



Contents lists available at ScienceDirect

Economic Modelling

journal homepage: www.elsevier.com/locate/ecmod

Labor protection and government control: Evidence from privatized firms☆

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ARTICLE INFO

Article history:

Accepted 21 September 2015

Available online xxxx

Keywords:

Labor protection
Government control
Cost of equity
Privatization

ABSTRACT

In this paper, we examine whether labor protection determines the decision to retain a golden share in privatized firms. Using a sample of firms privatized in developing and industrialized countries, we find a negative relation between the likelihood of observing a golden share and labor protection. However, we find that this relation does not hold in the post-financial crisis period, suggesting that the recent crisis is associated with an increase in government control. Furthermore, we show that privatized firms in countries with strong labor protection are penalized with a higher cost of equity. Overall, our results underline the importance of labor protection for an important government control mechanism, namely golden shares, as well as for equity financing costs of privatized firms.

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1. Introduction

Privatization can be defined as the sale of state-owned enterprises (SOEs) or assets by a government to private investors. The transfer of ownership and control rights from a government to private investors is associated with a reduction of political interference, hence greater emphasis on profits and efficiency (Boycko et al., 1996; Shleifer and Vishny, 1994). Consistent with this point of view, several papers show that privatization enhances corporate efficiency (e.g., Boubakri and Cosset, 1998; Boubakri et al., 2005; Dewenter and Malatesta, 2001; Djankov and Murrell, 2002; Estrin et al., 2009; Gupta, 2005; Megginson et al., 1994; Omran, 2009). Although privatization should be accompanied by the suppression of political ties between the state and the firms concerned, recent empirical studies show that governments continue to influence privatized firms, exerting direct influence by holding shares in them. Bortolotti and Faccio (2009) show that governments remain the largest shareholder in privatized firms from OECD countries even several years after privatization. In the same vein, Boubakri et al. (2011) show that governments continue to be shareholders in privatized firms from emerging markets. Governments can indirectly influence partially or even fully privatized firms through golden shares. A number of empirical studies document the presence of golden shares in privatized firms. Using a multinational sample of privatized firms, Jones et al. (1999) find that governments impose

control restrictions on the firms' charters or retain golden shares in the vast majority of their sample firms.¹ Similarly, Bortolotti and Faccio (2009) document the use of golden shares in privatized firms from OECD countries.

In this paper, we examine whether labor protection determines the decision to hold a golden share by the government in privatized firms. Labor protection may affect government control in two ways. First, privatization is usually associated with labor restructuring (Boycko et al., 1996). For instance, several studies (e.g., Ramamurti, 1997; La Porta and Lopez-de-Salines, 1999; D'Souza and Megginson, 1999; Laurin and Bozec, 2001; Omran, 2001; Boardman et al., 2003; Sun and Tong, 2003; Okten and Arin, 2006; Chong et al., 2011, among others) show that privatization leads to retrenchment of employees. Other studies show that privatization is associated with an increase in the number of working hours (e.g., Shaikh, 1996). Given that, governments may privatize less and maintain control; when they face stringent employment protection that imposes restrictions on employee layoffs and wages reductions. This point of view suggests that the government is more likely to issue golden shares to continue to protect employees in the presence of strong labor protection. Second, stringent employment protection may reduce the risk of layoffs and wage reductions after privatization, hence it may lower labor union opposition to privatization (Subramanian and Megginson, 2012), hence encourages control relinquishment. In addition, prior literature (e.g., Gupta, 2005; Boubakri et al., 2008, among others) reports evidence suggesting that less labor restructuring is expected when the government maintains the control of the privatized firm. Given that, we expect that the government is less

☆ I would like to thank the three anonymous reviewers and the journal editor for their insightful comments and suggestions. I would also like to thank the Deanship for Scientific Research at King Saud University, represented by the research center at CBA, for supporting this research financially.

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¹ Jelic and Briston (1999) and Jelic et al. (2003) document also the presence of golden shares in transition economies.

likely to retain a golden share in privatized firms from countries with strong labor protection, since there is less need to maintain control in order to protect the interests of the employees. In this study, we empirically test these two points of view. This test is timely and important. In fact, the recent financial crisis is accompanied with an increased government participation in bailed out firms. It can also push governments to use golden shares in order to safeguard national security. Given that, it is very important, to know about golden shares as a mean of maintaining control.

Using a multinational sample of privatized firms from developing and industrialized countries for the period from 1985 to 2012, we find that the government is less likely to retain a golden share in privatized firms from countries with stronger labor regulations, consistent with the conjecture that stringent employment protection may reduce the risk of layoffs and wage reductions after privatization, hence may lower labor union opposition to privatization (Subramanian and Megginson, 2012) and encourages control relinquishment. This finding remains robust when we address the endogeneity of labor protection using 3SLS approach, control for state ownership, privatization size, and additional country-level variables, and the use of alternative samples. We also find that the relation between golden shares and labor protection is affected by the recent financial crisis. Specifically, we find that the negative relation between labor protection and golden shares dummy does not remain negative after the crisis, suggesting that the latest financial crisis is associated with an increase in government control. We also find that our results remain qualitatively unchanged when we regress our labor protection model separately for firms from emerging/developing countries and firms from developed countries. We extend our analysis of the impact of labor protection on government control by examining the economic outcomes of labor protection for privatized firms. We find strong evidence that labor protection is associated with a higher cost of equity, consistent with the conjecture that strong labor protection is associated with higher labor adjustment costs, hence lower operating flexibility. We also find that the adverse effects of labor protection on the cost of equity are less pronounced in firms with a golden share.

Our study is mainly related to two strands of literature. The research questions, sample, Methodology and results and conclusions of these literatures are summarized in Table A1. First, our paper is related to the literature on the impact of labor protection on corporate decisions and outcomes (e.g., Besley and Burgess, 2004; Henin and Weitzenblum, 2005; Kanninen and Vesala, 2005; Autor et al., 2007; Lings, 2007; Bassanini et al., 2009; Acharya et al., 2010; Botero et al., 2004; Faleye et al., 2006; Atanassov and Kim, 2009; Klasa et al., 2009; Parelo, 2011; Chen et al., 2012; Subramanian and Megginson, 2012; Belkhir and Ben-Nasr, 2014; Calcagnini et al., 2014. Our study complements these studies by showing that labor protection determines an important privatization decision, namely the decision to relinquish control. Second, our paper is related to the literature on the determinants of privatization (e.g., Bortolotti et al., 2001, 2003; Bortolotti and Pinotti, 2008; Bortolotti and Faccio, 2009; Boubakri et al., 2011; Dinc and Gupta, 2011). Our paper contributes to this strand of literature by showing that apart from the political, legal, and economic factors identified in abovementioned literature, a country's labor protection determines the decision to relinquish control in privatized firms. Our study is also related to the studies that directly examine the impact of labor protection on privatization. For example, Subramanian and Megginson (2012) examine the impact of employment protection laws on the number and the value of privatization deals in OECD countries. They show that stringent protection laws (EPL) is negatively related with the number of privatizations as well as the privatization proceeds. More recently, Belkhir and Ben-Nasr (2014) investigate the effect of labor protection on the choice of the privatization method (i.e., share issue privatizations (SIPs) versus asset sales). Using a large sample from 55 developing and developed countries, they show that SIPs are less likely in countries with strong labor protection. This finding is

consistent with the argument that the government is less likely to use SIPs in the presence of strong labor protection because it is associated with lower labor adjustment costs relative to asset sales. Our study complements these studies by showing that labor protection determines an important privatization decision, namely the decision to relinquish control.

The structure adopted for the remainder of this paper is as follows. Section 2 describes the sample, provides descriptive information about golden shares and defines our variables. Section 3 reviews the related literature and develops our hypotheses. Section 4 presents the results of our univariate and multivariate tests for the impact of labor protection on golden shares. Section 5 discusses the results of our labor economic outcomes analysis. Our findings and conclusions are summarized in Section 6.

2. Related literature and hypotheses

2.1. Related literature

Our study is related to the literature that investigates the impact of labor protection on economic performance. For instance, several studies examine the relation between employment protection and productivity. Besley and Burgess (2004) report evidence for Indian firms suggesting that stringent employment protection hinders productivity. Similarly, Autor et al. (2007) report evidence suggesting that high dismissal costs in the US are associated with a lower productivity. Lings (2007) examines the growth effects of union wage bargaining within an expanding product variety growth model. The results of this study show that unions capture monopoly profits and thus give rise to a hold-up problem, which reduces research incentives, hence dampens growth rate. Also, they show that unionization changes the “de facto” skill abundance of the economy, which may be growth enhancing. In the same vein, Bassanini et al. (2009) show that layoff restrictions in OECD countries reduce productivity. In a related study, Acharya et al. (2010) examine the impact of US labor laws on corporate innovation. They provide evidence suggesting that high dismissal costs promote innovation, hence enhance economic growth. Other studies examine the impact of the rigidity of labor regulations on employment level. Stringent labor protection is associated with less job creation and reduces employment (Lazear, 1990; Ljungqvist and Sargent, 1998). Consistent with this point of view, Botero et al. (2004) examine the impact of labor market regulations through employment laws, collective bargaining laws, and social security laws on employment. Using a worldwide sample of firms from 85 countries, they show that stringent labor regulations are associated with a larger unofficial economy, lower labor force participation, and higher unemployment. Henin and Weitzenblum (2005) show that employment protection is effective to reduce unemployment rate in response to business cycle shocks. However, they show that employment protection is ineffective to preclude the impact on unemployment of permanent changes in financial conditions. Parelo (2011) develops a no-shirking model of innovation-based growth and examine the impact of labor market policies (LMPs) on innovation and employment. The results show that LMPs can increase innovation and manufacturing employment.

