The Role of State and Foreign Owners in Corporate Risk-Taking: Evidence from Privatization*

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Abstract

Using a unique database of 190 newly privatized firms from 36 countries, we investigate the impact of shareholders' identity on corporate risk-taking behavior. We find strong and robust evidence that state (foreign) ownership is negatively (positively) related to corporate risk-taking. Moreover, we find that the high risk-taking by the foreign owners depends on the country-level governance institutions. Our results suggest that relinquishment of government control, openness to foreign investment, and improvement of country-level governance institutions are key factors in the corporate risk-taking behavior.

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1. Introduction

While a large body of literature documents that agency conflicts resulting from the separation between ownership and control affect firm decisions (e.g., firm restructuring, divestment, and mergers), an issue that remains largely unexplored is the impact of shareholders' identity on corporate risk taking, a fundamental driver of long-term economic growth (Acemoglu and Zilibotti, 1997; Baumol et al., 2007). Understanding how ownership identity affects risk-taking behavior is important, as illustrated by the recent wave of government bailouts to contain the international financial crisis which resulted in an expanding role of the state in troubled firms. In this paper we provide the first evidence on the link between risk-taking behavior and the identity of owners in newly privatized firms (NPFs hereafter). We focus primarily on two types of owners: the government, as a residual owner, and foreign shareholders. The privatization context is an opportune setting to investigate the link between ownership identity and corporate risk-taking because of the dramatic change in ownership structure that occurs around divestiture. Also, exploring corporate risk-taking in the privatization context is all the more relevant since privatizations are implemented primarily to foster firm's growth and productivity, both driven by the managerial risk choices in corporate investment decisions (John et al., 2008).

Privatization can be defined as the deliberate sale by a government of state-owned enterprises (SOEs hereafter) or assets to private economic agents. Such reforms are often implemented to restructure SOEs that tend to underperform privately owned firms. The shift in ownership and control to private owners accompanying privatization changes the organization's prevailing incentive structure, with greater emphasis placed on profits and efficiency (Boycko et al., 1996; Shleifer and Vishny, 1997). The shift in incentives resulting from privatization is thus likely to affect the risk-taking behavior and subsequent performance of NPFs. The effect of ownership on postprivatization corporate risk-taking is likely to depend on how control is allocated across types of owners during the privatization process.

The purpose of this paper is to answer the call of John et al. (2008) for research that examines the relation between stakeholder governance and corporate growth as driven by risk-taking. While prior research focuses on the institutional determinants of risk-taking (John et al., 2008; Griffen et al., 2009 and Acharya et al., 2011) or on the link between risk-taking and shareholder diversification/concentration (Paligorova, 2010 and Faccio et al., 2011) for publicly traded firms, we take an alternative perspective and advance the literature on two fronts: we focus on the impact of shareholder identity on investment policy and we consider the special case of privatized firms. More specifically, in this study we narrow the gap in the literature by examining the risk-taking behavior of the government and foreign owners in NPFs.

In this paper, we consider first the impact of residual state ownership in NPFs on corporate risk-taking. We argue that strong government intervention may lead firms to pursue conservative investments (i.e., less risky projects). For instance, government policies that seek to maximize social stability and employment (Fogel et al., 2008) may constrain NPFs' ability to undertake risky investments. These policies seeking to maximize employment and wages, aim at ensuring the government's re-election and its political tenure in power, and are not necessarily in line with profit or value maximization. In addition, in NPFs, the government appoints managers (bureaucrats) that are good at dealing with politicians but not necessarily at effectively facing competitive market conditions. The lack of adequate monitoring of these politically-oriented managers/bureaucrats by an individual owner with the necessary incentives to engage in active monitoring (Vickers and Yarrow, 1988, 1991; Laffont and Tirole, 1993) will likely discourage risky investments, thus hindering or delaying postprivatization performance improvements (Fan et al., 2007; Boubakri et al., 2008).

Second, we analyze the impact of foreign participation in NPFs on corporate risk-taking. Foreign owners who are offered tranches in NPFs are more likely to undertake value-enhancing capital budgeting decisions (i.e., more risky projects). Frydman et al. (1999) argue indeed that, given their financial resources and managerial know-how, foreign investors have an advantage over other types of owners. In addition, share issue privatizations open to foreign investments result in foreign ownership that is more likely to foster improvements in firm-level governance than local investors (Gillan and Starks, 2003; Ferreira ad Matos, 2008). Better governance will in turn, as shown in John et al. (2008), impact positively corporate risk-taking. Finally, foreign

investors in privatized firms, compared to local investors, seek through their international investments to enhance diversification. This diversification will then most likely impulse corporate risk-taking as evidenced in Faccio et al. (2011).

Finally, we investigate whether the quality of the country-level governance institutions affects the association between the level of ownership by the foreign owners and risk-taking. In better governance environments, corporate risk-taking increases (John et al., 2008). In contrast, in countries with a high level of state expropriation risk, managers have greater incentives to divert resources and consume perks (Stulz, 2005 and Durnev and Fauver, 2009). In NPFs, Guedhami et al. (2009) show that foreign owners' incentive for transparency, which reduces information asymmetry and the impulse for expropriation, are conditioned by a country's governance environment. Consequently, the degree of risk-taking by the foreign owners in NPFs is likely to depend on such environment.

Using a unique database of 190 NPFs from 36 countries, we find strong and economically significant evidence that state ownership is negatively related to corporate risk-taking while foreign ownership is positively related to risk-taking. These results suggest a divergence in the interests of different types of shareholders. Our results are robust to a battery of tests and sensitivity analysis including considering different proxies for the risk-taking and the government control and confronting the issue of endogeneity and simultaneity between the owners' identity and the risk taking. We also find that the relation between foreign owners and corporate risk-taking depend on the relinquishment of government control and on the country-level governance institutions. Specifically, corporate risk-taking is more affected by foreign ownership in low expropriation-risk environments and when government relinquishes control through several devices. This result is in line with prior evidence that government rent-seeking behavior is likely to act as a progressive tax on high earnings (John et al., 2008), or to lead to the outright expropriation of firm assets (Glaeser et al., 2004; Caprio et al., 2011), thus discouraging corporate risk-taking.

Our paper contributes to the literature in several ways. First, we add to the corporate finance literature by providing evidence that risk choices are affected not only by large shareholder characteristics (Faccio et al., 2011) or country-level investor protection (John et al., 2008) but also by ownership structure/identity. Second, by showing how state and foreign

owners condition NPFs' risk-taking, we extend the literature on the importance of the postprivatization shareholders 'identity (Frydman et al., 1999; Guedhami et al., 2009). Finally, we contribute to the literature on the institutional environment and ownership structure in privatized firms (e.g., Boubakri et al., 2005) by documenting that the country-level governance institutions conditions the risk-taking behavior of foreign owners.

The rest of the paper is organized as follows. In Section 2, we develop our hypotheses. In Section 3, we describe the sample and variables used in this study and we present descriptive statistics. Section 4 reports empirical results on the relation between ownership identity and risk-taking, and Section 5 provides results on the role of the country-level governance institutions. Section 6 summarizes and concludes.

2. Hypotheses

Prior research implies that serious agency problems between state owners and private investors (foreign and local) accompany privatization (e.g., Coffee, 1999; Denis and McConnell, 2003; and Boubakri et al., 2005). As we discuss in the introduction, in this paper we exploit this high-information asymmetry setting to estimate the association between shareholders' ownership levels and corporate risk-taking. In particular, we analyze the relations between corporate risk-taking and two forms of ownership, the government as a residual owner and foreign investors. Furthermore, we investigate the impact of the country-level governance institutions on foreign owners' risk-taking.

2.1. Corporate risk-taking of the government

We rely on the economic theory of privatization, namely, the political and managerial views of the inefficiency of SOEs, to develop our hypotheses on corporate risk-taking by the government in NPFs.

The political view of SOEs posits that public enterprises are inefficient because this serves politicians' interests (Boycko et al., 1996). Indeed, the goals pursued by politically-oriented managers are not necessarily in line with profit or value maximization. Their objectives are rather to maximize employment and wages, promote regional development, and ensure national security. These objectives generally aim to ensure success in elections and a long tenure

in power. In the context of a model in which a firm can deliver benefits to politicians, Shleifer and Vishny (1994: 1009) conclude that "When the government maintains control over firms, privatizing cash flows simply enables politicians to extract more from managers, in the form of either bribes or excess employment. This also implies that if the government wants to continue tight regulation over firms, it would not get much revenue from privatization. For privatization of cash flows to lead to restructuring, surrender of control by politicians to the managers and private shareholders is the first step." Evidence provided by Boubakri et al. (2008) supports the implications of this model. More specifically, using an international sample of privatized firms, the authors find that politically-connected privatized firms, which are associated with a high level of government ownership, underperform their non-connected counterparts.

The managerial view of SOEs posits that these firms are inefficient because their managers are not adequately monitored, leading to poor incentive structures, as there is no individual owner with the necessary incentives to engage in active monitoring (Vickers and Yarrow, 1988, 1991; Laffont and Tirole, 1993). Privatized firms in which the government has a significant stake have the power to appoint managers (bureaucrats) that are good at dealing with politicians but not necessarily at effectively facing competitive market conditions. In this case, postprivatization firm-value enhancement, reached by undertaking risky investments (John et al., 2008), may not be achieved (Fan et al., 2007). Indeed, Dyck (2001: 61) argues that "A major obstacle to securing investment is the prospect that those delegated with decision-making power will not use that authority to deliver what was promised but will instead divert the returns for their own benefit." Likewise, John et al. (2008) show that managerial diversion of corporate resources for private benefits prevents firms from undertaking risky projects.

