J. Financ. Econ. 79, 257–292.
Kim, J.B., Shi, H., 2010. Voluntary IFRS adoption and stock price synchronicity: do analyst following and institutional infrastructure matter? Working paper. Hong Kong Polytechnic University.
Kim, O., Verrecchia, R.E., 2001. The relation among disclosure, returns, and trading volume information. Account. Rev. 76, 633–654.
Knyazeva, A., Knyazeva, D., Stiglitz, J.E., 2013. Ownership change, institutional development and performance. J. Bank. Financ. 37, 2605–2627.
La Porta, R., Lopez-de-Silanes, R., Shleifer, A., 1999. Corporate ownership around the world. J. Financ. 54, 471–517.
Larcker, D., Rusticus, T.O., 2010. On the use of instrumental variables in accounting research. J. Account. Econ. 49, 186–205.
Liu, L., Subramaniam, N., 2013. Government ownership, audit firm size and audit pricing: evidence from China. J. Account. Public Policy 32, 161–175.
Llorente, G., Michaely, R., Saar, G., Wang, J., 2002. Dynamic volume-return relation of individual stocks. Rev. Financ. Stud. 15, 1005–1047.
Loureiro, G., Taboada, A.G., 2012. The Impact of IFRS Adoption on Stock Price Informativeness. Working paper. University of Tennessee.
Megginson, W., 2003. Appendix 1: Details of share issue privatizations, 1961–2003. In: Megginson, W.L. (Ed.), Financial Economics of Privatization. Oxford University Press, New York.
Megginson, W., Netter, J.N., 2001. From state to market: a survey of empirical studies on privatization. J. Econ. Lit. 39, 321–389.
Morck, R., Yeung, B., Yu, W., 2000. The information content of stock markets: why do emerging markets have synchronous stock price movement? J. Financ. Econ. 58, 215–260.
Paudyal, K., Saadouni, B., Briston, R., 1998. Privatization initial public offerings in Malaysia: initial premium and long-term performance. Pac. Basin Financ. J. 6, 1–25.
Qi, Y., Roth, L., Wald, J., 2010. Political rights and the cost of debt. J. Financ. Econ. 95, 202–226.
Veldkamp, L.L., 2006. Information markets and the co-movement of asset prices. Rev. Econ. Stud. 73, 823–845.
Wang, Q., Wong, T.J., Xia, L., 2008. State ownership, institutional environment, and auditor choice: evidence from China. J. Account. Econ. 46, 112–134.
Wintoki, M., Linck, Netter, J., 2012. Endogeneity and the dynamics of internal corporate governance. J. Financ. Econ. 105, 581–606.
Wurgler, J., 2000. Financial markets and the allocation of capital. J. Financ. Econ. 58, 187–214.
Xing, X., Anderson, R., 2011. Stock price synchronicity and public firm-specific information. J. Financ. Mark. 14, 259–276.