Another strand of the literature studies the effect of employment laws on corporate finance and outcomes. Atanassov and Kim (2009) investigate the joint role of labor and investor protection in determining corporate restructuring decisions. Using a sample firms from 41 countries, they show that strong labor protection is associated with a higher value-reducing asset sales likelihood, especially in countries with weak investor protection. Faleye et al. (2006) report lower new capital expenditures and less risk appetite for firms where employees have a greater voice in corporate governance. These findings suggest that firms in which workers have weight in corporate governance tend to adopt strategies that do not maximize firm value, which leads to higher financing costs. Consistent with this argument, Chen et al. (2012) find that strong labor union is

associated with a lower debt financing cost. Additionally, [Chen et al. \(2011b\)](#) document that firms from highly unionized industries have higher cost of equity financing. More recently, [Calcagnini et al. \(2014\)](#) examine the impact of employment protection legislations in Europe on investment efficiency. They show that stringent labor laws are associated with less investment efficiency. Some other studies examine the impact of labor protection on other corporate aspects. For example, [Kannianen and Vesala \(2005\)](#) construct a model of enterprise formation in a unionized economy with labor protection and wage bargaining. They show that enterprise formation is affected by economic risks, unemployment compensation, union power, and labor protection variables. Our paper contributes to this literature by examining the impact of labor protection on the decision to retain a golden share by the government in privatized firms.

Our paper is also related to the literature on the determinants of privatization. For example, [Bortolotti et al. \(2001\)](#) use a panel dataset from both developed and developing countries to examine the determinants of privatization. They report evidence suggesting that countries that had high fiscal deficits and those with right-wing governments have privatized more. They also show countries with more developed stock markets and in committed countries, in which the law and order tradition is well established and where the risk expropriation and policy reversal is low, respectively. Additionally, they report evidence suggesting that governments sell larger stakes in privatized firms to signal credibility, consistent with [Perotti \(1995\)](#). In the same vein, [Bortolotti et al. \(2003\)](#) examine the determinants of the privatization likelihood using a sample from 34 countries. They show that privatization is more likely in countries with right-wing governments, consistent with [Biais and Perotti \(2002\)](#) and in less established democracies. [Bortolotti and Pinotti \(2008\)](#) study the timing of privatization in 21 developed countries. They document that privatization is delayed in democracies characterized by a larger number of parties and operating under proportional electoral votes. [Bortolotti and Faccio \(2009\)](#) examine the determinants of government control in privatized firms from OECD countries. Their findings suggest that governments tend to retain control in countries dominated by left-wing majorities, in democracies with proportional electoral systems, and in countries with centralized fiscal authority, respectively. These findings suggest that privatization tends to be incomplete in more politically fragmented environments. More recently, [Boubakri et al. \(2011\)](#) examine the determinants of residual state ownership in emerging countries. They show that residual state ownership is higher in parliamentary systems and under regimes with greater constraints on the executive. Similarly, [Dinc and Gupta \(2011\)](#) examine the determinants of the decision to privatize SOEs in India. They show that privatization is delayed in states where the opposition to the party of the incumbent central government is strong and when the politician is elected from the same state where the firm is located. Our paper contributes to this strand of literature by documenting that labor protection determines the decision to maintain control in privatized firms. It shows that apart from the political, legal, and economic factors identified in abovementioned literature, a country's labor protection determines the decision to relinquish control in privatized firms.

Additionally, our paper is related to the studies that directly examine the impact of labor protection on privatization. For example, [Subramanian and Megginson \(2012\)](#) examine the impact of employment protection laws on the number and the value of privatization deals in OECD countries. They show that stringent protection laws (EPL) is negatively related with the number of privatizations as well as the privatization proceeds. More recently, [Belkhir and Ben-Nasr \(2014\)](#) investigate the effect of labor protection on the choice of the privatization method (i.e., share issue privatizations (SIPs) versus asset sales). Using a large sample from 55 developing and developed countries, they show that SIPs are less likely in countries with strong labor protection. This finding is consistent with the argument that the government is less likely to use SIPs in the presence of strong labor

protection because it is associated with lower labor adjustment costs relative to asset sales. Our study complements these studies by showing that labor protection determines an important privatization decision, namely the decision to relinquish control.

2.2. Labor protection and the government's special rights

Managers of SOEs tend to employ excess labor ([Shleifer and Vishny, 1994](#)) in order to maximize political support. In fact, SOEs over-invest in labor and are characterized by lower efficiency (e.g. [Boycko et al., 1996](#); [Dewenter and Malatesta, 2001](#); [Shleifer and Vishny, 1994](#)). Privatization is usually accompanied with a restructuring in labor ([Boycko et al., 1996](#)). The restructuring activities may include, among others, firing employees and increasing the number of working hours. For instance, [Chong et al. \(2011\)](#) show that SOEs reduce the number of employees before privatization. Other studies document that SOEs fire employees after privatization (e.g., [Ramamurti, 1997](#); [La Porta and Lopez-de-Salines, 1999](#); [D'Souza and Megginson, 1999](#); [Laurin and Bozec, 2001](#); [Omran, 2001](#); [Boardman et al., 2003](#); [Sun and Tong, 2003](#); [Okten and Arin, 2006](#); [Chong et al. \(2011\)](#), among others) and increasing the number of working hours (e.g., [Shaikh, 1996](#)). Governments fear the reaction of their constituents and potential voters to the privatization decision ([Dinc and Gupta, 2011](#)). They also fear the reaction of other interest groups, such as labor unions and employees who may be adversely affected by privatization. Given that, governments may privatize less and maintain control in order to continue to protect employees; when they face stringent employment protection that impose restrictions on employees layoffs and wages reductions. This point of view suggests that the government is more likely to issue golden shares to continue to protect employees in the presence of strong labor protection.

However, stringent employment protection may reduce the risk of layoffs and wage reductions after privatization, hence it may lower labor union opposition to privatization ([Subramanian and Megginson, 2012](#)), hence encourages control relinquishment. Furthermore, less labor restructuring is expected when the government maintains the control of the privatized firm. In particular, employees would expect to continue enjoying their pre-privatization benefits when the government maintains the control of the privatized firm. Indeed, [Gupta \(2005\)](#) shows that partial privatization does not eliminate excess employment. In the same vein, [Boubakri et al. \(2008\)](#) show that politically-connected firms are more likely to increase post-privatization employment than their non-politically counterparts. Consequently, we expect that the likelihood of retaining a golden share by the government is lower in privatized firms from countries with stronger labor regulations.

Given the above discussion, our hypothesis for the impact of labor protection on the decision to retain a golden share is not directional and states:

H1. Labor protection determines the decision to hold a golden share, all things being equal.

3. Sample and descriptive statistics

Following [Bortolotti and Faccio \(2009\)](#), we define golden shares as “the set 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 veto the acquisition of relevant interests in the privatized companies, and (iii) other rights such as to consent to the transfer of subsidiaries, dissolution of the company, ordinary management, etc. The abovementioned rights may be temporary or not. On the other hand, statutory constraints include (i) ownership limits, (ii) voting caps, and (iii) national control provisions.”

We construct a worldwide sample of golden shares in privatized firms using the following sources: (i) [Megginson \(2005\)](#), (ii) [Bortolotti](#)

and Siniscalco (2004), (iii) Boubakri et al. (2009), and (iv) “Special rights in privatized companies in the enlarged Union – a decade full of developments” from the European Commission.² Using these sources, we obtain information on golden shares for 307 privatized firms. We collect financial data for these firms from several sources, including: annual reports, Worldscope, Amadeus, and Mergent Web Reports. Our final sample includes 203 privatized firms with 2246 firm-year observations from 39 countries over the period from 1985 to 2012.

Table 1 describes the distribution of our sample of 203 privatized by country. The six largest countries in term of the number of privatized firms are UK (16.26%), France (9.36%), Egypt (7.39%), Italy (5.42%), Spain (5.42%) and Brazil (4.43%).³ Table 2 also reports the distribution of our sample firms by country separately for the sub-sample of firms with a golden share and the sub-sample of firms without a golden share, respectively. We observe that Europe and particularly UK accounts for the largest number of privatized firms with a golden share. Indeed, 24 of the 33 firms operating in UK (72.72%) have a golden share. This result supports the findings in Jones et al. (1999) that the vast majority (90%) of share issue privatizations (SIPs) in the UK include provisions for golden shares.

Table 2 reports the distribution of our sample firms by industry. As we can observe, our sample is also diversified across industries, with 9.33% in the financial sector, 9.85% in the petroleum sector, 15.27% in the transportation sector and 34.98% in the utilities sector. Golden shares are more prevalent in the utility and the transportation sectors. Indeed, we observe that 34 of the sub-sample firms with golden shares (i.e., 43.03%) operate in the utility sector and 14 (i.e., 17.72%) of the sub-sample firms with golden shares operate in the transportation sector. This finding suggests that governments are more likely to retain golden shares in strategic sectors for national security reasons and in order to regulate the price of goods and services provided by such sectors. Vaknin (2005) states: “Golden shares.... allow their holders to block business moves and counter management decisions which may be detrimental to national security, to the economy, or to the provision of public services (especially where markets fail to do so). Golden shares also enable the government to regulate the prices of certain basic goods and services – such as energy, food staples, sewage, and water.”

4. Labor protection and golden shares

4.1. Explanatory variables

4.1.1. Labor protection variables

As proxies for labor protection, we use the following variables.

4.1.1.1. *Labor Market Regulation (LMR)*. LMR is the Fraser Institute's Labor Market Regulation Index (Gwartney et al., 2012), which includes six components. The first component is regulations of hiring and minimum wage based on the World Bank's *Doing Business* “Difficulty of Hiring Index,” which is described as follows (Gwartney et al., 2012, pages 280–281): “The difficulty of hiring index measures (i) whether fixed-term contracts are prohibited for permanent tasks; (ii) the maximum cumulative duration of fixed-term contracts; and (iii) the ratio of the minimum wage for a trainee or first-time employee to the average value added per worker.” Countries with higher difficulty of hiring receive lower ratings. The second component is hiring and firing regulations based on the *Global Competitiveness Report* question. Countries where the hiring and firing of workers is impeded by regulations (flexibly determined by employers) receive 1 (7). The third component

² This document is available at http://ec.europa.eu/internal_market/capital/docs/privcompanies_en.pdf.