Both the political and the managerial views suggest that state owners pursue objectives that are potentially in conflict with those of shareholders, who tend to focus on profit maximization. For instance, the government is less likely to seek performance improvements through cost cutting or to undertake risky investments that may lead to opposition from employees/voters. Outside the context of privatization, but corroborating the above arguments, Fogel et al. (2008) contend that a powerful government may influence firms to be conservative in their investments to stabilize social benefits and employment. Based on this discussion, we

hypothesize that the extent of government control over NPFs is negatively related to corporate risk-taking. More formally:

H1: Government ownership of NPFs is negatively related to corporate risk-taking

2.2. Corporate risk-taking of foreign owners

Gillan and Starks (2003) and Ferreira and Matos (2008) document that foreign owners play a more active role than local investors in advocating better firm-level governance which may influence corporate investment policy. Also, Boycko et al. (1996), Dyck (2001), and D'Souza et al. (2005) show that privatized firms exhibit better governance and/or performance when foreign investors own larger stakes, and Denis and McConnell (2003) conclude that ownership by foreign (state) investors is usually associated with higher (lower) firm value, which John et al. (2008) suggest is likely a result of a more (less) risky investment policy. Likewise, Stulz (1999) argues that opening capital markets to foreign investors can improve corporate governance, which can lead in turn to increased managerial risk-taking (John et al., 2008). In the same vein, Doidge et al. (2009) and Leuz et al. (2009) find that, in contrast to government owners, foreign investors avoid investing in poorly governed firms. Poorly governed firms suffer from serious information problems that have an adverse effect on managerial risk-taking, whereas good corporate governance mitigates these problems. The results of Doidge et al. (2009) and Leuz et al. (2009) therefore suggest that foreign owners should be associated with more managerial risk-taking than government owners.

Evaluating the impact of privatization on firm performance, Frydman et al. (1999) argue that, given their financial resources and managerial know-how, foreign investors have an advantage over other types of owners. The authors also show that foreign-owned firms are less inclined to reduce employment than all other categories of firms, which they interpret as evidence that foreign owners have a longer-term value-enhancing perspective. Consistent with these findings, Lizal and Svejnar (2003) show that firms privatized to a domestic owner exhibit a large long-term decline in profits while privatization to a foreign entity leads to a large positive impact on profits. One possible explanation for this evidence is that foreign ownership leads to increased firm value as a result of following a more risky investment policy.

Based on this discussion, we hypothesize that foreign investors, which bring with them not only fresh capital but also stronger corporate governance, are positively associated with corporate risk-taking in NPFs. More formally:

H2a: Foreign ownership of NPFs is positively related to corporate risk-taking, all else being equal.

John et al. (2008) show that in better governance environments, stakeholders are less able to reduce corporate risk-taking to pursue their self-interest, that is, corporate risk-taking increases with the quality of country-level governance. Similarly, Stulz (2005) and Durnev and Fauver (2009) argue that managers have greater incentives to divert resources in countries with a high level of predation and expropriation. In assessing foreign owners' incentives for transparency, which reduces information asymmetry and the impulse for the consumption of private interests, Guedhami et al. (2009) also find that a country's governance environment matters. As a result, the degree of risk-taking by foreign owners is likely to depend on the level of a country's governance institutions.

Under weak governance institutions, government expropriation and political benefits are typically high. Given that political benefits arising from predation are secured by the government, foreign owners' incentives to undertake risky investments are low. Consistent with this argument, Durnev and Fauver (2009) find that firms generally have less incentives to practice good governance, which positively affects risk-taking (John et al., 2008), if the government is predatory. In addition, foreign owners are more likely to take risk in less predatory governments. As Knack and Keefer (1995:210) argue, "It is likely that if private actors cannot count on the government to respect the contracts it has with them, they will also not be able to count on the government enforcing contracts between two private parties…. This restriction on economic activity severely limits the universe of possible Pareto-improving exchanges that would otherwise be undertaken." As a result, we expect risk-taking incentives by foreign owners to be stronger in environments with higher governance institutions.

Based on the arguments presented above, we hypothesize that risky investments by foreign owners are conditioned by a country's level of governance institutions. More formally:

H2b: High corporate risk-taking by foreign owners is stronger (weaker) given a good (bad) country-level governance institutions.

3. Sample and Variables

In this section, we begin by describing our sample of privatized firms. We then present our measures of corporate risk-taking and ownership structure along with the standard control variables used in the literature to explain corporate risk-taking.

3.1. Sample

To investigate the impact of state and foreign ownership on corporate risk-taking, we compile a sample of 190 firms privatized from 23 emerging markets and 13 industrialized countries over the 1980 to 2004 period.[1] We start with the sample constructed by Guedhami et al. (2009), which is well suited to our research objectives as it tracks state and foreign ownership following the divestiture of SOEs. Next, we exclude financial firms from the sample.[2] We then update the database to include ownership data for up to the sixth year after the first privatization and we add recent privatizations. We use different sources for the addition of privatizations, including the World Bank's privatization database for developing countries and the *Privatization Barometer* for developed countries. To be included in the sample, we require that the firm's volatility of earnings be available for at least four consecutive years over the six years after privatization.

Table 1 presents descriptive statistics for the 190 firms considered in this study. Table 1 shows that the 190 privatized firms are fairly evenly spread across geographical regions as categorized by the World Bank. In particular, 32.64% of firms are from Africa and the Middle East, 21.58% are from East and South Asia and the Pacific, 18.94% are from Latin America and the Caribbean, and 26.84% are from Europe and Central Asia. The sample thus comprises

[1] This sample is comparable with recent multinational studies on privatized firms: Boubakri et al. (2005) with a sample of 209 firms from 39 countries, Guedhami and Pittman (2006) with a sample of 190 firms from 31 countries, Bortolotti and Faccio (2009) with a sample of 141 firms from 22 countries, and Guedhami et al. (2009) with a sample of 176 firms from 32 countries.

[2] Financial firms (SIC 6000-6999) are excluded because they are heavily regulated and hence are highly sensitive to the burden of regulation in a country (Faccio et al., 2011). We refer readers to Laeven and Levine (2009) for a cross-country analysis of corporate risk-taking by banks.

countries with different levels of development as well as different legal, political, and institutional environments. Table 1 also reveals that our sample shows variation across Campbell's (1996) industries with 28.42% of firms in utilities, 16.84% in basic industries, and 13.16% in consumer durables. Table 1 further shows that 10.52% of the privatizations occurred in the 1980s compared to 89.48% between 1990 and 2004. These figures largely reflect the trend toward privatization in recent years, especially in the emerging markets.[3,4]

[Insert Table 1 about here]

3.2. Variables

3.2.1. Risk-taking

Our measure of corporate risk-taking (*RISK1*) is the volatility of an NPF's earnings over four-year overlapping periods for a maximum of six years after privatization (i.e., 0,+3; +1,+4; +2,+5; and +3,+6),[5] where firm earnings are given by return on assets (*ROA*), which is equal to the ratio of earnings before interest and taxes (EBIT) to total assets.[6] The Appendix presents more details on the estimation of *RISK1*. Table 2 reports descriptive statistics for our variables. We see that the mean (median) four-year volatility of *ROA, RISK1,* is 0.033 (0.022). For robustness, we also estimate five other measures of corporate risk-taking. The results

[3] We follow the standard practice in the privatization literature and exclude firms from ex-communist countries (Megginson et al., 2004; Boubakri et al., 2005; Guedhami et al., 2009). There are two reasons for this exclusion. First, the legal systems in these countries are based on Soviet law, and have gone through many changes in their respective transition periods (La Porta et al., 2000). Second, the post-privatization ownership structure in these countries is mainly determined by insiders (managers and employees). Recent references on the experience of these transition economies include Djankov and Murrell (2002) and Svejnar (2002).

[4] When we examine the World Bank list of privatized firms, we find that 30.48% of the firms are from Africa and the Middle East, 17.08% from East and South Asia and the Pacific, 42.35% from Latin America, and 10.09% from Europe and Central Asia. In addition, 80% of the privatization transactions occurred in the 1990s. These figures are comparable to those discussed in the text in reference to our sample.

[5] In our main analysis we consider volatility over four years as in Paligorova (2010) rather than over five years as in Faccio et al. (2011) given frequent changes in ownership structure in NPFs (Boubakri et al., 2005). In robustness tests we rerun our analysis using five-year overlapping periods. The results are qualitatively similar.

[6] To mitigate concerns regarding outliers and data entry omissions, we winsorize *ROA* at the 1% level on both sides of the sample distribution.

throughout the paper remain qualitatively similar when using the alternative risk-taking proxies.

3.2.2. Ownership

To analyze the incentives of governments and foreign investors to take risk, we follow John et al. (2008) and determine their ownership stakes at the end of the first year of the period over which the corporate risk-taking proxy is measured. We complement Guedhami et al. (2009) sample by hand-collecting ownership structure and financial information from several data sources including *Worldscope*, *BankScope*, Asian, Brazilian, and Mexican Company Handbooks, Kompass Egypt Financial Year Book, and firms' annual reports and offering prospectuses. Boubakri and Cosset (1998), Megginson (2003), and Bortolotti and Siniscalco (2004) provide supplementary data.

