FINANCING CONSTRAINTS: THE INFLUENCE OF POLITICAL AND LEGAL INSTITUTIONS

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Abstract: In this paper, we assess which approach -legal or political- better explains differences in firms' financing constraints. While many scholars recognize the importance of country institutions in shaping efficient capital markets, there is considerable disagreement on which institutional factors are most important. We find evidence that both political and legal factors are relevant in explaining financing constraints. We also provide evidence on channels through which specific institutions may affect capital allocation. Our results indicate that common law origin and strong public enforcement improve access to finance. Furthermore, we show that high levels of press freedom, less restrictions on investment and low levels of corruption help alleviate firm's financing constraints. Our findings are robust to many aspects of our methodology and to self-selection bias related to the choice of covering a firm (analyst coverage) and cross-listing on US markets.

Keywords: Financing constraints; financial hierarchy; legal system; political institutions; investment-cash flow sensitivity; capital allocation

Introduction

Researchers have long been interested in studying factors that help capital markets better perform their function. According to Tobin (1982) and Stulz (2009), stock markets perform a vital economic role when they allow efficient capital allocation. This research examines the impact of country political and legal institutions on capital allocation. In the literature, country institutions have been considered as relevant factors that shape financial and economic development (Qi et al. 2010; among others). However, there is an ongoing and intense debate on which institutions are most important. One point of view argues that legal institutions create incentives that influence the behavior of corporate managers and investors (e.g. La Porta et al. 1997, 1998 and 2006). Such incentives may impact the protection of investors' rights and therefore the ability of firms to fund their projects. Consistent with this argument, several empirical papers show that differences in legal institutions help explain cross-country differences in corporate valuations (La Porta et al. 2002); firm's growth (Demirguc-Kunt and Maksimovic, 1998); and the cost of debt (Qi et al. 2010). The other point of view advocates the importance of political factors. For

instance, Roe and Siegel (2011) argue that investors' protection is a policy choice. Hence, some academics consider political factors as the most important institutional determinant of capital allocation. In more recent studies, there is mounting evidence supporting the political economy view (e.g. Qi et al. 2010; Roe and Siegel, 2011).

Our paper is motivated by the "the legal versus political view" debate. As stressed by Roe (2006, p.463): "There is a powerful normative reason to get this assessment right. Many policymakers and some academics see strong financial markets as propelling economic development. Thus, if we better understand what makes for strong financial markets, we can better understand how to engineer economic growth, or at least how to provide a necessary tool". In fact, we argue that understanding which specific institutions help alleviate firm's financing constraints is relevant to policy makers since the presence of such constraints limits investment opportunities, firm's profitability and ultimately impedes economic growth. Channels examined in our tests include legal origin, private enforcement, public enforcement, corruption, investment freedom and press freedom. Our emphasis on these institutional factors both complements and extends the existing literature. We investigate (i) the separate and joint impact of political and legal factors on firm's financing constraints, and (ii) whether political institutions are important in explaining capital constraints after controlling for legal factors. To proxy for firm's financing constraints, we measure the sensitivity of investment to internal capital (Fazzari et al. 1988). Based on the Pecking order theory, we interpret high investment-cash flow sensitivity as evidence that firms are facing binding financial constraints.

Our results imply that common law origin, strong public enforcement, low corruption and fewer restrictions on investment help relax firm's financing constraints. Furthermore, consistent with Qi et al. (2010), our findings also suggest that a rich information environment (e.g. greater press freedom) plays an important role in improving firm's ability to fund investment projects. One important policy implication of our findings is that tackling financing constraints should not be limited to actions intended to improve the supply of credit (e.g. low interest rates), but may also include policies that promote transparency, trade openness and strong judicial systems. Such policies should increase investors' expected gains from litigation and minimize risks and costs imposed by corruption and asymmetric information.

Our contribution to the literature is twofold. First, we propose a new test that examines the impact of political factors on corporate investment. To our best knowledge, our research is the first analysis that investigates the potential association between political institutions and investment-cash flow sensitivity. Hence, some of our empirical findings are shown for the first time in the literature. The papers that are close in spirit and methodology to our work are Love (2003) and Qi et al. (2010). Love (2003) finds negative relations between the quality of legal environment and the sensitivity of investment to internal capital. While Love (2003) research is innovative, political factors are not covered in her study. In our tests, we try to address this deficiency in the literature. Qi et al. (2010) show that high levels of investor protection and strong political institutions are related to low bond spreads and high credit ratings. Although both papers findings clearly support the large consensus in favor of the presence of a positive relation between the quality of legal institutions and access to finance, we still know little about what channels make a legal system more efficient (e.g. public or private enforcement of securities laws). For instance, Qi et al. (2010) measure the effectiveness of the legal

system using only a creditor rights index (private enforcement proxy). Further, Love (2003) investigates the separate impact of several legal indicators but not the joint impact. Hence, our second contribution is to control for the separate and joint impact of different legal factors. The purpose is to determine specific channels that are relevant to reforming legal institutions. We then disaggregate national laws into three distinct dimensions: legal origin, private enforcement, and public enforcement. We argue that it is important to examine the joint impact of all legal dimensions. In support of this argument, we find that private enforcement aspects become non significant in a joint analysis, suggesting that results based on one of these factors could be misleading.