³ Unreported description of our sample shows also that our sample firms are diversified across geographic regions as classified by the World Bank (Africa and the Middle East, East and South Asia and the Pacific, Americas and Europe and Central Asia). Indeed, 7.39% are from Africa and the Middle East, 19.21% from East and South Asia and the Pacific, 10.34% from the Americas, and 63.05% from Europe and Central Asia.

Table 1

Description of the sample of newly privatized firms by country.

Country	Full sample		GS = 1		GS = 0	
	N	%	N	%	N	%
Austria	7	3.45%	2	0.49%	5	2.46%
Argentina	1	0.49%	0	0.49%	1	0.49%
Australia	5	2.46%	1	0.99%	4	1.97%
Belgium	2	0.99%	1	1.97%	1	0.49%
Brazil	9	4.43%	4	0.99%	5	2.46%
Canada	6	2.96%	2	0.00%	4	1.97%
Chile	1	0.49%	0	0.00%	1	0.49%
Czech Republic	1	0.49%	0	0.00%	1	0.49%
Denmark	1	0.49%	0	0.00%	1	0.49%
Egypt	15	7.39%	0	0.00%	15	7.39%
Finland	6	2.96%	2	0.99%	4	1.97%
France	19	9.36%	7	3.45%	12	5.91%
Germany	7	3.45%	1	0.49%	6	2.96%
Greece	4	1.97%	0	0.00%	4	1.97%
Hungary	2	0.99%	1	0.49%	1	0.49%
India	8	3.94%	0	0.00%	8	3.94%
Indonesia	3	1.48%	0	0.00%	3	1.48%
Ireland	3	1.48%	3	1.48%	0	0.00%
Italy	11	5.42%	6	2.96%	5	2.46%
Japan	4	1.97%	1	0.49%	3	1.48%
Lithuania	1	0.49%	0	0.00%	1	0.49%
Malaysia	7	3.45%	4	1.97%	3	1.48%
Mexico	4	1.97%	0	0.00%	4	1.97%
Netherlands	6	2.96%	6	2.96%	0	0.00%
New Zealand	3	1.48%	2	0.99%	1	0.49%
Norway	2	0.99%	0	0.00%	2	0.99%
Philippines	2	0.99%	0	0.00%	2	0.99%
Poland	1	0.49%	0	0.00%	1	0.49%
Portugal	6	2.96%	0	0.00%	6	2.96%
Singapore	3	1.48%	1	0.49%	2	0.99%
South Korea	2	0.99%	0	0.00%	2	0.99%
Spain	11	5.42%	7	3.45%	4	1.97%
Sweden	2	0.99%	1	0.49%	1	0.49%
Switzerland	1	0.49%	0	0.00%	1	0.49%
Taiwan	1	0.49%	1	0.49%	0	0.00%
Thailand	1	0.49%	1	0.49%	0	0.00%
Turkey	1	0.49%	1	0.49%	0	0.00%
United Kingdom	33	16.26%	24	11.82%	9	4.43%
Venezuela	1	0.49%	0	0.00%	1	0.49%
Total	203	100.00%	79	38.92%	124	61.08%

This table provides the descriptive statistics of our sample firms by country. The sample includes 203 privatized firms over the period from 1985 to 2009.

is centralized collective bargaining based on the *Global Competitiveness Report* question. Countries where wages are set by a centralized bargaining process (up to each individual company) receive 1 (7). The

Table 2

Description of the sample of newly privatized firms by industry.

Industry classification	Two-digit SIC codes	Full sample		GS = 1		GS = 0	
		N	%	N	%	N	%
Basic industries	10, 12, 14, 24, 26, 28, 33	17	8.37	6	2.96%	11	5.42%
Capital goods	34, 35, 38	5	2.46	1	0.49%	4	1.97%
Construction	15–17, 32, 52	6	2.96	0	0.00%	6	2.96%
Consumer durables	25, 30, 36, 37, 50, 55, 57	17	8.37	7	3.45%	10	4.93%
Finance/real estate	60–69	19	9.36	2	0.99%	17	8.37%
Food/tobacco	1, 9, 20, 21, 54	9	4.43	1	0.49%	8	3.94%
Leisure	27, 58, 70, 78, 79	3	1.48	1	0.49%	2	0.99%
Petroleum	13, 29	20	9.85	9	4.43%	11	5.42%
Services	72, 73, 75, 80, 82, 87, 89	2	0.99	2	0.99%	0	0.00%
Textiles/trade	22, 23, 31, 51, 53, 56, 59	3	1.48	2	0.99%	1	0.49%
Transportation	40–42, 44, 45, 47	31	15.27	14	6.90%	17	8.37%
Utilities	46, 48, 49	71	34.98	34	16.75%	37	18.23%

This table provides the descriptive statistics of our sample firms by industry. The full sample comprises 203 firms privatized in 39 countries with 2246 firm-year observations over the period from 1985 to 2012.

fourth component is Hours regulations based on the World Bank's *Doing Business* "Rigidity of Hours Index," which is described as follows (Gwartney et al., 2012, page 281): "The rigidity of hours index has 5 components: (i) whether there are restrictions on night work; (ii) whether there are restrictions on weekly holiday work; (iii) whether the work-week can consist of 5.5 days; (iv) whether the work-week can extend to 50 h or more (including overtime) for 2 months a year to respond to a seasonal increase in production; and (v) whether paid annual vacation is 21 working days or fewer." A higher score is assigned to countries with less rigid work rules. The fifth component is the Mandated cost of worker dismissal based on the World Bank's *Doing Business* data on the cost of the advance notice requirements, severance payments, and penalties due when dismissing a redundant worker. Countries with higher dismissal cost received lower ratings. The sixth component is the use and duration of military conscription. Countries with longer conscription periods are assigned lower ratings. A higher score in *LMR* is assigned to countries that allow market forces to determine wages and establish the conditions of hiring and firing, and refrain from the use of conscription. To ease the interpretation of this index and to make it consistent with other labor proxies that we use in this study, we subtract the original index from 10. The resulting index (*LMR*) ranges from 0 to 10, with higher values indicating stronger labor regulations. We expect that the government is more likely to retain a golden share in order to continue to protect employees in privatized firms from countries with rigid regulations for minimum wages, hiring, and firing and longer conscription periods. An alternative point of view suggests that the government is less likely to retain a golden share in privatized firms from countries in which minimum wages, hiring, and firing regulations are rigid and have longer conscription periods since there is less need to maintain control in such firms in order to continue protecting employees.

4.1.1.2. Employment Laws Index (EMPLOY). We also use the Employment Laws Index, calculated by Botero et al. (2004), as a proxy for the strength of the regulations of the individual employment relation. It covers the four aspects of labor regulations. The first aspect is the strictness of protection against alternative employment contracts (e.g., part-time and temporary contracts). The second aspect is the cost of increasing the number of working hours. The third is the cost of employees firing. The fourth is the restrictions (e.g., notifications, approvals, mandatory relocation or retraining, and priority rules for reemployment) that protect employees against firing. This time invariant index varies from 0 to 1, with higher values for more rigid contracts, in which the conditions of a job are specified and a worker cannot be fired (Botero et al., 2004). We expect that the government is less likely to relinquish control in firms having rigid contracts in order to continue to protect employees. The alternative point of view suggests that the government may relinquish control in firms with rigid contracts since there is less need to protect employees in such firms.

4.1.1.3. Collective Relation Laws Index (COLLECTIVE). Additionally, we use the Collective Relation Laws Index, calculated by Botero et al. (2004), as a proxy for the strength of employment regulations of the collective employment relation. As outlined by Botero et al. (2004, page 1355): "Collective relations laws seek to protect workers from employers through collective action. They govern the balance of power between labor unions and employers and associations of employers." The index covers two aspects. The first aspect is the power of labor unions over working conditions. The second aspect is the protection of employees engaged in collective disputes. This index is time invariant and varies from 0 to 1. A higher score for *COLLECTIVE* indicates strong labor union power and sound laws governing collective disputes. On the one hand, we expect that the government may retain control (i.e., holds a golden share) in firms from countries with strong labor union and rigid regulations for collective disputes in order to protect employees. In the other, we expect that the government is less likely to retain a golden share in

order to continue protecting employees when labor unions are strong and the collective disputes regulations are rigid.

4.1.2. Political variables

As proxies for the political characteristics of the privatizing governments, we use the following variables.

4.1.2.1. Political orientation (LEFT ORIENTED). A dummy variable equal to one (1) if the government is left-oriented, and zero (0) otherwise. Following Biais and Perotti (2002), we distinguish between left-wing and right-wing governments. Biais and Perotti (2002) argue that right-wing governments are committed to market oriented policies. Therefore, they are more likely to undertake large scale privatization programs in which they allocate shares to median class voters in order to gain their support, as shareholders in privatized firms, in future elections. However, Cioffi and Höpner (2006) show that center-left governments are not against politics that favor markets. Specifically, they show that center-left political parties have pushed for corporate governance reforms that protect shareholders' interests.⁴ Given this discussion, our hypothesis regarding political orientation is not directional and states that whether the government is right-oriented or left-oriented determines the decision to hold a golden share in privatized firms.