In Table 2, we report that state ownership in NPFs displays a steep decline after the privatization date. Specifically, the average government stake (*STATEOWN*) plummets to 41.1% after privatization. Interestingly, control privatizations, in which the government maintains its control by selling less than 50% of the firm's shares (*CONTROL*), comprise 45% of the total sample. Foreign investors' average stake (*FOREIGNOWN*) reaches 10.5% after privatization. Consistent with prior privatization research (e.g., Jones et al., 1999 and Boubakri et al., 2005), governments tend to preferentially allocate higher stakes to domestic investors over foreign investors. Jones et al. (1999) argue that favoring local investors through share allocation allows governments to elicit more political support for privatization, create a culture of share ownership (popular capitalism), and develop local stock markets. Table 2 also reports significant shifts in domestic institutional ownership (*LINSTOWN*) for our sample. In particular, the average equity stake held by domestic institutions increases to 21.2% after privatization.[7] It is important to stress, however, that the lion's share of NPFs' ownership change occurs immediately after privatization.

[7] We follow prior research in presenting the three major types of investors participating in the privatization process (Jones et al., 1999; Boubakri et al., 2005; Guedhami et al., 2009). Total equity capital averages slightly under 100% in Table 2, reflecting the presence of other owners that data limitations prevent us from identifying.

3.2.3. Control variables and summary statistics

In addition to the ownership variables above, we include standard controls that prior studies show to be associated with risk-taking (Claessens et al., 2001; John et al., 2008; Faccio et al., 2011).

First, we control for firm growth using total sales denominated in US$ (*SALESGROWTH*), which captures the influence of firm-specific growth opportunities on corporate risk-taking, and country-level growth using growth in real GDP in 1995 constant US$ (*GDPGROWTH*), which captures the effect of the country's overall growth on managerial investment decisions. We expect both measures of growth to be positively related to corporate risk-taking. Next, we control for the effect of firm size (*SIZE*), which we measure using the natural log of total sales in millions of US$. In general, small firms are more risk-seeking than large firms and thus we expect a negative relation between firm size and our measure of risk-taking. Our fourth control variable is firm profitability (*ROA*), which as before is equal to the ratio of EBIT to total assets. Our fifth control variable is the ratio of total debt to assets (*LEVERAGE*), which captures a firm's level of leverage. Finally, we include country, year, and industry (as categorized by Campbell, 1996) dummies to control for the different fixed effects of these factors. We winsorize the firm-level variables at the 1% level in each tail of the sample distribution to reduce the influence of outliers in our estimates. Firm-level control variables are drawn from firms' annual reports, *Worldscope*, and the different countries' company handbooks.

Table 2 shows that our sample of privatized firms includes both small and large firms as well as high and low leverage firms. Companies in the sample appear to be profitable, with a mean (median) *ROA* of 0.075 (0.066), and exhibit a high level of growth, with a mean (median) *SALESGROWTH* of 0.111 (0.061).

[Insert Table 2 about here]

Table 3 Panel A presents correlation coefficients for our variables of interest. As expected, risk-taking is negatively and significantly related with the level of state ownership (0.121) and positively and significantly related with the level of foreign ownership (0.125). We also find that risk-taking is positively related to firm profitability and sales growth and

negatively related to firm size, firm leverage and GDP growth. The correlation between state and foreign ownership is negative and equal to -0.462 (significant at the 1% level).

4. Corporate Risk-Taking and Ownership of NPFs

In this section we present evidence on the corporate risk-taking of state and foreign shareholders in NPFs using two different frameworks. First, we perform univariate analysis that does not control for the potential determinants of corporate risk-taking. We then capitalize on the panel nature of our data after privatization and run a pooled multivariate regression that controls for firm-level and country-level variables shown in the literature to explain corporate risk-taking.

4.1. Univariate analysis

In Table 3 Panel B we report results of univariate tests. Specifically, we compare the means and medians of the corporate risk-taking proxy (*RISK1*) for above- and below-median (i.e., high and low) subsamples of state and foreign ownership. We find that *RISK1* is significantly lower (higher) for the subsample of firms with high state (foreign) stakes in their ownership structure. In particular, we find that the mean (median) of *RISK1* is equal to 0.041 (0.026) for firms with below-median state ownership and drops to 0.025 (0.017) for firms with above–median state ownership, whereas the mean (median) of *RISK1* is equal to 0.028 (0.019) for firms with below-median foreign ownership and rises to 0.038 (0.025) for firms with above-median foreign ownership.[8]

[Insert Table 3 about here]

Although these univariate tests provide preliminary support for our hypotheses on the impact of ownership identity on corporate risk-taking in NPFs, they only document binary relations and do not account for other potential explanatory variables. In the following section we perform a multivariate regression that controls for other determinants of firms' risk-taking decision.

[8] We do not find evidence at the univariate level that risk-taking is significantly different between above- and below-median subsamples of local institutional owners.

4.2. Multivariate analysis

In this section, we report our results on the impact of ownership identity on risk-taking using a pooled multivariate regression framework. Given the shift in NPFs' ownership structure, especially immediately after privatization, a panel framework is well suited to our research question and can help shed light on the impact of shareholder identity on risk-taking in NPFs.[9] We estimate the regressions using OLS and calculate robust standard errors that cluster by both firms and country (Thompson, 2011).

Specifically, we estimate the following model (subscripts are suppressed for notational convenience):

$$RISK1 = \alpha + \gamma_1 OWNERSHIP + \gamma_2 CONTROLS + \sum_{Y=1}^{Y-1} YEAR + \sum_{K=1}^{K-1} IND + \sum_{C=1}^{C-1} CNT + \eta, \quad (1)$$

where *RISK1* is the volatility of firms' *ROA* over four-year overlapping periods, *OWNERSHIP* is the percentage of shares held by the government or foreigners, *CONTROLS* denotes the set of control variables (*SIZE, LEVERAGE, SALESGROWTH, ROA,* and *GDPGROWTH*), *YEAR, IND,* and *CNT* are dummies that control for year, industry, and country fixed effects, respectively, and η is an error term. All the independent variables enter the regression at the first year-end of the sample period over which the corporate risk-taking proxy is measured (as in John et al., 2008).

Our focus is on the coefficient γ_1, which measures the sensitivity of corporate risk-taking to the level of ownership of different types of owners.

[9] Although Table 2 reports averages of post-privatization ownership stakes, the evolution of state and foreign ownership over the six years after privatization—available from the authors—stems from staggered sales (or subsequent share issues). For example, the ownership share of the state drops from 42.14% in the year of privatization to 35.24% the third year following the divestiture. In the same vein, on average, foreign investors' capital stake increases from 8.05% in the year of privatization and to 12.53% after three years. Local institutions' ownership is 20.29% in the year of privatization and slightly higher at 22.27% the third year following privatization. These descriptive statistics highlight the importance of conducting panel estimation rather than cross-sectional estimation that does not capture the specificity of NPFs' capital structure when compared to publically traded firms as in John et al. (2008).

4.2.1. The impact of state ownership on corporate risk-taking

Table 4 reports the results of regressing corporate risk-taking (*RISK1)* on state ownership (*STATEOWN*) along with the control variables. The results show in Model 1 that *STATEOWN* is negatively associated with corporate risk-taking in NPFs. This association is statistically significant at the 1% level. In line with the univariate results, these results support hypothesis H1, which posits that governments adopt more conservative risk-taking behavior. Our results are also economically significant. Indeed, the coefficient estimate on *STATEOWN* suggests that increasing state ownership from the first to the third quartiles (from 13% to 65%) results in a 58% decrease in the risk-taking proxy (from 0.041 to 0.026), holding all other variables at their mean values.

Turning to the control variables, we observe several significant relations that are consistent with John et al. (2008) and Faccio et al. (2011). In particular, we find that *ROA* and *LEVERAGE* load positive and are statistically significant at the 1% level. We also find that firm size (*SIZE*) is negatively related to *RISK1* and is statistically significant at the 1% level. Finally, *SALESGROWTH* is positively associated with *RISK1* and statistically significant at the 5% level.

One potential concern with the base-case regression in Model 1 is that *STATEOWN* may not be exogenous. Specifically, some unobserved determinants of corporate risk-taking may also explain state ownership, leading OLS estimates to be biased and inconsistent. In Model 2, we confront the issue of endogeneity using two-stage instrumental variable estimations.[10] We use a country's institutional environment, measured by *LAWORDER,* as an instrument for state ownership. *LAWORDER* ranges from 0 to 6. It is derived from the International Country Risk Guide (ICRG), and captures the extent of law enforcement in addition to the laws on the books. This choice of instrument is motivated by prior literature that shows that a country's institutional environment is exogenous (La Porta et al., 1998, 2006) and closely associated with

[10] This approach to addressing endogeneity of state and foreign ownership is common in research on privatization (e.g., Guedhami et al., 2009; Borisova and Megginson, 2011).

both the pervasiveness of state ownership (e.g., La Porta et al., 1999; Bortolotti and Faccio, 2009) and the extent of privatization by governments (Bortolotti et al., 2004).[11]

In first-stage regressions, we predict state ownership using the institutional environment index, *LAWORDER,* along with the other independent variables discussed earlier. Consistent with prior research (Chhibber and Majumdar, 1999 and Boubakri et al., 2005), the first-stage regression (unreported for the sake of space) show that *LAWORDER* are good predictors of state ownership. Indeed, *LAWORDER* enters negatively and is statistically significant at the 1% level, suggesting that governments retain higher stakes in countries with weak institutions. Using the first-stage fitted values for *STATEOWN* in the second-stage regressions reported in Model 2, we continue to find that the coefficient on *STATEOWN* is negative and statistically significant at the 1% level. Thus, accounting for endogeneity, that is, using the instrumental variable (IV) approach, does not appear to affect our main evidence on the impact of state owners on corporate risk-taking.