The rest of the paper is organized as follows: Section 2 presents an overview of the literature and discusses the theoretical framework. Section 3 details the empirical methodology and testable hypotheses. Section 4 provides a brief description of the data and summary statistics. Section 5 presents the main results. Section 6 concludes.

Literature review and conceptual framework

Our research relates to an ongoing debate about which approach –legal or political economy- better explains cross-country differences in financial development. One stream of research suggests that differences in legal institutions are important in explaining variations in financial development around the world (e.g. Laporta et al. 1998; Djankov et al. 2008; Stulz, 2009). Another strand of research recognizes that political factors are key determinants of financial development (e.g. Rajan and Zingales, 2003; Roe, 2006; Roe and Siegel, 2011). Although there are good economic reasons why both factors can play an important role in improving capital allocation, it is not obvious whether the legal approach dominates the political approach or both approaches are complement. We conjecture that answers to these questions are an empirical issue.

Legal institutions and firm's financing constraints

A country legal system can affect firm's financing constraints for many reasons. According to Stulz (2009, p.353): "securities laws can affect the cost of trading for investors, their information acquisition costs, the precision of their estimates of the distribution of returns and the stocks they know". Stulz (2009) shows that weak national regulations increase agency and information acquisition costs. In the same line of reasoning, Chinn and Ito (2006) consider that incentives for loan activities can be limited in countries where legal regimes do not clearly define property rights and guarantee the enforcement of contracts. Furthermore, we argue that legal factors can also influence firm's disclosure policies. For instance, in countries where disclosure laws are more extensive and more strictly enforced, we should expect firms to provide high levels of disclosure. The latter should reduce information asymmetries between market participants and ultimately lower firm's cost of capital (Diamond and Verrecchia, 1991; Leuz and Verrecchia, 2000; Verrecchia, 2001). A related argument is that high levels of disclosure should broaden firm's investors' base because investors are more confident that stock transactions occur at "fair" prices (Bailey et al. 2006). As a consequence, risk

is more widely shared, which should reduce firm's cost of capital (Merton, 1987). The literature also suggests that the enhanced transparency linked to stricter disclosure rules and the potential legal exposure may influence negatively the cost of capital through cash flow effects. In fact, the threat of shareholder litigation makes it harder and more costly for firm's insiders to expropriate outside shareholders. Such bonding (Coffee, 1999; Stulz, 1999) should increase investors' expectation about future cash-flows and improve firm's ability to raise capital. Indeed, the results of many empirical papers suggest that strong securities regulation helps diminish firm's cost of capital and relax financing constraints (Hail and Leuz, 2006; Qian and Strahan, 2007; Qi et al. 2010). To measure different dimensions of countries legal system, we rely on three main indicators: (1) legal origin, (2) private enforcement, and (3) public enforcement.

Political institutions and firm's financing constraints

Researchers are also interested in the role played by political factors. According to Roe (2006, p. 465): " How legislatures choose to regulate reflects legislative policy decisions, voter preferences, and surely interest group power far more that it results from faded historical channels of legal origins ". Political risk originates from a variety of sources, such as corruption, political instability, expropriation of investments, capital controls, and lack of transparency. We conjecture that corruption may impact capital allocation for two main reasons. First, lower corruption helps firm's creditors and shareholders' better monitor potential violations in financial contracts (Qi et al. 2010). Second, corruption can be viewed as an unnecessary cost imposed on firms in the form of bribes. According to Chan (2009), higher corruption (e.g. making bribe payments) takes money away from productive inputs. Therefore, as corruption puts additional demands on liquidity, companies should face binding financial constraints. In 2009, Chan shows that bribes have a negative effect on firm's growth in Bangladesh (a country that faces severe corruption problems). In the same vein, political instability (e.g. frequent changes in government and political violence) shakes investors' confidence in financial markets. For instance, Roe and Siegel (2011) show that political instability impedes financial development. Political institutions may also impact the probability of expropriation (Qi et al. 2010). In countries where the expropriation risk is prominent, entrepreneurs invest less in physical assets because the likelihood that firm's assets would be seized is high. If investors fear that government entities could expropriate them, then firms' should not be able to invest according to their growth opportunities, which will weaken capital allocation. We conjecture that more developed political systems and strong political rights make the government less likely to expropriate investments and therefore improve access to finance for firms. Indeed, Qi et al. (2010) show a positive relation between expropriation risk and firm's cost of debt.