4.1.2.2. The number of checks and balances (CHECKS & BALANCES). This index from the *Database of Political Institutions* (DPI) reflects the number of veto players, adjusted for electoral competitiveness. A higher value indicates higher political constraints on the government. Higher levels of checks and balances usually lead to policy gridlocks (Cox and McCubbins, 2001). It is harder for governments in political systems with higher degrees of checks and balances (higher political constraints) to pass reforms. In political systems of this kind, a large number of veto players are involved in the process, so it is more difficult to reach consensus about reforms, and this situation may delay decision making. Consistent with this point of view, Boubakri et al. (2011) find that checks and balances are associated with higher residual state ownership in privatized firms from emerging markets. Governments subject to higher political constraints are therefore less likely to relinquish control. We would expect a positive association between *GOLDEN* and *CHECKS & BALANCES*.

4.1.3. Country-level controls

We also control for following country-level control variables.

4.1.3.1. Law and order (LAW). The ICRG's law and order index. The index is an assessment of the strength and impartiality of the legal system as well as the popular observance of the law. The index is time-varying and ranges from 0 to 6, with higher values indicating weaker reliance on the legal system. Prior literature (e.g., Bortolotti and Faccio, 2009; Boubakri et al., 2011 and Megginson et al., 2004) shows that legal protection affects the privatization process. Given that, we expect that Law and Order affects the decision to hold a golden share in privatized firms.

4.1.3.2. Corruption (CORRUPTION). The ICRG's corruption index, which is an assessment of corruption within a country's political system. The index ranges from 0 to 6, with a higher score indicating higher levels of corruption.

4.1.3.3. Economic development (LNGDPC). We control for economic development using the natural logarithm of the GDP per capita (*LNGDPC*). Since more economically developed countries tend to

⁴ For example, under Socialist Prime Minister Lionel Jospin, during the late 1990s and early 2000s, the French State adopted policy reformed tender offer and corporate takeover procedures that protect the interests of both the shareholders and employees.

privatize large stakes of state-owned firms (Bortolotti et al., 2001) and the governments of these countries are thus more likely to relinquish control in privatized firms (Boubakri et al., 2011), we would expect a negative correlation between *GOLDEN* and *LNGDPC*.

4.1.4. Firm-level controls

We control for the following firm-level variables: We first control for firm size using the natural logarithm of the firm's total assets in US dollars (*SIZE*). Second, we use the ratio of long term debt to total assets (*LEV*) as a proxy of financial leverage. Third, we control for profitably using the ratio of net income to total equity (*RETURN ON EQUITY*). We would expect that a government is more likely to retain a golden share in large and highly profitable firms and in firms with lower leverage (Boubakri et al., 2011). Fourth, we control for government ownership (*GOVT_OWN*) using the residual share held by the government in the privatized firm and privatization size (*TRANS_SIZE*). We collect government ownership and privatization size using the World Bank's privatization database for developing countries and the Privatization Barometer for OECD countries. We also collect government ownership using additional sources such as Osiris, Worldscope, Moody's International, Kompass Egypt Financial Year Book, Megginson (2003) and Bortolotti and Siniscalco (2004). The Appendix provides the definition and data sources for all the regression variables. Table 3 reports the descriptive statistics on the variables used in our multivariate analysis of the determinants of golden shares.

4.2. Univariate results

Table 4 provides the Pearson correlation coefficients between the regression variables. The correlation coefficients that are significant at the 1% level are shown in bold. We find several significant correlations which are consistent with our predictions. In fact, we find that both of *LMR*, *EMPLOY*, and *COLLECTIVE* is negatively correlated with *GOLDEN*. We generally report lower correlation coefficients between the political and labor variables and our control variables, respectively, thus reducing multicollinearity concerns that could affect our regression results.

4.3. Multivariate results

To examine the role of labor protection in determining the decision to retain a golden share in privatized firms, we estimate several specifications for the following general model:

$$GOLDEN_{it} = \delta_0 + \delta_1 LABOR_t + \delta_2 POLITICS_t + \delta_3 COUNTRY_CONTROLS_t + \delta_4 FIRM_CONTROLS_{it} + \gamma_t + \varepsilon_{it} \quad (1)$$

Table 3
Descriptive statistics.

Variable	Mean	Median	Standard deviation	Min	Max
<i>GOLDEN</i>	0.367	0.000	0.482	0.000	1.000
<i>LMR</i>	4.507	4.804	1.507	1.308	7.661
<i>EMPLOY</i>	0.528	0.519	0.196	0.161	0.809
<i>COLLECTIVE</i>	0.447	0.411	0.164	0.188	0.667
<i>LEFT ORIENTED</i>	0.424	0.000	0.494	0.000	1.000
<i>CHECKS & BALANCES</i>	4.373	4.000	2.574	1.000	18.000
<i>LAW</i>	1.131	1.000	1.131	0.000	5.000
<i>CORRUPTION</i>	1.983	2.000	1.272	0.000	5.000
<i>LNGDPC</i>	9.472	9.921	1.163	5.949	11.509
<i>SIZE</i>	15.709	15.732	1.861	9.926	21.799
<i>LEV</i>	0.201	0.178	0.152	0.000	0.748
<i>RETURN ON EQUITY</i>	0.134	0.128	0.210	−0.993	3.090
<i>GOVT_OWN</i>	0.634	0.706	0.296	0.000	1.000
<i>TRANS_SIZE</i>	6.177	6.116	1.571	1.417	9.708

This table reports the summary descriptive statistics for the regression variables for a sample of 203 firms privatized in 39 countries with 2246 firm-year observations over the period from 1985 to 2012. Descriptions and data sources for the explanatory variables can be found in the Appendix.

where *GOLDEN_{it}* is a dummy variable equal to one (1) if a government retains a golden in the privatized firm *i* at the year *t* and zero (0) otherwise, *LABOR_t* is a measure for labor protection outlined in Section 4.1.1, *POLITICS_t* represents the political economy variables described in Section 4.1.2, *COUNTRY_CONTROLS_t* comprises the set of country-level control variables outlined in Section 4.1.3, *FIRM_CONTROLS_{it}* comprises the set of firm-level control variables outlined in Section 4.1.4, γ_t is the industry and year dummies controlling for industry and year fixed effects, and ε_{it} is the error term.

Table 5 reports the logit regression results of the impact of labor protection on golden shares. Standard errors are clustered at both of the firm- and country-levels. To examine the incremental contribution of the labor variables, we do not include these variables in Model (1). We only include the political variables and country-level as well as firm-level controls. We report a pseudo R^2 of 12.1%. We report several significant coefficients for the regression variables. For instance, we find the coefficient for *GOVT_OWN* is highly significant, suggesting that governments are less likely to retain a golden share in firms with high residual state ownership, suggesting that golden shares and government ownership are substitutes, confirming the findings of Bortolotti and Faccio (2009). We also report a positive coefficient for *CORRUPTION* and *LNGDPC*, indicating that the government is more likely to retain a golden share in privatized firms from countries with a high level of corruption and more economically developed countries. Additionally, we find that the coefficients for *SIZE* and *TRANS_SIZE* are positively and highly significant, suggesting that the government is more likely to retain a golden share in larger privatized firms.

In Model (2), our basic regression, we add our main proxy for labor protection, *LMR*. We report a negative and significant coefficient for *LMR* at the 1% level, thereby supporting the conjecture that the government is less likely to maintain control in privatized firms from countries with stronger labor protection. The introduction of our labor variable increases the explanatory power of Model (1). In this case, the pseudo R^2 increases by 1.30% from Model (1) to Model (2), highlighting the importance of labor protection for the decision to retain a golden share in privatized firms. *LMR* is also economically highly significant. In fact, moving *LMR* from its first quartile (UK) to its third quartile (Brazil) decreases the likelihood of observing a golden share in privatized firms by 48.80%. We may interpret this finding as implying that the government is less likely to retain a golden share in privatized firms from countries with rigid employment contracts in order to continue to protect the workers.

In Models 3 and 4, we use two proxies of labor protection from Botero et al. (2004). Model (3) reports the results of the golden share regression using *EMPLOY* as a measure of labor protection. The coefficient for *EMPLOY* is negative and significant at the 1% level, suggesting that governments are less likely to hold a golden share in privatized firms from countries with more stringent employment laws that regulate the individual employment relation. Economically, moving *EMPLOY* from its first quartile (UK) to its third quartile (Norway) is associated with a 44.37% decrease in the likelihood of observing golden shares in privatized firms. We may interpret this finding as implying that the government is less likely to retain a golden share in privatized firms from countries in which minimum wages, hiring, and firing regulations are rigid and have longer conscription periods since there is less need to maintain control in such firms in order to continue protecting employees.

Model (4) reports the results using *COLLECTIVE* as a measure of labor protection. The coefficient estimate on *COLLECTIVE* is negative and significant at the 1% level, implying that greater labor unions power and more stringent collective labor laws are associated with a lower likelihood of observing golden shares in privatized firms, respectively. Economically, moving *COLLECTIVE* from its first (New Zealand) to its third quartile (Spain) increases the likelihood of observing golden shares in privatized firms by 26.77%.

Table 4
Correlation matrix.

Variable	GOLDEN	LMR	EMPLOY	COLLECTIVE	LEFT ORIENTED	CHECKS & BALANCES	LAW	CORRUPTION	LNGDPC	SIZE	LEV	RETURN ON EQUITY	GOVT_OWN
LMR	−0.062												
EMPLOY	−0.085	0.732											
COLLECTIVE	−0.092	0.586	0.764										
LEFT ORIENTED	−0.012	0.138	0.170	0.066									
CHECKS & BALANCES	−0.049	0.026	0.113	0.090	0.163								
LAW	−0.033	0.019	−0.052	0.063	−0.048	−0.006							
CORRUPTION	−0.058	−0.085	−0.146	0.116	−0.145	−0.034	0.699						
LNGDPC	0.107	0.019	0.238	0.159	0.062	−0.207	−0.633	−0.575					
SIZE	0.017	−0.062	0.254	0.243	0.119	0.135	−0.143	−0.133	0.359				
LEV	0.089	−0.042	0.054	−0.062	−0.003	−0.064	−0.200	−0.219	0.250	0.164			
RETURN ON EQUITY	−0.016	−0.075	−0.044	−0.032	0.016	0.036	0.062	0.023	−0.060	0.019	−0.090		
GOVT_OWN	−0.091	0.210	0.254	0.201	0.019	0.065	0.180	0.146	−0.142	0.130	0.066	−0.006	
TRANS_SIZE	0.228	0.043	0.248	0.239	0.050	−0.003	−0.171	−0.187	0.388	0.610	0.229	0.055	−0.069

This table reports the Pearson pairwise correlation coefficients between the regression variables used in the analysis of the political determinants of golden shares. The full sample comprises 203 firms privatized in 39 countries with 2246 firm-year observations over the period from 1985 to 2012. Boldface indicates statistical significance at the 1% level. Descriptions and data sources for the explanatory variables can be found in the Appendix.