Another concern with our main analysis may be that government ownership is influenced by the economic characteristics of the firm, with corporate risk-taking being one of these characteristics. For example, the government could maintain a higher stake in less risk-taking firms to extract higher private benefits (e.g., political benefits). Alternatively, the government may retain control over less risk-taking NPFs because no acquirer is interested in investing such firms. Given the potential for endogeneity between ownership identity and risk-taking, in Model 3 of Table 4 we estimate two systems of simultaneous equations that treat ownership identity (*STATEOWN*) and risk-taking as jointly determined. We perform the estimation using a two-stage procedure as described in Maddala (1983) that allows for correlation of errors across equations (see also Guedhami et al., 2009). In the first stage (unreported), we find that *LAWORDER* is negatively and significantly related to state ownership. More important for our purposes, we continue to find in Model 3 that *STATEOWN* is negatively associated with *RISK1* and statistically significant at the 1% level.

In the remaining models of Table 4, we consider different proxies for state control. Given the staggered nature of government sales after privatization, introducing *STATEOWN* in the

[11] Adding support to our choice of *LAWORDER* as an instrument, in John et al. (2008) this proxy loads insignificantly when explaining risk-taking in an international sample.

first year over which *RISK1* is calculated as in John et al. (2008) may overestimate the impact of government ownership during this period. To adjust for this fact, in Model 4 we replace *STATEOWN* with the average state ownership for the period over which *RISK1* is calculated (*AVG_STATEOWN*). The results remain qualitatively unchanged, with *AVG_STATEOWN* loading negative and statistically significant at the 1% level. In Model 5 we follow Boubakri et al. (2005) and Guedhami et al. (2009) and replace *STATEOWN* with the dummy variable *CONTROL*, which is equal to one if the government retains control over the NPF (i.e., maintains more than 50% of the firm's shares). We expect risk-taking to be lower in firms in which the government maintains control than in those in which it relinquishes control. The results are consistent with this expectation: *CONTROL* is negatively related to *RISK1* and is statistically significant at the 1% level. This finding is also economically material: moving *CONTROL* from 0 to 1 (i.e., government maintains control) while holding all other variables at their mean value decreases risk-taking by 38%, from 0.039 to 0.024.

In Model 6 we control for *CONNECTED*, a dummy variable that is equal to one if the firm is politically connected, that is, if at least one member of its Board of Directors is or was a politician, that is, a member of parliament, a minister or other appointed senior officer. Table 2 reports that 28% of our sample is politically connected. Fan et al. (2007) show that politically connected NPFs exhibit lower market performance compared to unconnected firms. Accordingly, we expect that governments appointing politicians in key positions within an NPF anticipate a conservative investment approach that serves the government's political goals, that is, we expect connected NPFs to be less likely to undertake aggressive investment activities. Consistent with this expectation, we find that *CONNECTED* loads negative and is statistically significant at the 1% level. This finding is also economically material: moving *CONNECTED* from 0 to 1 (i.e., government maintains control through political connections) while holding all other variables at their mean value decreases risk-taking by 39%, from 0.036 to 0.022. In Model 7 we consider an alternative definition of political connectivity that allows the influence of political connections to depend on the strength of the connection. In particular, we consider the percentage of politically-experienced directors on the board, *PERCON*. The higher the number of politicians on the board, the higher the government's influence should be. In contrast, an isolated politician on the board is not likely to have such influence. The results in Model 7 show that including this variable as a proxy for government control does not change our inference on

the negative impact of government ownership on risk-taking: *PERCON* loads negative and is statistically significant at the 5% level.

[Insert Table 4 about here]

In summary, the results in Table 4 show that state ownership is negatively related to corporate risk-taking. These results hold when addressing the endogeneity issue and when using alternative measures of government ownership and control. We next turn to our results for hypothesis H2 on the impact of foreign ownership on corporate risk-taking.

4.2.2. The impact of foreign ownership on corporate risk-taking

Table 5 reports results of regressing Equation 1 using *FOREIGNOWN* as the independent variable of interest. In Model 1, in line with our univariate results, we find that *FOREIGNOWN* loads positive and is statistically significant at the 1% level, suggesting that in contrast to the government, foreign owners take more risk. In addition, the results are economically significant. For example, the coefficient on *FOREIGNOWN* suggests that foreign owners increase their risk-taking by 23% (from 0.031 to 0.038) when increasing foreign ownership by one standard deviation from its mean value (from 10% to 29%), holding the other variables at their mean values.

Similar to the regressions in Table 4, one potential concern with the base-case regression in Table 5 is that *FOREIGNOWN* may not be exogenous and some unobserved determinants of corporate risk-taking may also explain ownership structure. In Table 5, Model 2, we confront the issue of endogeneity using two-stage instrumental variable estimations. We use the property rights index derived from *Economic Freedom of the World* by Gwartney et al. (2008), *PROPERTY,* as an instrument for foreign ownership. This choice is motivated by evidence in Chhibber and Majumdar (1999) that foreign owners are more inclined to invest in local firms after the implementation of reforms that result in stronger protection of property rights. *PROPERTY* ranges from 0 to 100 and assesses "the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state. It also assesses the likelihood that private property will be expropriated and the independence of the judiciary, the

extent of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts".

In first-stage regressions, we predict foreign ownership using the property rights protection index, *PROPERTY*, along with the other independent variables discussed earlier. Consistent with prior research (Chhibber and Majumdar, 1999), the first-stage regression (unreported for the sake of space) show that *PROPERTY* is a good predictor of foreign ownership. Indeed, *PROPERTY* loads positively and is statistically significant at the 5% level, suggesting that foreign investors have more incentives to acquire stakes in countries that enforce property rights. Using the first-stage fitted values for *FOREIGNOWN* in the second-stage regression reported in Model 2, we continue to find that the coefficient on *FOREIGNOWN* is positive and statistically significant at the 1% level. Thus, accounting for endogeneity, that is, using the instrumental variable (IV) approach, does not appear to affect our main evidence on the impact of foreign owners on corporate risk-taking.

Another concern with our main analyses may be that foreign ownership is influenced by the economic characteristics of the firm, with corporate risk-taking being one of these characteristics. For example, foreign owners may choose to invest exclusively in high risk-taking firms. Given the potential for endogeneity between foreign ownership and risk-taking, in Model 3 of Table 5 we estimate two systems of simultaneous equations that treat foreign ownership *FOREIGNOWN* and risk-taking as jointly determined as for state ownership in Table 4. We find in the first stage (not reported) that *PROPERTY* is positively and significantly related to foreign ownership. More important for our purposes, we continue to find in Model 3 that *FOREIGNOWN* is positively associated with *RISK1* and statistically significant at the 1% level. [12]

In a natural extension of the analysis in Model 1 of Table 5, Models 4 and 5 of Table 5 report results according to whether the government relinquishes control to evaluate whether foreign owners continue to play a significant role in the risk-taking of NPFs in which there is less government interference. Consistent with such a role, *FOREIGNOWN* loads positive and significant at the 1% level in Model 5 when the government no longer holds a majority equity

[12] Also, since *RISK1* is calculated over the upcoming four years in which the ownership variables enter, this mitigates concerns that governments (foreigners) choose to invest in low (high) risk-taking firms and hence reduces concerns about reverse causality.

stake. In sharp contrast, the coefficient on *FOREIGNOWN* is statistically indistinguishable from zero when the government retains control in Model 4, implying that foreign owners take more risk in firms in which they are less likely to face government interference.

Next, in Models 6 and 7 of Table 5, we divide our sample into firms that are politically connected and those that are not in order to evaluate whether foreign owners' risk-taking behavior takes political interference into account. Consistent with such considerations, we find that *FOREIGNOWN* loads positively significant (at the 1% level) only for the subsample of firms in which the government does not play a role through political appointments (Model 7). For the subsample of politically connected firms (Model 6), the coefficient on *FOREIGNOWN* is negative and significant at the 5% level suggesting that foreign owners are conservative in their investment choices when the NPFs are politically connected.