Another channel through which political institutions may impact capital allocation is the level of investment freedom and trade openness. Many scholars (e.g. Stulz, 1999; Chinn and Ito, 2006) argue that removing capital controls (more investment freedom) allows domestic and foreign investors to engage into more portfolio diversification, which will increase the availability of capital to firms. Furthermore, Rajan and Zingales (2003) investigate how incumbent capital owners oppose financial development and trade openness in some countries. They argue that such opposition can be motivated by the fact

that both factors help strengthen new competitors. According to Rajan and Zingales (2003), incumbents have enough resources to fuel political campaigns that protect their benefits which is not the case for new entrants who lack resources. However, when a nation is open to trade, incumbents' political power and interests change because they face new competitors (Roe, 2006). Therefore, they are less able to oppose financial development. Roe (2006, p.505) argues that: "When European political leaders lowered trade barriers in the decades after World War II- as they sought to unify the Continent economically to avoid future wars- incumbents had less reason to oppose stronger capital markets, which grew". Finally, we conjecture that political institutions may also impact the information environment of corporations. As suggested by Qi et al. (2010), press freedom could be a potential channel through which political institutions may provide an important check upon misappropriation of funds by politicians and corporate managers. It is well known that investigative journalism and free press have historically played an important role in countering corruption and revealing financial scandals in many countries. In fact, when a country financial environment is characterised by high transparency, investors' should be "well informed" and prices should reflect more information and events about a firm (e.g. firm fundamentals). Hence, investors' should expect low returns for their investments given that many theoretical and empirical studies imply a cost premium for external capital because of asymmetric information problems (Myers and Majluf, 1984; Barry and Brown, 1985; Merton, 1987).

Methodology and Hypotheses

We base our empirical methodology on the established literature on investment with financing constraints (e.g. Fazzari et al. 1988; among others). According to this literature, financing constraints are measured by the sensitivity of investment to internal capital. Fazzari et al. (1988) argue that firm's internal capital may impact investment because of a financing hierarchy (Pecking order theory), in which internal funding have a cost advantage over external funding. This cost differential exists because investors are unable to distinguish between good and bad projects, under asymmetric information. As a result, every issue is priced based on the average projects outcomes (Oliner and Rudebush, 1992) and securities issued to back good projects should be undervalued. Such undervaluation implies that the cost of financing good projects with external capital exceeds the cost of funding the same projects with internal capital (lemon premium). Furthermore, the presence of agency problems could also inflate the cost of external finance to reflect costs of monitoring management (use of audits, specific compensation contracts, restrictions and covenants). We conjecture that when the cost differential between internal and external capital is high (binding financing constraints), a value maximizing firm will issue new debt or shares only after it exhausts internal capital. Hence, we should expect a positive association between investment and cash flow for constrained firms (high investment-cash flow sensitivity). On the other hand, when the cost differential is low (weaker financing constraints), firm's managers can use external capital to smooth investment when internal capital fluctuates (Fazzari et al. 1988). Hence,

unconstrained firms have the potential to increase investment even when they do not have enough cash flow, which suggests that unconstrained firms should exhibit lower investment-cash flow sensitivity.

The investment-cash flow sensitivity is also linked to the collateral represented by the net worth of the firm. Gilchrist and Himmelberg (1995) argue that a decrease in cash flow signals a reduction in firm's net worth and an increase in firm's risk profile. Hence, in periods when cash flow is low, financially constrained firms should invest less because the cost of external capital is high. On the other hand, when net worth rises (high cash flow), the cost of external capital should decrease and investment should respond more to cash flow innovation. In this study, we rely on the potential positive association between firm's cash flow and investment expenditures to proxy for capital constraints. We interpret high investment-cash flow sensitivity as evidence that firms are facing binding financing constraints.