One potential issue that may affect our results is the fact that the relationship between golden shares and labor regulations may be endogenous. We address this potential endogeneity bias using the following 3SLS model:

$$GOLDEN_{it} = \delta_0 + \delta_1 LABOR_t + \delta_2 COUNTRY_CONTROLS_t + \delta_3 FIRM_CONTROLS_{it} + EXOG_{1t} + \gamma_t + \varepsilon_{it} \quad (2)$$

$$LABOR_t = \delta_0 + \delta_1 GOLDEN_{it} + \delta_2 COUNTRY_CONTROLS_t + \delta_3 FIRM_CONTROLS_{it} + EXOG_{2t} + \gamma_t + \varepsilon_{it} \quad (3)$$

$EXOG_{1t}$ is the unique exogenous variable in Eq. (2). We use *SYSTEM* as an instrument for *GOLDEN*, in line with Boubakri et al. (2013). *SYSTEM* is the political regime index (*SYSTEM*) from the database of political

Table 5
Labor protection and golden shares.

Variable	Prediction	LMR	EMPLOY	COLLECTIVE	3SLS GOLDEN
	(1)	(2)	(3)	(4)	(5)
LMR	—	−0.262*** (−4.593)			−0.089** (−2.455)
EMPLOY	—		−2.065*** (−4.371)		
COLLECTIVE	—			−1.651*** (−3.139)	
LEFT ORIENTED	?	−0.057 (−0.501)	0.064 (0.524)	−0.044 (−0.371)	0.025 (1.097)
CHECKS & BALANCES	+	0.013 (0.553)	0.015 (0.630)	0.031 (1.270)	−0.000 (−0.119)
LAW	?	0.122 (1.550)	0.167* (1.901)	0.163* (1.930)	0.063*** (4.183)
CORRUPTION	?	0.155** (2.184)	0.204*** (2.681)	0.195*** (2.585)	0.044*** (3.298)
LNGDPC	—	0.220*** (2.588)	0.331*** (3.979)	0.418*** (4.964)	0.102*** (4.632)
SIZE	+	0.134*** (2.855)	0.104** (2.188)	0.126*** (2.610)	−0.038*** (−4.646)
LEV	—	−0.520 (−1.276)	−0.457 (−1.123)	−0.446 (−1.131)	0.140** (2.007)
RETURN ON EQUITY	+	−0.184 (−0.768)	−0.258 (−1.073)	−0.214 (−0.890)	−0.061 (−1.335)
GOVT_OWN	—	−0.832*** (−3.635)	−0.638*** (−2.735)	−0.522** (−2.178)	−0.021 (−0.487)
TRANS_SIZE	+	0.251*** (6.125)	0.270*** (6.388)	0.287*** (6.696)	0.068*** (7.035)
Intercept	?	−3.687** (−2.492)	−3.252** (−2.083)	−4.913*** (−3.244)	0.313 (1.438)
Industry effects		Yes	Yes	Yes	Yes
Year effects		Yes	Yes	Yes	Yes
Pseudo, R ²		0.121	0.134	0.135	0.127
R ²					0.110
N		2246	2246	2246	2246

This table presents the logit regression results of the impact of labor protection on golden shares for a sample of 203 firms privatized in 39 countries with 2246 firm-year observations over the period from 1985 to 2012. The z-statistic based on robust standard errors adjusted for clustering at both of the firm- and country-levels is shown below each estimate. The superscript asterisks ***, **, 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 can be found in the Appendix.

Table 6
Additional control variables.

Variable	Prediction	<u>TURNOVER</u>	<u>METHOD</u>	<u>STATE</u>	<u>GOVSTAB</u>	<u>ALL</u>
		(1)	(2)	(3)	(4)	(5)
<i>LMR</i>	–	–0.282*** (–4.933)	–0.254*** (–4.238)	–0.268*** (–4.660)	–0.260*** (–4.566)	–0.280*** (–4.519)
<i>LEFT ORIENTED</i>	?	0.047 (0.367)	0.065 (0.515)	0.058 (0.469)	0.070 (0.569)	0.046 (0.335)
<i>CHECKS & BALANCES</i>	+	–0.007 (–0.241)	0.007 (0.284)	0.014 (0.583)	0.013 (0.542)	–0.021 (–0.716)
<i>LAW</i>	?	0.197** (2.210)	0.132 (1.490)	0.170* (1.934)	0.166* (1.885)	0.171* (1.866)
<i>CORRUPTION</i>	?	0.153** (1.977)	0.179** (2.291)	0.197** (2.512)	0.201*** (2.631)	0.123 (1.520)
<i>LNGDPC</i>	–	0.293*** (3.296)	0.203** (2.379)	0.326*** (3.891)	0.330*** (3.965)	0.176* (1.871)
<i>TURNOVER</i>	–	0.001 (0.784)				0.001 (0.655)
<i>METHOD</i>	+		0.239** (2.213)			0.191* (1.713)
<i>STATE</i>	+			–0.026 (–0.333)		–0.033 (–0.323)
<i>GOVSTAB</i>	–				–0.029 (–0.802)	–0.031 (–0.749)
<i>SIZE</i>	+	0.113** (2.285)	0.077 (1.580)	0.105** (2.156)	0.104** (2.192)	0.094* (1.806)
<i>LEV</i>	–	–0.147 (–0.344)	–0.040 (–0.092)	–0.489 (–1.223)	–0.456 (–1.122)	0.168 (0.374)
<i>RETURN ON EQUITY</i>	+	–0.297 (–1.198)	–0.371 (–1.562)	–0.271 (–1.115)	–0.246 (–1.019)	–0.411* (–1.658)
<i>GOVT_OWN</i>	–	–0.732*** (–2.924)	–0.531** (–2.158)	–0.645*** (–2.785)	–0.630*** (–2.720)	–0.613** (–2.424)
<i>TRANS_SIZE</i>	+	0.257*** (5.656)	0.284*** (6.642)	0.277*** (6.422)	0.267*** (6.228)	0.260*** (5.784)
Intercept	?	–18.345*** (–13.384)	–2.427 (–1.461)	–3.203** (–2.065)	–3.009* (–1.907)	–16.941*** (–11.897)
Industry effects		Yes	Yes	Yes	Yes	Yes
Year effects		Yes	Yes	Yes	Yes	Yes
Pseudo. R ²		0.133	0.124	0.135	0.134	0.127
N		2061	2093	2243	2246	1927

This table presents the additional tests of labor protection on golden shares. The full sample comprises 203 firms privatized in 39 countries with 2246 firm-year observations over the period from 1985 to 2012. The z-statistic based on robust standard errors adjusted for clustering at both of the firm- and country-levels is shown below each estimate. The superscript asterisks ***, **, 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 can be found in the Appendix.

institutions. The index ranges from 1 to 2, with a higher score for more democratic countries. The political system may determine the privatization process. Under a democratic regime it is harder to reach consensus on economic reforms, especially in crisis conditions (Roubini and Sachs, 1989). Privatization is thus less likely to be undertaken under democratic governments (Banerjee and Rondinelli, 2003). Consistent, with this point of view, we find that the coefficient for *SYSTEM* in Eq. (2) is positive and significant; suggesting that the government is less likely to relinquish control in more democratic countries.⁵ *EXOG_{2t}* is the unique exogenous variable in Eq. (3). Botero et al. (2004) provide evidence suggesting that countries with proportional representation electoral regimes have more protective employment and collective relations laws. Given that, we use Proportional representation (*PR*) from the Database of Political Institutions as an instrument for *LABOR*. *PR* is a dummy variable taking on one (1) for electoral systems where candidates are elected based on the percent of votes received by their party and zero (0) otherwise. The unreported results, for the sake brevity, show that the coefficient of *PR* holds positive and significant in Eq. (3), consistent with Botero et al.'s (2004) finding. This result indicates that labor protection is greater in countries whose political system relies on proportional representation. The results of Eq. (2) reported in Model (5) of Table 5 show

that the coefficient for *LMR* is negative and significant at the 1% level, suggesting that our finding that the government is less likely to retain a golden share in countries with strong labor protection is not affected by the endogeneity of labor regulations.

4.4. Additional controls

In this section, we introduce additional control variables to ensure the robustness of our findings.⁶ First, we control for stock markets development using the ratio of the value of total stock traded over market capitalization (*TURNOVER*). Stock markets development affects the privatization process and the decision to relinquish control in privatized firms (Bortolotti et al., 2001; Boubakri et al., 2011, among others).⁷ We would therefore expect more complete privatizations and a consequent lower probability of retention of golden shares in privatized firms from countries with more developed stock markets. However, the results reported in Model (1) of Table 6 do not support this conjecture. In fact, we find that the coefficient for *TURNOVER* is not statistically significant.

⁶ For the sake of brevity, we only report the results of these tests when we use *LMR* as a proxy for labor protection. The unreported results show that results remain qualitatively unchanged when we use *EMPLOY* and *COLLECTIVE* as proxies for labor protection.

⁷ Boubakri et al. (2011) document lower residual state ownership in firms from countries with higher turnover ratio.

⁵ The results of this test are not reported for the sake of brevity, but are available upon request.