Finally, in Models 8 and 9 of Table 5 we divide our sample according to whether the firm holds a golden share. A golden share endows the government with special veto power over major financing and operating decisions.[13] The dummy variable *GOLDEN SHARE*, which is equal to one for firms holding a golden share, is drawn from Boubakri et al. (2009). In Model 9 we find that foreign investors take more risk in firms without a golden share: in this regression, *FOREIGNOWN* loads positive and is statistically significant at the 1% level. In contrast, we do not find such evidence in Model 8.[14]

[Insert Table 5 about here]

Overall, the results in Table 5 show that foreign ownership is positively associated with corporate risk-taking. These results hold when addressing the endogeneity issue. Foreign

[13] Bortolotti and Faccio (2009: 2918) define a golden share in privatized firms as "the set of the state's special powers and statutory constraints on privatized companies. Typically, special powers include (1) the right to appoint members in corporate boards; (2) the right to consent to or to veto the acquisition of relevant interests in the privatized companies; and (3) other rights such as to consent to the transfer of subsidiaries, dissolution of the company, ordinary management, etc. The above mentioned rights may be temporary or not. On the other hand, statutory constraints include (1) ownership limits, (2) voting caps, and (3) national control provisions."

[14] This result should be interpreted carefully given the small number of firms in our sample that maintain a golden share. Indeed, we find that only 17 firms in our sample hold a golden share compared to 88 without such a control device.

owners tend to take more risk, especially if the government relinquishes direct or indirect control (i.e., through majority residual ownership, by appointing politicians within the NPF, or by holding a golden share).

4.2.3. Additional Tests

Table 6 presents additional tests to ensure the robustness of our results. In Model 1, our baseline regression, when controlling for state and foreign ownership simultaneously, we find that they enter the regression negatively and positively, respectively, and are statistically significant at the 5% and the 1% level, respectively. In the Models 2 to 6, we use alternative measures of corporate risk-taking to mitigate concerns that our evidence is driven by the proxy for firm risk-taking. In Model 2 we use *RISK2,* which is the standard deviation of *ROA* over five overlapping years for a maximum of six years following privatization (i.e., 0,+4; +1,+5; and +2,+6). Our previous results remain unchanged. Indeed, *STATEOWN* loads negative and is statistically significant at the 1% level and *FOREIGNOWN* loads positive and is statistically significant at the 1% level. In Models 3 and 4 we consider *RISK3* and *RISK4,* which are the maximum minus the minimum *ROA* over four and five overlapping periods, respectively. Our results again remain unchanged.

In Model 5 of Table 6, we consider a country-adjusted measure of the earnings volatility. This country adjustment is challenging. First, using our sample firms to calculate the average ROA for a given country-year to adjust our firms' earnings is somewhat questionable given the limited number of available observations. Second, in our regressions we control for the economic conditions by including *GDPGROWTH* and the country-fixed effects. Finally, several sample firms are monopolies and a country or industry adjustment might be inappropriate (see also Boubakri and Cosset, 1998). Nevertheless, in Model 5 we present this specification using a country-adjusted measure of risk-taking (*RISK5*) for a subsample of firms.[15] *RISK5* is equal to the volatility over four overlapping years of the difference between a firm's ROA and the average ROA across all non-financial firms covered by *Compustat Global* in the country in which

[15] The number of observations drops from 432 for *RISK1* to 295 for *RISK5*. Indeed, our sample includes only observations after 1987 when *Compustat Global* coverage began. Also, *Compustat Global* starts covering many developing countries of our sample in the middle of the nineties or latter. For example, Bangladesh enters in the database in 2000, Egypt in 1996, Jordan in 1997, Morocco in 1996, and Nigeria in 2001.

the firm is registered. The results continue to support our evidence. Indeed, *STATEOWN* and *FOREIGNOWN* enter negative and positive, respectively, and are statistically significant at the 1%level.[16]

In Model 6 of Table 6, we consider the volatility of the return on sales (*ROS*), measured by the ratio of EBIT to total sales, over four overlapping years (*RISK6*). D'Souza and Megginson (1999) and Fan et al. (2007) stress that using ROS mitigates concerns that ROA is sensitive to inflation and accounting conventions and management since it involves two flow measures (EBIT and sales). Also, ROS reduces the bias on performance measures based on assets since the privatizations are primary offerings that increases the asset base of the firm substantially after the divestiture. Introducing *RISK6* as a dependent variable does not change our evidence.[17] Taken together, the evidence presented in Models 2 to 6 of Table 6 suggests that our results are unaffected by the choice of a proxy for risk-taking or by the length of period over which the risk-taking proxy is calculated.

Another concern with our main analyses may relate to our sample being dominated by firms privatized during the 1990s. Several countries, under pressure from the World Bank and the International Monetary Fund, launched a privatization program during the 1990s, especially in the emerging markets (Megginson and Netter, 2001). To mitigate concerns that our results are driven by privatizations that occurred outside this period, we rerun our analyses limiting attention to transactions over the 1990-2000 period. The results reported in Model 7 of Table 6 show that our main evidence is not affected. *STATEOWN* loads negative and statistically significant at the 5% level, and *FOREIGNOWN* loads positive and statistically significant at the 1% level.

In Models 8 and 9 of Table 9, we include additional control variables to our baseline regression. First, when we introduce different types of ownership identity, namely, *STATEOWN, FOREIGNOWN,* and *LINSTOWN*, in Model 8, the results continue to remain

[16] John et al. (2008) also find that the results using a country-adjusted measure or total risk are qualitatively similar.

[17] Our results are also robust to using the volatility of ROS over five overlapping years as a dependent variable. Also, all the results in the paper remain qualitatively similar when using *RISK6* as a dependent variable.

unchanged. In particular, *STATEOWN* (*FOREIGNOWN)* remains negatively (positively) and statistically significantly associated with *RISK1*. *LINSTOWN* loads positive but is insignificant. Second, following Faccio et al. (2011), we additionally introduce two institutional variables, namely, *ACC* an index driven from Kurtzman et al. (2004) that measures the financial reporting quality, which is one of the subindices of their opacity index, and the Djankov et al.'s (2008) *ANTISELFDEALING* score that captures the regulation of corporate self-dealing transactions along three dimensions: disclosure, approval procedures for transactions, and facilitation of private litigation when self-dealing is suspected.[18,19] The results are reported in Model 9 and show that our evidence remains qualitatively similar. In addition, we find that *ACC* and *ANTISELFDEALING* enter significantly in this regression and are, negatively and positively, respectively, associated to risk-taking.

[Insert Table 6 about here]

5. The Impact of Country-Level Governance Institutions

We extend our analyses above to study the impact of the level of governance institutions on risk-taking by foreign owners (*H2b)*. To test this hypothesis, we rely on three different measures to capture country-level governance institutions, namely, the ICRG level of investment profile, *INVPROF*, the ICRG level of government stability, *GOVSTAB,* and the level of rule of law, *RULELAW*, derived from Kaufmann et al. (2009). All the variables are widely used in the literature as a measure of country-level governance institutions (e.g., Durnev and Fauver, 2009; Caprio et al., 2011; among others). *INVPROF* ranges from 0 to 12 and is defined by the ICRG as "an assessment of factors affecting the risk to investment that are not covered by other political, economic and financial risk components. The subcomponents are: Contract Viability/Expropriation; Profits repatriation; Payment Delays." Each subcomponent ranges from 0 to 4. *GOVSTAB* ranges from 0 to 12 and is defined by the ICRG as "an assessment of

[18] We rely on *ACC* index rather than other accounting quality measures since Kurtzman et al. (2004) database covers more countries contained in our sample, especially the developing countries. Also, when controlling for the earnings management, as measured by Leuz et al. (2003), at the firm-level, we lose a significant number of observations due to the scarcity of detailed financial data, especially in African countries and for firms privatized in the eighties (see also Boubakri and Cosset, 1998).

[19] Djankov et al. (2008) stress that anti-self-dealing index performs better than the other investor protection measures.

both of the government's ability to carry out its declared program (s), and its ability to stay office." *RULELAW* ranges from -2.5 to 2.5 and is defined by Kaufmann et al. (2009) as "The extent to which agents have confidence in and abide by the rules of society, including the quality of contract enforcement and property rights, the police, and the courts, as well as the likelihood of crime and violence". The indices are designed such that higher scores reflect better governance institutions. We expect that foreign owners will take more risk in countries with better governance institutions. Indeed, Knack and Keefer (1995) argue that if contracts are not respected by the government, investment by private investors, including foreigners, will be lower. In the same vein, Durnev and Fauver (2009) find that owners have less incentives to encourage value maximization by managers, and hence risk-taking, if the government is likely to expropriate firm profits.

To study the effect of these different variables on the risk-taking behavior of the foreign owners, we include them in our baseline regression of Table 6 and we interact them with the level of foreign ownership. We expect that the interaction terms will enter the regressions positively. In Model 1, when we include *INVPROF* and the interaction term with the foreign ownership, we find that the interaction term *(FOREIGNOWN *INVPROF)* loads positive and is statistically significant at the 5 % level suggesting that the lower (higher) the expropriation (governance) by the government and the higher the foreign owners will undertake risky investments. In Models 2 and 3, when we introduce *GOVSTAB* and *LAWORDER* and their interaction terms with foreign ownership, respectively, we find similar evidence. Indeed, the higher the government stability and the law and order in the country and the riskier the foreign owners' investment choices. *FOREIGNOWN*GOVSTAB* loads positive and statistically significant at the 1% level in Model 2, while *FOREIGNOWN*LAWORDER* loads positive and statistically significant at the 10% level in Model 3. Government quality is thus likely to condition the risk-taking by foreign owners.

[Insert Table 7 about here]

In summary, the results of this section suggest that although foreign owners tend to take more risk, all things being equal, this relation is stronger in countries with high levels of government governance.