Table 7
Additional tests.

Variable	Prediction	Excluding strategic	1990–2000 period	Excluding UK	Pre-crisis period	Post-crisis period	Advanced countries	Emerging countries
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>LMR</i>	+	−0.598*** (−8.418)	−0.307*** (−5.425)	−0.254*** (−4.220)	−0.328*** (−4.828)	−0.378 (−1.094)	−0.238*** (−4.086)	−0.426*** (−3.310)
<i>LEFT ORIENTED</i>	?	−0.219 (−1.176)	−0.009 (−0.071)	0.027 (0.207)	0.061 (0.422)	−0.369 (−0.567)	0.050 (0.410)	−0.864*** (−2.702)
<i>CHECKS & BALANCES</i>	+	−0.078* (−1.730)	0.002 (0.075)	0.012 (0.499)	−0.002 (−0.084)	−0.127 (−0.630)	0.103*** (2.963)	−0.059 (−1.168)
<i>LAW</i>	?	0.054 (0.419)	0.264*** (3.123)	0.160* (1.798)	0.166 (1.620)	0.519 (0.768)	−0.144 (−1.388)	0.213 (1.234)
<i>CORRUPTION</i>	?	0.257** (1.984)	0.107 (1.463)	0.180** (2.075)	0.228** (2.520)	0.346 (1.158)	0.366*** (5.386)	−0.744*** (−3.168)
<i>LNGDPC</i>	−	0.097 (0.791)	0.350*** (3.924)	0.323*** (3.882)	0.296*** (3.140)	0.987** (2.386)	−0.099 (−0.468)	1.539*** (6.829)
<i>SIZE</i>	+	0.838*** (9.274)	0.143*** (2.913)	0.103** (2.130)	0.064 (1.050)	0.639*** (3.953)	−0.195*** (−4.400)	0.252* (1.844)
<i>LEV</i>	−	0.985 (1.549)	−0.108 (−0.241)	−0.020 (−0.047)	0.329 (0.714)	1.459 (0.490)	−0.730** (−2.399)	7.538*** (5.887)
<i>RETURN ON EQUITY</i>	+	−0.383 (−1.128)	−0.208 (−0.762)	−0.190 (−0.757)	−0.382 (−1.432)	−1.221 (−0.976)	−0.337 (−1.552)	0.832 (0.888)
<i>GOVT_OWN</i>		−2.166*** (−4.831)	−0.787*** (−3.168)	−0.636** (−2.506)	−0.456 (−1.623)	0.237 (0.212)	−0.120 (−0.450)	−0.215 (−0.243)
<i>TRANS_SIZE</i>		−0.106 (−1.240)	0.226*** (4.897)	0.253*** (5.831)	0.346*** (7.859)	−0.100 (−0.416)	0.287*** (5.945)	0.832*** (4.376)
Intercept	?	−9.137** (−1.978)	−4.262*** (−4.267)	−3.128** (−2.001)	−5.881*** (−3.890)	−33.227*** (−6.783)	3.348* (1.845)	−15.363*** (−6.719)
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo. R ²		0.207	0.134	0.143	0.147	0.312	0.082	0.482
N		1034	2013	2091	1692	249	1629	617

This table presents the additional tests of labor protection on golden shares. The full sample comprises 203 firms privatized in 39 countries with 2246 firm-year observations over the period from 1985 to 2012. The z-statistic based on robust standard errors adjusted for clustering at both of the firm- and country-levels is shown below each estimate. The superscript asterisks ***, **, 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 can be found in the Appendix.

More importantly for our purposes, we still report a negative and significant coefficient at the 1% level for *LMR*, corroborating our earlier findings.

Second, in Model (2) of Table 6, we introduce a dummy variable equal to one (1) if a firm is privatized through asset sale, and zero (0) if it privatized through share issue privatization (*METHOD*). The privatization method may determine the decision to relinquish control by the government in privatized firms (Megginson et al., 2004). Specifically, they argue that the government is less likely to retain ownership in firms privatized through asset sale. We examine whether governments are more likely to use an alternative control mechanism in firms privatized through asset sales, namely golden shares. We find that the coefficient for *METHOD* is positive and statistically significant, consistent with our prediction. More importantly for our purposes, we still report a negative and significant coefficient at the 1% level for *LMR*, providing an additional support to our previous findings.

Third, in Model (3) of Table 6, we control for the government stability index (*GOVSTAB*) from ICRG. The index ranges from 0 to 12, with higher indexes denoting higher government stability. Government stability affects privatization. Specifically, more established and older governments are more likely to undertake market reforms such as privatization. Given that, relinquishment of control is more likely to occur under stable governments. We would expect to find a negative association between *GOLDEN* and *GOVSTAB*. However, we find that the coefficient for *GOVSTAB* is negative, but not statistically significant, failing to support this conjecture. *LMR* is again negative and significant at the 1% level.

Fourth, in Model (4) of Table 6, we control for federalism index (*STATE*) from the database political institutions. The index answers the following question: Are there locally elected state or provincial governments? The index is equal to zero (0) if there is no locally elected local executive or local legislature. It is assigned a value of one (1) if the executive is appointed, but the legislature elected, and a value of two (2) if they are both locally elected. Federalism may affect the privatization

process. Qian and Weingast (1997) argue that federalism through an appropriate decentralization from the central to local governments is associated with lower government predation. As a result, we expect lower government influence in privatized firms from countries that are federal states. Consistent with these arguments, Bortolotti and Faccio (2009) document that government control in privatized firms from OECD countries is negatively related to fiscal federalism. Boubakri et al. (2011) likewise find that residual state ownership in privatized firms is lower in developing countries with federal forms of government. Given these findings, we would expect a negative association between *GOLDEN* and *STATE*. However, our results do not support this conjecture. Indeed, we find that the coefficient for *STATE* is negative, but not significant. More importantly for our purposes, *LMR* remains negative and significant at the 1% level.

Finally, in Model (5), we include the additional control variables together. We still report a negative and significant coefficient for *LMR* at the 1% level, suggesting that our results are not driven by the potential omitted variables.

4.5. Additional tests

In this section, we perform several tests to ensure the robustness of our findings.⁸ First, governments are more likely to retain golden shares in privatized firms from strategic industries (Vaknin, 2005) both for national security reasons, as well as in order to regulate the price of goods and services provided by such industries. To ensure that our results are not driven by strategic industries, we re-estimate our basic

⁸ We only report the results of these tests when we use *LMR* as a proxy for labor protection, for the sake of brevity. The unreported results show that results remain qualitatively unchanged when we use *EMPLOY* and *COLLECTIVE* as proxies for labor protection.

Table 8
Labor protection and the cost of equity.

		R_{GLS}			Additional controls		
		Full sample	GS = 0	GS = 1	Full sample	GS = 0	GS = 1
		(1)	(2)	(3)	(4)	(5)	(6)
LMR	+	0.007*** (4.339)	0.008*** (4.571)	0.005 (1.482)	0.006** (2.006)	0.007** (1.887)	0.009 (1.415)
SIZE	–	–0.002 (–1.301)	–0.001 (–0.748)	–0.004 (–1.143)	–0.005** (–2.444)	–0.005* (–2.021)	–0.015** (–2.437)
RETURN_VOL	+	0.038* (1.884)	0.014 (0.723)	0.085* (1.927)	0.022 (1.084)	0.008 (0.455)	0.035 (1.176)
LEVERAGE	+	0.021 (1.401)	0.009 (0.557)	0.065** (2.468)	0.027 (1.247)	0.016 (0.763)	0.097** (2.201)
MARKET TO BOOK	–	–0.002* (–1.827)	–0.003* (–1.893)	–0.002 (–1.115)	–0.002 (–1.380)	–0.002 (–0.873)	–0.003 (–1.520)
GROWTH_RATE	+	–0.001 (–0.617)	–0.001 (–0.530)	0.001 (0.264)	–0.000 (–0.362)	0.000 (0.077)	0.001 (0.251)
INFL	+	0.213** (2.105)	0.181 (1.465)	0.181 (1.015)	0.113 (0.756)	0.064 (0.423)	0.023 (0.101)
LNGDPC	–	0.001 (0.345)	–0.002 (–0.751)	0.009 (1.321)	0.003 (0.719)	–0.001 (–0.235)	0.029** (2.711)
GOLDEN	?				0.016** (2.385)		
GOVT_OWN	?				–0.015 (–1.649)	–0.008 (–0.666)	–0.021 (–1.363)
LEFT ORIENTED					0.010* (1.766)	0.011 (1.686)	0.009 (0.728)
CHECKS & BALANCES				0.001	0.000 (1.015)	0.004 (0.135)	0.009 (0.767)
LAW					0.004 (0.716)	0.001 (0.199)	0.015 (1.387)
CORRUPTION					0.002 (0.631)	0.002 (0.851)	0.006 (0.823)
Intercept	?	0.060* (1.762)	0.048 (1.294)	0.090 (1.238)	0.107 (1.413)	0.105 (1.389)	–0.064 (–0.354)
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²		0.043	0.058	0.065	0.110	0.130	0.197
N		1260	923	337	1227	890	337

This table presents the results obtained by regressing the implied cost of equity estimates based on Gebhardt et al. (2001), R_{GLS} on our proxy for labor protection. The full sample comprises 203 firms privatized in 39 countries between 1985 and 2012. The z-statistic based on robust standard errors adjusted for clustering at both of the firm- and country-levels is shown below each estimate. The superscript asterisks ***, **, 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 can be found in the Appendix.

model (Model (1) of Table 5) 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 (1) of Table 7 show that the coefficient for *LMR* is still negative and significant at the 1% level, reinforcing our earlier findings.

Second, the majority of our sample firms were privatized during the 1990–2009 period. To ensure that our findings are not driven by privatizations occurred outside this period, we re-estimate our basic mode for the sub-sample of firms privatized during the 1990–2009 period. The results are reported in Model (2) of Table 7. We find that the coefficient for *LMR* remains negative and significant at the 1% level, reinforcing our earlier findings.

Third, we exclude firms from UK firms to ensure that our results are not driven by UK which accounts for the largest number of firms in our sample. The results are reported in Model (3) of Table 7. We find that the coefficient for *LMR* is still negative and significant at the 1% level, again supporting our earlier findings.

Fourth, we examine whether our results are affected by the recent financial crisis. To do so, we re-run our basic model separately for the pre-crisis and post-crisis periods. The results reported in Models 4 and 5 of Table 7 show that the coefficient for *LMR* is negative and significant at the 1% level for the sub-sample of the pre-crisis period, suggesting that the relation between golden shares and labor protection is affected by the recent financial crisis. Specifically, we find that the negative relation between *LMR* does not remain negative after the crisis, suggesting that the latest financial crisis is associated with an increase in government control of privatized firms.

Fifth, 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 6 and 7 of Table 7 show that the likelihood of retaining a golden share is decreasing under labor protection for firms from both emerging/developing and advanced countries, confirming our main finding. We also find that the coefficient for *LMR* is higher in absolute value in the emerging/developing countries sub-sample, suggesting that the government is less likely to retain a golden share in emerging/developing countries with strong labor protection.

5. Labor protection and the cost of equity

In this section, we examine whether the economic outcomes of labor protection are affected by the presence of golden shares in privatized firms. Specifically, we investigate whether the impact of labor protection on the cost of equity is affected by the presence of golden shares in privatized firms. We use the implied cost of capital (ICC) approach to estimate the cost of equity for our sample of privatized firms. This approach is widely used in recent accounting and finance literature (e.g., Botosan and Plumlee, 2005; Dhaliwal et al., 2006; Hail and Leuz, 2006, 2009; Pastor et al., 2008; Chen et al., 2009, 2011a,b). Following Chen et al. (2011a), we use ex ante implied cost of equity estimates based on the model developed by Gebhardt et al. (2001), R_{GLS} , as our main proxy for the cost of equity.

To examine the impact of labor protection on the cost of equity, we regress privatized firms' cost of equity on our main proxy for labor

protection proxy (*LMR*), while controlling for standard firm- and country-level determinants of the cost of equity.⁹ More specifically, we control for: firm size (*SIZE*), the annual standard deviation of monthly stock returns (*RETURN_VOL*), firm leverage (*LEV*), the market-to-book ratio (*MARKET TO BOOK*), the growth rate of earnings per share (*GROWTH_RATE*). *COUNTRY_CONTROLS_t* includes the following country-level variables: the realized monthly inflation rate over the next year (*INFL*) and the natural logarithm of the GDP per capita (*LNGDPC*).

Table 8 reports the OLS results of the regression of *R_{GLS}* on *LMR* as well as our control variables. Standard errors are clustered at both of the firm- and the country-levels. The results of Model (1), show that labor protection is associated with a higher cost of equity, consistent with Chen et al. (2011b).¹⁰ To be precise, we find that the coefficient for *LMR* is positive and significant at the 1% level, consistent with the argument that strong labor protection is associated with higher labor adjustment costs, hence lower operating flexibility. This finding is also consistent with the conjecture that strong labor protection is associated with higher information asymmetry. Models 2 and 3 report the results separately for the sub-sample of firms with a golden share and the sub-sample of firms without a golden share, respectively. The results show that the coefficient for *LMR* is positive and significant at the 1% level only for the sub-sample of firms without a golden share (i.e., *GS* = 0), suggesting that golden shares help mitigating the adverse effects of labor protection on the cost of equity, consistent with the soft-budget constraints hypothesis.¹¹ Our findings imply that investors; facing strong labor protection that results in higher labor adjustment costs (e.g., Serfling, 2013), which reduces operating flexibility and higher information asymmetry (e.g., Hilary, 2006; Hamm et al., 2014); may prefer to invest in government-controlled firms.

In Models 4 to 6, we introduce additional control variables (golden shares, government ownership, and political variables) to ensure the robustness of our findings. As we can see, the coefficient of *LMR* remains positive and highly significant; corroborating our finding that the cost of equity of privatized firms is increasing in labor protection. As we can see, the coefficient for *GOLDEN* is positive and highly significant, consistent with Ben-Nasr et al. (2012). This finding is consistent with the political interference hypothesis suggesting that minority shareholders will anticipate post-privatization political interference and will discount share prices, hence raising the cost of equity financing. We also find in Models 5 and 6 that the coefficient for *LMR* remains positive and highly

significant only for the sub-sample of firms without a golden share, again suggesting that the adverse effects of labor protection are less pronounced in government-controlled firms. Overall, our findings are consistent of both of the political interference hypothesis as well as the soft budget constraints hypothesis.¹² They indicate that in countries in which firms are not facing strong labor protection prefer to invest in non-government-controlled firms in order to avoid government interference in the firm's activities, in line with Ben-Nasr et al. (2012). However, facing strong labor protection, investors may prefer to invest in government-controlled firms, which usually benefit from soft budget constraints.

In unreported tests, we examine whether our findings are robust to the use of alternative proxies for the cost of equity. We use the PEG ratio and the Earnings-to-price (EP) ratio models proposed by Easton (2004) instead of *R_{GLS}*. The results show that the coefficient for *LMR* remains positive and significant at the 1% level when we use *R_{PEG}* and *R_{EP}* as a proxy for the cost of equity, corroborating our earlier findings. The results also show that the coefficient for *LMR* is still positive and significant at the 1% level for the sub-sample of firms without a golden share, confirming our previous finding that the adverse effects of labor protection on the cost of equity are less pronounced in privatized firms with a golden share.

6. Conclusions

In this study, we examine the role of labor protection in determining the decision to retain golden shares in privatized firms. Using a unique multinational sample of privatized firms in both developing and industrialized countries for the period from 1985 to 2012, we find evidence that likelihood of observing golden shares is negatively related to labor protection, consistent with the conjecture that stringent employment protection may reduce the risk of layoffs and wage reductions after privatization, hence it may lower labor union opposition to privatization (Subramanian and Megginson, 2012), hence encourages control relinquishment. This finding remains robust when we address the endogeneity of labor protection using 3SLS approach, control for state ownership, privatization size, and additional country-level variables, and the use of alternative samples. We also find that the relation between golden shares and labor protection is affected by the recent financial crisis. Specifically, we find that the negative relation between labor protection and golden shares dummy does not remain negative after the crisis, supporting the view that the latest financial crisis shall be associated with an increase in government control in order to help companies experiencing difficulties. We report evidence suggesting that our results remain qualitatively unchanged when we regress our labor protection model separately for firms from emerging/developing countries and firms from developed countries. In addition, we find strong evidence that labor protection is associated with a higher cost of equity, consistent with the conjecture that strong labor protection is associated with higher labor adjustment costs, hence lower operating flexibility. We also find

⁹ We only report the results of the cost of equity analysis when we use *LMR* as a proxy for labor protection, for the sake of brevity. The unreported results show that results remain qualitatively unchanged when we use *EMPLOY* and *COLLECTIVE* as proxies for labor protection.

¹⁰ Strong labor protection is associated with higher labor adjustment costs (e.g., Serfling, 2013). Indeed, wages are sticky and layoffs are more costly in countries with stronger labor protection (Chen et al., 2011b). Higher labor adjustment costs reduces operating flexibility, hence increases the cost of equity. Consistent with this point of view, Chen et al. (2011b) show that firms from highly unionized industries in the US are penalized by a higher cost of equity. Furthermore, strong labor protection is associated with higher information asymmetry. For example, Hilary (2006) shows that strong organized labor in the US is associated with higher bid-ask spreads, higher probability of informed trading, lower trading volume and lower analyst coverage. In the same vein, Hamm et al. (2014) show that stronger labor unions in the US are associated with smoother earnings i.e., less corporate transparency. Higher information asymmetry is associated with higher equity financing costs (e.g., Lambert et al., 2007).

¹¹ The government's participation in privatized firms may be positively related to performance/valuation because it carries an implicit guarantee of government bailout (i.e., a soft-budget constraint). Wang et al. (2008) argue, for example, that, because they can appeal to soft-budget constraints when they encounter financial difficulties, SOEs have lower incentives to provide high quality accounting information in order to obtain better contracting terms. Faccio et al. (2006) find that politically connected firms are more likely to be bailed out than their non-politically connected peers. Along the same lines, Chahumilind et al. (2006) show that Thai firms with connections to banks and politicians obtained more long-term loans and needed less collateral during the period preceding the Asian financial crisis of 1997, compared to firms without such connections. Based on this view, the government's influence on privatized firms through golden shares should mitigate the adverse effects of labor protection on the cost of equity. Overall, the literature reveals two competing predictions about the impact of golden shares on the relationship between labor protection and the cost of equity, all other factors being constant.

¹² The political view associates state ownership/control with post-privatization political interference (Boycko et al., 1996; Shleifer and Vishny, 1994). The proponents of this position argue that managers in state-owned enterprises (SOEs) can be induced to pursue government leaders' political objectives, rather than maximize profits. Boycko et al. (1996) maintain that greater emphasis will be put on profits and efficiency only if privatization transfers control and ownership from the government to private shareholders who will then strive to "maximize firm value". Similarly, Paudyal et al. (1998) argue that both the level of post-privatization political interference and the risk of renationalization (i.e., policy risk) will be higher when a government sells a relatively low percentage of its capital. The "political interference" hypothesis suggests that greater government influence is associated with a higher agency risk and will thus lower post-privatization corporate performance and firm value. Several empirical studies support the validity of the political interference premise (e.g., Boardman and Vining, 1989; Boardman and Lavin, 2001; Boubakri et al., 2005; Fan et al., 2007; and Ben-Nasr et al., 2015, among others). Based on this argument, the adverse effects of labor protection on the cost of equity should be more pronounced in privatized firms in which the government maintains control through golden shares.

that the adverse effects of labor protection on the cost of equity are less pronounced in firms with a golden share.