6. Conclusion

In this paper we rely on a unique database of 190 privatized firms from 36 countries to investigate the impact of state and foreign ownership on corporate risk-taking, where we measure risk-taking using the volatility of earnings over four overlapping periods following the divestiture of SOEs. Corporate risk-taking behavior is important as it is fundamental to long-term economic development (Baumol et al., 2007).

Our first objective is to evaluate the impact of state ownership on risk-taking in NPFs. Heavy government intervention may lead firms to pursue conservative (i.e., less risky) investments. Our second objective is to assess the impact of foreign ownership on corporate risk-taking in NPFs. Foreign investors who have been offered tranches in NPFs are expected to bring financial resources and managerial know-how to former SOEs', and thus are expected to positively affect risk-taking.

In a pooled panel regression that controls for firm- and country-level variables associated with risk-taking, we provide evidence that state ownership is negatively related to corporate risk-taking while foreign ownership is positively related to risk-taking. These results, which are robust to a battery of sensitivity tests including endogeneity of the ownership structure and simultaneity of the relation, suggest a divergence in different types of shareholders' interests with respect to investment. Moreover, we find that the relation between foreign owners and corporate risk-taking is stronger in countries with better levels of governance institutions.

Our results have broad implications for policy makers. First, the benefits expected to result from privatization may not materialize under continued government control over NPFs. Moreover, reducing barriers to foreign direct investment and improving a country's governance institutions, which condition the behavior of shareholders, can lead to a significant increase in corporate risk-taking, which is an important driver of a country's economic growth and development.

APPENDIX

Variables, definitions, and sources

Variable	Definition	Source
Panel A. Corporate risk-taking variables		
RISK1	Company earnings volatility equal to $RISK1= \sqrt{\frac{1}{T-1}\sum_{t=1}^{T}\left(E_{i,t} - \frac{1}{T}\sum_{t=1}^{T}E_{i,t}\right)}^2 /T=4;$ Where $E_{i,t} = \frac{EBIT_{i,t}}{A_{i,t}}$ $N_{i,t}$ indexes the firm *i* and year *t*, and $EBIT_{i,t}$ is defined as the earnings before interest and taxes of firm *i* in year *t;* $A_{i,t}$ is equal to the total assets; T over (0 to+3, +1to+4,+2to+5;+3to+6).	Firms' annual reports and *Worldscope*
RISK2	Company earnings volatility equal to $RISK2= \sqrt{\frac{1}{T-1}\sum_{t=1}^{T}\left(E_{i,t} - \frac{1}{T}\sum_{t=1}^{T}E_{i,t}\right)}^2 /T=5;$ Where $E_{i,t} = \frac{EBIT_{i,t}}{A_{i,t}}$ $N_{i,t}$ indexes the firm *i* and year *t*, and $EBIT_{i,t}$ is defined as the earnings before interest and taxes of firm *i* in year *t;* $A_{i,t}$ is equal to the total assets; T over (0 to+4, +1to+5,+2to+6).	As above
RISK3	Company risk-taking is equal to $RISK3$= Max($E_{i,t}$) -Min ($E_{i,t}$) where $E_{i,t} = \frac{EBIT_{i,t}}{A_{i,t}}$ $N_{i,t}$ indexes the firm *i* and year *t*, and $EBIT_{i,t}$ is defined as the earnings before interest and taxes in year *t;* $A_{i,t}$ is equal to the total assets; T over (0 to+3, +1to+4,+2to+5,+3to +6)	As above
RISK4	Company risk-taking is equal to $RISK4$= Max($E_{i,t}$) -Min ($E_{i,t}$) where $E_{i,t} = \frac{EBIT_{i,t}}{A_{i,t}}$ $N_{i,t}$ indexes the firm *i* and year *t*, and $EBIT_{i,t}$ is defined as the earnings before interest and taxes in year *t;* $A_{i,t}$ is equal to the total assets; T over (0 to+4, +1to+5,+2to+6).	As above
RISK5	Company risk-taking is equal to $RISK5= \sqrt{\frac{1}{T-1}\sum_{t=1}^{T}\left(E_{i,c,t} - \frac{1}{T}\sum_{t=1}^{T}E_{i,c,t}\right)}^2 /T=4;$ where $E_{i,c,t} = \frac{EBIT_{i,c,t}}{A_{i,c,t}} - \frac{1}{N_{c,t}}\sum_{k=1}^{N_{c,t}}\frac{EBIT_{k,c,t}}{A_{k,c,t}}$, $N_{c,t}$ indexes the firms within country *c* and year *t*, and $EBIT_{i,c,t}$ is defined as the earnings before interest and taxes in year *t;* $A_{i,c,t}$ is equal to the total assets; T over (0 to+3, +1to+4,+2to+5,+3to +6)	Firms' annual reports, *Worldscope,* and *Compustat Global*
RISK6	Company earnings volatility equal to $RISK6= \sqrt{\frac{1}{T-1}\sum_{t=1}^{T}\left(E_{i,t} - \frac{1}{T}\sum_{t=1}^{T}E_{i,t}\right)}^2 /T=4;$ Where $E_{i,t} = \frac{EBIT_{i,t}}{SALES_{i,t}}$ $N_{i,t}$ indexes the firm *i* and year *t*, and $EBIT_{i,t}$ is defined as the earnings before interest and taxes of firm *i* in year *t;* $SALES_{i,t}$ is equal to the total sales; T over (0 to+3, +1to+4,+2to+5;+3to+6).	Firms' annual reports and *Worldscope*

Panel B. Ownership and state control variables		
STATEOWN	The percentage of shares held by the government.	Firms' annual reports and offering prospectuses
AVG_STATEOWN	Average state ownership for the period over which *RISK1* is calculated.	As above
FOREIGNOWN	The percentage of shares held by foreign investors.	As above
LINSTOWN	The percentage of shares held by local institutions.	As above
CONTROL	A dummy variable equal to one for firms in which the state maintains control following privatization.	As above
CONNECTED	A dummy variable equal to unity for politically connected firms, and zero otherwise.	Boubakri et al. (2008)
PERCON	The percentage of politically connected directors in the BOD.	As above
GOLDEN SHARE	A dummy variable equal to unity for firms holding a golden share, and zero otherwise.	Boubakri et al. (2009)
Panel C. Firm-level control variables		
ROA	The ratio of EBIT to total assets.	Firms' annual reports and offering prospectuses, and *Worldscope*
LEVERAGE	The ratio of total debt to total assets.	As above
SIZE	The natural logarithm of total sales in US$.	As above
SALESGROWTH	The firm sales growth using total sales denominated in US$.	As above
Panel D. Country-level control variables		
ACC	An assessment of the quality of countries' corporate accounting standards.	Kurtzman et al. (2004)
ANTISELFDEALING	Average of ex-ante and ex-post private control of self-dealing.	Djankov et al. (2008)
RULELAW	The extent to which agents have confidence in and abide by the rules of society, including the quality of contract enforcement and property rights, the police, and the courts, as well as the likelihood of crime and violence.	Kaufmann et al. (2009)
INVPROF	Assessment of factors affecting the risk to investment that are not covered by other political, economic and financial risk components. The subcomponents are: Contract Viability/Expropriation; Profits repatriation; Payment Delays. This variable ranges from 0 to 12 with higher scores for lower risks.	ICRG (2008)
GOVSTAB	The ICRG assessment of the country's government stability	As above
GDPGROWTH	The annual change in the estimated GDP, at constant 1995 prices, of a given country is expressed as a percentage increase or decrease.	World Development Indicators. World Bank

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TABLE 1

Description of the sample of newly privatized firms

Distribution of privatizations

Panel A. By year

Year	Number	Percentage
1980	1	0.53
1981	1	0.53
1985	4	2.11
1986	3	1.58
1987	4	2.11
1988	3	1.58
1989	4	2.11
1990	12	6.32
1991	9	4.74
1992	10	5.26
1993	9	4.74
1994	15	7.89
1995	20	10.53
1996	19	10.00
1997	23	12.11
1998	15	7.89
1999	9	4.74
2000	11	5.79
2001	4	2.11
2002	5	2.63
2003	5	2.63
2004	4	2.11
Total	190	100.00

Panel B. By industry

Industry	Number	Percentage
Basic industries	32	16.84
Capital goods	6	3.16
Construction	10	5.26
Consumer durables	25	13.16
Food/tobacco	20	10.53
Leisure	2	1.05
Petroleum	17	8.95
Services	2	1.05
Textiles/trade	10	5.26
Transportation	12	6.32
Utilities	54	28.42
Total	190	100.00

Panel C. By region*

Region (countries)	Number	Percentage
Africa and the Middle East (11)	62	32.64
East and South Asia and the Pacific (12)	41	21.58
Latin America and the Caribbean (5)	36	18.94
Europe and Central Asia (8)	51	26.84
Total (36)	190	100.00

Notes: This table reports the distribution of the sample of 190 privatized firms by year, industry, and region, *World Bank country group classification.