Our paper results highlight the importance of labor protection for the decision to retain a golden share in privatized firms. They suggest that stringent employment protection may reduce the risk of layoffs and wage reductions after privatization, hence it may lower labor union opposition to privatization (Subramanian and Megginson, 2012), hence encourages control relinquishment. Given that, governments willing to relinquish control, hence to fully privatize firms, which may foster economic growth, shall put in place and enforce stringent labor laws that protect the interests of the employees.

Appendix A. Variables: descriptions and sources

	Description	Source
<i>Panel A: golden shares</i>		
<i>GOLDEN</i>	A dummy variable equal to one (1) if the government retains a golden share in the privatized firm, and zero (0) otherwise.	Author's calculation
<i>Panel B: labor and political variables</i>		
<i>LMR</i>	Fraser Institute's Labor Market Regulation Index. It is a time variant measure of labor regulations. It take into consideration informations such as minimum wages, hiring and firing practices, the share of the labor force whose wages are set by centralized collective bargaining, and unemployment benefits system. To ease the interpretation, we subtract the original index from 10. The resulting index ranges from 0 to 10, with higher values indicating stronger labor regulations.	Fraser Institute
<i>EMPLOY</i>	The index measures the protection of labor based on the availability of alternative employment contracts, the cost of increasing hours worked, the cost of firing workers, and dismissal procedures. This time invariant index varies from 0 to 1, with higher values indicating stronger employment protection	Botero et al. (2004)
<i>COLLECTIVE</i>	The index measures labor protection based on labor union power and collective disputes. This index is time invariant and varies from 0 to 1.	Botero et al. (2004)
<i>LEFT ORIENTED</i>	A dummy variable equal to one (1) for left-oriented governments, and zero (0) otherwise.	Database of Political Institutions
<i>CHECKS & BALANCES</i>	The level of checks and balances in the country.	Database of Political Institutions
<i>Panel C: country-level control variables</i>		
<i>LAW</i>	The ICRG's law and order index. The index is an assessment of the strength and impartiality of the legal system as well as the popular observance of the law. The index is time-varying and ranges from 0 to 6, with higher values indicating weaker reliance on the legal system.	ICRG
<i>CORRUPTION</i>	The ICRG's corruption index, which is an assessment of corruption within a country's political system. The index ranges from 0 to 6, with a higher score indicating higher levels of corruption.	ICRG
<i>LNGDPC</i>	The natural logarithm of the GDP per capita.	World Development Indicators
<i>INFL</i>	The annualized yearly median of a country-specific one-year-ahead realized monthly inflation rate.	DataStream
<i>Panel D: firm-level control variables</i>		
<i>SIZE</i>	The logarithm of a firm's total assets in US dollars.	Author's calculation
<i>LEV</i>	The ratio of long term debt to total assets.	Author's calculation
<i>RETURN ON EQUITY</i>	The ratio of net income over total equity.	Author's calculation

Appendix A (continued)

	Description	Source
<i>GOVT_OWN</i>	The residual share held by the government in the privatized firm,	Author's calculation
<i>TRANS_SIZE</i>	The natural logarithm of the amount of the privatization offer in millions of U.S. \$	Author's calculation
<i>RETURN_VOL</i>	The annual standard deviation of monthly stock returns.	Author's calculation
<i>MARKET TO BOOK</i>	The market-to-book ratio.	Author's calculation
<i>GROWTH_RATE</i>	Five year growth rate from I/B/E/S. If this rate is not available in I/B/E/S, we estimate it using forecasted second and third year earnings per share.	I/B/E/S

Table A1

Summary of related studies.

Study	Research question, sample, and methodology	Summary of results and conclusions
<i>Panel A: labor protection and economic performance</i>		
Besley and Burgess (2004)	Examine the impact of pro-worker regulations at the state level in India on economic performance.	Report evidence suggesting that stringent employment protection hinders productivity.
Autor et al. (2007)	Use the adoption of wrongful-discharge protection by state courts in the US from 1970 to 1999 to examine the impact of dismissal costs on productivity.	Show that high dismissal costs are associated with a lower productivity.
Lingens (2007)	Examines the growth effects of union wage bargaining within an expanding product variety growth model.	Shows that unions capture monopoly profits and thus give rise to a hold-up problem, which reduces research incentives, hence dampens growth rate. Also, it shows that unionization changes the "de facto" skill abundance of the economy, which may be growth enhancing.
Bassanini et al. (2009)	Investigates the effect of employment protection legislation (EPL) on productivity in OECD countries over the period from 1982 to 2003.	Show that layoff restrictions in OECD countries reduce productivity.
Acharya et al. (2010)	Examine the impact of US labor laws on corporate innovation.	Document that high dismissal costs promote innovation, hence enhance economic growth.
Botero et al. (2004)	Examine the impact of labor market regulations through employment laws, collective bargaining laws, and social security laws on employment, using a worldwide sample of firms from 85 countries.	Show that stringent labor regulations are associated with a larger unofficial economy, lower labor force participation, and higher unemployment.
Henin and Weitzenblum (2005)	Develop a model to examine the interaction between employment protection on stock market when firms face a common shock.	Show that employment protection is effective to reduce unemployment rate in response to business cycle shocks. However, they show that employment protection is ineffective to preclude the impact on unemployment of permanent changes in financial conditions.
Parello (2011)	Develops a no-shirking model of innovation-based growth and examine the impact of labor market policies (LMPs) on innovation and employment.	Shows that LMPs can increase innovation and manufacturing employment.
Kanniainen and Vesala (2005)	Construct a model of enterprise formation in a unionized economy with labor protection	Show that enterprise formation is affected by economic risks, unemployment

Table A1 (continued)

Study	Research question, sample, and methodology	Summary of results and conclusions
	and wage bargaining.	compensation, union power, and labor protection variables.
Atanassov and Kim (2009)	Investigate the joint role of labor and investor protection in determining corporate restructuring decisions, using a sample firms from 41 countries.	Show that strong labor protection is associated with a higher value-reducing asset sales likelihood, especially in countries with weak investor protection.
Faleye et al. (2006)	Using a sample of firms with significant labor stakes acquired through several institutional arrangements, they examine the effect of a significant labor voice in corporate governance on corporate decisions and outcomes of public companies.	Report lower new capital expenditures, less risk appetite for firms where employees have a greater voice in corporate governance. These findings suggest that firms in which workers have weight corporate governance tend to adopt strategies that do not maximize the wealth of the shareholders, which leads to higher financing costs.
Klasa et al. (2009)	Examine the impact of labor unions in the US on cash holdings.	They find that cash holdings are negatively related to labor unions, suggesting that firms facing strong labor union hold smaller cash reserves in order to have a better bargaining power and hide corporate resources that may be expropriated by labor unions.
Chen et al. (2012)	Study the impact of labor unions at the industry level in the US on the cost of debt.	Find that strong labor union is associated with a lower debt financing cost.
Subramanian and Megginson (2012)	Examine the impact of employment protection laws on the number and the value of privatization deals in OECD countries.	Show that stringent protection laws (EPL) is negatively related with the number of privatizations as well as the privatization proceeds.
Belkhir and Ben-Nasr (2014)	Investigate the effect of labor protection on the choice of the privatization method (i.e., share issue privatizations (SIPs) versus asset sales), using a large sample from 55 developing and developed countries.	Show that SIPs are less likely in countries with strong labor protection, consistent with the argument that the government is less likely to use SIPs in the presence of strong labor protection because it is associated with lower labor adjustment costs relative to asset sales.
Calcagnini et al. (2014)	Examine the impact of employment protection legislations in Europe on investment efficiency. They show that stringent labor laws are associated with less investment efficiency.	They show that stringent labor laws are associated with less investment efficiency.
Kanninen and Vesala (2005)	Construct a model of enterprise formation in a unionized economy with labor protection and wage bargaining.	Show that enterprise formation is affected by economic risks, unemployment compensation, union power, and labor protection variables.
<i>Panel B: determinants of privatization</i>		
Bortolotti et al. (2001)	Use a panel dataset from both developed and developing countries to examine the determinants of privatization.	Report evidence suggesting that countries that had high fiscal deficits and countries with right-wing governments have privatized more, respectively. They also show that countries with more developed stock markets and in committed countries; in which the law and order tradition is well established and where the risk expropriation and policy reversal is low. Additionally, they report evidence suggesting that governments

Table A1 (continued)

Study	Research question, sample, and methodology	Summary of results and conclusions
Bortolotti et al. (2003)	Examine the determinants of the privatization likelihood using a sample from 34 developed and developing countries.	sell larger stakes in privatized firms to signal credibility, consistent with Perotti (1995). Show that privatization is more likely in countries with right-wing governments, consistent with Biais and Perotti (2002) in less established democracies, respectively.
Bortolotti and Pinotti (2008)	Study the timing of privatization in 21 developed countries.	Document that privatization is delayed in democracies characterized by a larger number of parties and operating under proportional electoral votes.
Bortolotti and Faccio (2009)	Investigate the determinants of government control in privatized firms from OECD countries.	Report that governments tend to retain control in countries dominated by left-wing majorities, in democracies with proportional electoral systems, and in countries with centralized fiscal authority, respectively. These findings suggest that privatization tends to be incomplete in more politically fragmented environments.
Boubakri et al. (2011)	Explore the determinants of residual state ownership in emerging countries.	Show that residual state ownership is higher in parliamentary systems and under regimes with greater constraints on the executive, respectively.
Dinc and Gupta (2011)	Investigate the determinants of the decision to privatize SOEs in India.	Find that privatization is delayed in states where the opposition to the party of the incumbent central government is strong and when the politician is elected from the same state where the firm is located, respectively.

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