TABLE 2

Descriptive statistics for the regression variables

	Mean	Median	Std. Deviation	Min	Max
RISK1	0.033	0.022	0.033	0.000	0.163
RISK2	0.036	0.025	0.033	0.001	0.151
RISK3	0.072	0.049	0.071	0.000	0.403
RISK4	0.082	0.058	0.077	0.000	0.403
RISK5	0.040	0.031	0.031	0.003	0.157
RISK6	0.077	0.036	0.113	0.001	0.627
STATEOWN	0.411	0.443	0.282	0.000	0.972
FOREIGNOWN	0.105	0.031	0.190	0.000	1.000
LINSTOWN	0.212	0.147	0.228	0.000	1.000
CONTROL	0.450	0.000	0.498	0.000	1.000
CONNECTED	0.277	0.000	0.448	0.000	1.000
PERCON	0.155	0.117	0.104	0.000	0.764
ROA	0.075	0.066	0.074	-0.206	0.288
LEVERAGE	0.298	0.245	0.248	0.000	1.176
SIZE	11.883	11.764	2.742	3.183	18.139
SALESGROWTH	0.111	0.061	0.426	-0.738	3.033
GDPGROWTH	4.429	4.642	2.631	-13.127	12.822
INVPROF	7.924	7.833	1.868	2.417	12.000
GOVSTAB	8.516	9.000	1.970	2.000	11.083
RULELAW	0.458	0.046	0.776	-1.420	1.998
ANTISELFDEALING	0.406	0.374	0.231	0.092	1.000
ACC	35.927	40.000	11.856	0.000	63.000

Notes: This table reports summary descriptive statistics for the key regression variables used in the hypotheses tests to examine the impact of state and foreign ownership on corporate risk-taking for a maximum sample of 190 privatized firms from 36 countries. The definitions and data sources for the regression variables are outlined in the Appendix.

TABLE 3

Pearson Correlation Coefficients and Univariate analysis

Panel A: Pearson Correlation Coefficients

	RISK1	*FOREIGNOWN*	*STATEOWN*	*ROA*	*LEVERAGE*	*SIZE*	*SALESG*
FOREIGNOWN	**0.1249***						
STATEOWN	**-0.1206***	**-0.4617***					
ROA	0.0043	0.0144	-0.0290				
LEVERAGE	-0.0427	0.0223	-0.0547	**-0.2126***			
SIZE	**-0.1148***	-0.0098	0.0513	**-0.0693***	**0.2399***		
SALESGRWOTH	**0.1308***	0.0057	0.0116	**0.1084***	-0.0274	0.0408	
GDPGROWTH	**-0.0786***	-0.0580	**0.0874***	**0.1214***	**-0.0823***	**-0.1452***	0.0300

Notes: Panel A reports Pearson correlations for the regression variables. Boldface indicates statistical significance at the 1% level. The definitions and data sources for the variables are outlined in the Appendix.

Panel B: Univariate tests of risk-taking by shareholder identity and level

	RISK1					
	Means			Medians		
	Low Ownership (A)	High Ownership (B)	*T*-Statistics	Low Ownership (C)	High Ownership (D)	*Z*-Statistics
STATEOWN	0.041	0.025	5.812***	0.026	0.017	5.510***
FOREIGNOWN	0.028	0.038	-3.447***	0.019	0.025	-3.869***

Notes: Panel B reports measures of central tendency for risk-taking proxy (*RISK1*) for the high and low subsample of state and foreign ownership. The full sample includes 190 privatized firms from 36 countries. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. The definitions and data sources for the variables are outlined in the Appendix.

TABLE 4

Regressions of risk-taking on state ownership and control variables

	Basic Model	Endogeneity of State Ownership		Alternative State Control Variables			
Variable (Prediction)		Instrumental Variable 2nd Stage	Simultaneous Equations 2nd Stage	*AVG_ STATEOWN*	*CONTROL*	*CONNECTED*	*PERCON*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
STATEOWN (-)	-0.028***	-0.040***	-0.040***				
	(-3.036)	(-3.164)	(-3.841)				
AVG_STATEOWN (-)				-0.028***			
				(-3.359)			
CONTROL (-)					-0.016***		
					(-5.082)		
CONNECTED (-)						-0.014***	
						(-3.015)	
PERCON (-)							-0.029**
							(-1.776)
ROA (+)	0.070***	0.058**	0.054**	0.085***	0.071***	0.053	0.053
	(2.356)	(1.754)	(1.707)	(2.391)	(2.342)	(1.100)	(1.073)
LEVERAGE (+)	0.015***	0.009*	0.007	0.019***	0.016***	0.027***	0.023***
	(2.526)	(1.319)	(1.130)	(2.555)	(2.671)	(3.088)	(2.602)
SIZE (-)	-0.003***	-0.002**	-0.001**	-0.003***	-0.003***	-0.002**	-0.003**
	(-3.347)	(-2.112)	(-2.199)	(-3.678)	(-3.587)	(-1.775)	(-2.044)
SALESGROWTH (+)	0.008**	0.007*	0.006*	0.006*	0.008***	0.013***	0.013***
	(2.250)	(1.612)	(1.325)	(1.295)	(2.592)	(3.387)	(3.425)
GDPGROWTH (+)	0.000	-0.001	-0.001	-0.001	-0.000	-0.000	-0.000
	(0.076)	(-1.441)	(-1.279)	(-1.574)	(-0.066)	(-0.273)	(-0.431)
Intercept	0.099***	0.086***	0.083***	0.122***	0.099***	0.074**	0.084***
	(5.379)	(6.270)	(8.114)	(9.379)	(6.886)	(2.414)	(2.942)
YEAR EFFECTS	YES	YES	YES	YES	YES	YES	YES
INDUSTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES
COUNTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES
P-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R-Squared	0.286	0.442	0.123	0.351	0.291	0.361	0.345
Observations	547	547	547	547	547	414	414

Notes: this table reports OLS estimation of the following risk-taking model:

$$RISK1 = \alpha + \gamma_1 STATEOWN + \gamma_2 CONTROLS + \sum_{Y=1}^{Y-1} YEAR + \sum_{K=1}^{K-1} IND + \sum_{C=1}^{C-1} CNT + \eta$$

where *RISK1* is a measure of corporate risk-taking; *STATEOWN* is the percentage of shares held by the government; and *CONTROLS* is a set of control variables (*ROA, LEVERAGE, SIZE, SALESGROWTH* and *GDPGROWTH*). Model 1 is our basic model. Models 2 and 3 reports results from additional tests that address the endogeneity of state ownership and account for the simultaneous relation between risk taking and state ownership level. First-stage regressions results predicting state ownership are unreported. In Model 2, we report the second-stage regressions of corporate risk-taking on fitted-values of *STATEOWN*. We use in the first-stage regressions related to Model 2 a country's law and order derived from the ICRG database to predict state ownership. This table reports also in Model 3 the risk taking model results from

estimating two systems of simultaneous equations that treat state ownership and risk taking as jointly determined. Models 4, 5, 6 and 7 control for *AVR_STATEOWN, CONTROL*, *CONNECTED* and *PERCON*, respectively, instead of *STATEOWN.* The definitions and data sources for the variables are outlined in the Appendix. The full sample includes 190 privatized firms from 36 countries. Beneath each estimate is reported the robust *t*-statistic clustered at both the firm and the country-level. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.

TABLE 5

Regressions of risk-taking on foreign ownership and control variables

	Basic Model	Endogeneity of Foreign Ownership		*CONTROL*		*CONNECTED*		*GOLDEN SHARE*	
Variable (Prediction)		Instrumental Variable 2nd Stage	Simultaneous Equations 2nd Stage	YES	NO	YES	NO	YES	NO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FOREIGNOWN (+)	0.034***	0.098***	0.096***	0.008	0.025***	-0.046**	0.037***	0.018	0.038***
	(7.791)	(2.494)	(2.391)	(0.270)	(5.269)	(-2.002)	(5.833)	(0.540)	(24.694)
ROA (+)	0.058**	0.040	0.037	0.182***	0.053**	0.042	0.071***	0.230*	0.107***
	(2.096)	(0.882)	(0.948)	(6.717)	(1.928)	(1.171)	(3.225)	(1.408)	(8.335)
LEVERAGE (+)	0.014**	0.003	0.002	0.013**	0.032***	0.043	0.026***	-0.095***	0.028***
	(2.178)	(0.277)	(0.181)	(2.058)	(2.841)	(1.043)	(2.840)	(-3.392)	(8.247)
SIZE (-)	-0.004***	-0.002***	-0.004***	-0.000	-0.004***	-0.004*	-0.002**	0.005	-0.003***
	(-4.501)	(-4.300)	(-4.961)	(-0.444)	(-3.759)	(-1.548)	(-1.717)	(0.957)	(-13.637)
SALESGROWTH (+)	0.006**	0.002	0.002	0.003	0.003	0.018***	0.002	0.019***	0.002**
	(1.839)	(0.637)	(0.603)	(0.614)	(0.839)	(2.981)	(0.555)	(6.082)	(2.294)
GDPGROWTH (+)	0.001	0.001	0.001	-0.000	0.000	-0.004**	0.000	-0.003**	0.001***
	(1.045)	(0.975)	(1.121)	(-0.856)	(0.242)	(-2.204)	(0.556)	(-2.253)	(3.862)
Intercept	0.084***	0.029*	0.027*	0.001	0.090***	0.091***	0.049*	0.026	0.085***
	(3.785)	(1.877)	(1.735)	(0.192)	(3.047)	(3.216)	(1.761)	(0.413)	(16.336)
YEAR EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
INDUSTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
COUNTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
P-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R-Squared	0.282	0.220	0.125	0.675	0.310	0.617	0.410	0.772	0.309
Observations	436	356	356	193	243	77	256	45	298

Notes: this table reports OLS estimation of the following risk-taking model:

$$RISK1 = \alpha + \gamma_1 FOREIGNOWN + \gamma_2\, CONTROLS + \sum_{Y=1}^{Y-1} YEAR + \sum_{K=1}^{K-1} IND + \sum_{C=1}^{C-1} CNT + \eta$$

where *RISK1* is a measure of corporate risk-taking; *FOREIGNOWN* is the percentage of shares held by foreigners; and *CONTROLS* is a set of control variables (*ROA, LEVERAGE, SIZE, SALESGROWTH* and *GDPGROWTH*). Model 1 is our basic model. Models 2 and 3 reports results from additional tests that address the endogeneity of foreign ownership and account for the simultaneous relation between risk taking and foreign ownership level. First-stage regressions results predicting foreign ownership are unreported. In Model 2, we report the second-stage regressions of corporate risk-taking on fitted-values of *FOREIGNOWN*. We use in the first-stage regressions related to Model 2 the government's property rights protection score derived from the Economic Freedom of the World database to predict foreign ownership. to predict state ownership. This table reports also in Model 3 the risk taking model results from estimating two systems of simultaneous equations that treat foreign ownership and risk taking as jointly determined. Models 4 and 5 split the sample according to whether the government keeps or relinquishes control, respectively. Models 6 and 7 split the observations according to whether the firm is connected or not, respectively. Models 8 and 9 split the observations according to whether the firms hold a golden share or not, respectively. The full sample includes 190 privatized firms from 36 countries. Beneath each estimate is reported the robust *t*-statistic clustered at both the firm and the country-level. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.

TABLE 6

Robustness Tests

	Basic Model	Alternative Dependent Variables					1990-2000 Period	Additional Control	
Variable (Prediction)	*RISK1*	*RISK2*	*RISK3*	*RISK4*	*RISK5*	*RISK6*	*RISK1*	*RISK1*	*RISK1*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
STATEOWN (-)	-0.021**	-0.035***	-0.046**	-0.088***	-0.022***	-0.088***	-0.022**	-0.023**	-0.023**
	(-2.080)	(-5.368)	(-2.244)	(-6.577)	(-3.746)	(-3.051)	(-2.133)	(-1.807)	(-1.802)
FOREIGNOWN (+)	0.023***	0.014***	0.053***	0.031***	0.021***	0.137***	0.023***	0.026***	0.027***
	(4.938)	(4.808)	(6.755)	(2.879)	(6.070)	(4.578)	(4.781)	(2.634)	(2.634)
LOCALINSTOWN (?)								0.000	0.000
								(0.025)	(0.051)
ROA (+)	0.055**	0.090**	0.129**	0.228**	0.007	-0.292***	0.058**	0.049*	0.047
	(1.814)	(1.800)	(1.930)	(2.057)	(0.282)	(-3.295)	(1.663)	(1.280)	(1.185)
LEVERAGE (+)	0.014**	0.022***	0.024**	0.045***	0.014**	0.103***	0.015**	0.016***	0.016***
	(2.048)	(3.673)	(1.655)	(3.409)	(2.207)	(4.370)	(1.783)	(2.675)	(2.603)
SIZE (-)	-0.003***	-0.002**	-0.007***	-0.006**	-0.003**	-0.009***	-0.003***	-0.003***	-0.003***
	(-3.076)	(-2.113)	(-2.976)	(-2.041)	(-2.058)	(-4.921)	(-2.750)	(-3.071)	(-3.158)
SALESGROWTH (+)	0.005*	-0.002**	0.011*	-0.003	0.001	-0.027***	0.005*	0.003	0.003
	(1.464)	(-1.750)	(1.521)	(-1.486)	(0.349)	(-2.722)	(1.301)	(1.162)	(1.206)
GDPGROWTH (+)	0.000	0.001	0.001	0.003	-0.001	0.008***	0.000	0.000	0.000
	(0.624)	(1.065)	(0.501)	(1.033)	(-0.588)	(4.428)	(0.131)	(0.870)	(0.676)
ACC(-)									-0.001**
									(-2.133)
ANTISELFDEALING(+)									0.066***
									(2.888)
Intercept	0.082***	0.063***	0.184***	0.167***	0.132***	0.248***	0.085***	0.063***	0.061***
	(4.139)	(2.695)	(4.108)	(2.911)	(5.240)	(4.228)	(3.793)	(3.567)	(5.828)
YEAR EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
INDUSTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	YES
COUNTRY EFFECTS	YES	YES	YES	YES	YES	YES	YES	YES	NO
P-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R-Squared	0.299	0.396	0.303	0.398	0.317	0.403	0.294	0.301	0.285
Observations	432	298	432	298	295	432	411	406	397

Notes: this table reports OLS estimation of the following risk-taking model:

$$RISK=\alpha+\gamma_1 STATEOWN+\gamma_2 FOREIGNOWN+\gamma_3 CONTROLS+\sum_{Y=1}^{Y-1} YEAR+\sum_{K=1}^{K-1} IND+\sum_{C=1}^{C-1} CNT+\eta$$

where *RISK* is a measure of corporate risk-taking; *STATEOWN* is the percentage of shares held by the government; *FOREIGNOWN* is the percentage of shares held by foreigners; and *CONTROLS* is a set of control variables (*ROA, LEVERAGE, SIZE, SALESGROWTH* and *GDPGROWTH*). Model 1 considers *RISK1* as the dependent variable. Models 2, 3, 4, and 5 consider *RISK2, RISK3, RISK4, RISK5* and *RISK6* as a dependent variable, respectively. This table reports in Model 7 the results for the subsample of firms privatized during the period 1990-2000. Model 8 includes *LINSTOWN* as additional control variable. Model 9 includes *ACC* and *ANTISELFDEALING* as additional control variables to Model 8.The definitions and data sources for the variables are outlined in the Appendix. The full sample includes 190 privatized firms from 36 countries. Beneath each estimate is reported the robust *t*-statistic clustered at both the firm and the country-level. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.

TABLE 7

The impact of the country-level governance institutions on risk-taking by foreign owners

	Interaction of *FOREIGNOWN* with *INVPROF*	Interaction of *FOREIGNOWN* with *GOVSTAB*	Interaction of *FOREIGNOWN* with *RULELAW*
Variable	(1)	(2)	(3)
FOREIGNOWN INVPROF (+)*	0.005**		
	(2.062)		
FOREIGNOWN GOVSTAB (+)*		0.009***	
		(3.118)	
FOREIGNOWN RULELAW (+)*			0.041*
			(1.610)
STATEOWN (-)	-0.020**	-0.021**	-0.031***
	(-1.889)	(-1.994)	(-10.137)
FOREIGNOWN (+)	-0.017	0.063**	0.017***
	(-0.745)	(2.234)	(5.640)
ROA (+)	0.052*	0.055**	0.086***
	(1.634)	(1.737)	(4.773)
LEVERAGE (+)	0.014**	0.012**	0.016**
	(2.067)	(1.718)	(2.181)
SIZE (-)	-0.003***	-0.003***	-0.003**
	(-3.044)	(-2.696)	(-2.320)
SALESGROWTH (+)	0.005*	0.005*	0.004*
	(1.444)	(1.362)	(1.471)
GDPGROWTH (+)	0.000	0.000	0.002***
	(0.453)	(0.761)	(2.973)
INVPROF (+)	-0.001		
	(-0.656)		
GOVSTAB (+)		0.001**	
		(2.097)	
RULELAW (+)			-0.021
			(-1.186)
Intercept	0.100***	0.074***	0.073***
	(4.889)	(3.815)	(2.940)
YEAR EFFECTS	YES	YES	YES
INDUSTRY EFFECTS	YES	YES	YES
COUNTRY EFFECTS	YES	YES	YES
P-value	0.00	0.00	0.00
R-Squared	0.301	0.310	0.367
Observations	431	431	354

Notes: this table reports OLS estimation of the following risk-taking model:

$$RISK1=\alpha+\gamma_1 STATEOWN++\gamma_2 FOREIGNOWN+\gamma_3 FOREIGNOWN*GOVERNANCE$$
$$+\gamma_4 CONTROLS+\sum_{Y=1}^{Y-1} YEAR+\sum_{K=1}^{K-1} IND+\sum_{C=1}^{C-1} CNT+\eta$$

where *RISK1* is a measure of corporate risk-taking; *STATEOWN* is the percentage of shares held by the government; *FOREIGNOWN* is the percentage of shares held by foreigners; and *CONTROLS* is a set of control variables (*ROA, LEVERAGE, SIZE, SALESGROWTH, GOVERNANCE,* and *GDPGROWTH*). *GOVERNANCE* refers to three measures of country-level governance institutions, namely, *INVPROF*, *GOVSTAB*, and *RULELAW*. In Model 1, we interact foreign ownership with *INVPROF*. In Model 2, we interact foreign ownership with *GOVSTAB*. In Model 3, we interact foreign ownership with *RULELAW*. The full sample includes 190 privatized firms from 36 countries. Beneath each estimate is reported the robust *t*-statistic clustered at both the firm and the country-level. The superscripts asterisks ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively, one-tailed when directional predictions are made, and two-tailed otherwise.