To test the impact of political and legal factors on firm's financing constraints, we estimate the following model:

$$(I/K)_{i,t} = \beta_0 + \beta_1(CF/K)_{i,t} + \beta_2(M/B)_{i,t-1} + \beta_3(Size)_{i,t-1} + \theta_0 Legalfactors_{i,t-1} \tag{1}$$

$$+ \theta_1 Legalfactors_{i,t-1} * (CF/K)_{i,t} + \theta_2 Politicalfactors_{i,t-1} + \theta_3 Politicalfactors_{i,t-1} * (CF/K)_{i,t} + \varepsilon_{i,t}$$

Where $I_{i,t}$ represents investment in plant and equipment for firm i during period t; K denotes the beginning-of-period value of total assets; CF (cash flow) is the sum of income before extraordinary items and depreciation net of cash dividends (for robustness, we also measure CF as : net income + depreciation and/or amortization + changes in deferred taxes); M/B denotes the market to book ratio, and Size denotes the natural logarithm of firm size. M/B is a proxy for investment opportunities and growth, while size variable controls for potential market imperfections related to firm size. Our main interest in Eq. (1) centers on θ_1 and θ_3. These coefficients represent the impact of legal and political institutions on the relation between investment and firm's internal capital (our proxy of financing constraints). The literature suggests that strong legal institutions (high scores of our legal indicators) improve capital allocation and reduce the cost of external capital (e.g. Stulz, 2009; Qian and Strathan, 2007; Qi et al. 2010). Hence, we expect θ_1 to be significantly negative because unconstrained firms are supposed to exhibit less investment-cash flow sensitivity. Furthermore, we assume that strong political rights and institutions (more free press, less corrupt officials, and less restrictions on investment) should alleviate firm's financing constraints. We therefore postulate that high scores of our political indicators imply low investment-cash flow sensitivity (low financing constraints). Thus, we expect a significant negative θ_3 in Eq. (1). Our third hypothesis implies that political factors' impact is significant, given legal factors. As a consequence, we expect θ_1 and θ_3 to remain negative and significant when we investigate the joint effect of legal and political factors.

We estimate Eq. (1) using fixed firm and year effects. Fixed firm effects estimation accounts for time-invariant firm characteristics that are unobservable or at least difficult to measure. In addition, because the coefficients of firm fixed effects are determined only by changes in the variables over time for a given firm (see Qi et al. 2010 for a more

detailed discussion), relying on firm fixed effects should mitigate concerns about omitted variable bias that may arise because of some excluded country characteristics. On the other hand, fixed year effects are included to capture aggregate business-cycle influences. We consider that differences in countries business cycles could affect our results because favorable economic conditions decrease financing constraints. For robustness, we re-estimate Eq. (1) using industry, country and year fixed effects, noting no differences in tests results. We also use predetermined political and legal factors to reduce the possibility that country characteristics are endogenous with corporate investment. Finally, standards errors in all specifications are adjusted for heteroskedasticity and clustering at the firm-level.

Data and univariate analysis

We compile data from a variety of sources. Appendix A provides sources and detailed definitions of the variables. We test and validate our hypotheses using a large sample of firms originating from 44 countries over the period 1990-2006. We obtain firm-level data from Worldscope. We also consider different sources to measure our country-level variables.

Appendix A. Variables definitions and sources

Variables	Definition
A.1 Legal variables	
Anti-Director rights index (Private enforcement)	Represents an index that proxies the level of shareholders' protection. It summarizes the degree to which securities laws protect the rights of investors and address corporate self-dealing. The index covers the following six areas: (1) vote by mail; (2) shares not deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call a meeting. *Source: Djankov et al. (2008).*
Legal origin	Equals 1 if the company is from common law countries and 0 otherwise (French civil law, German civil law and Scandinavian law). *Source: Laporta et al. (1998).*
Public enforcement	Measures the sanctions (fines and prison term) that apply to controlling shareholders and approving bodies. Ranges from 0 to 1. One-quarter point is added to the index when each of the following sanctions is available: (1) fines for the approving body; (2) jail sentences for the approving body; (3) fines for the controlling shareholder; and (4) jail for the controlling shareholder. *Source: Djankov et al. (2008).*
A.2 Political variables	
Corruption	Represents an index of the level of corruption in a nation. The higher the level of corruption in a country, the lower is the index score. The latter ranges from 0 to 100 with 0 indicating the highest level of corruption. The scores of such index are derived primarily from Transparency International Corruption Perception Index (CPI). The corruption index is time varying. *Source: Heritage foundation and the Wall Street Journal.*
Investment freedom	Measures restrictions on the flow of investment capital. Such index ranges from 0 to 100. A higher score indicates few constraints on investment. The index covers the following restrictions: (1) National treatment of foreign investment; (2) Foreign investment code; (3) sectoral investment restrictions; (4) restrictions on land ownership; (5) expropriation of investments without fair compensation; (6) foreign exchange controls; (7) capital controls; and (8) security problems and lack of basic investment infrastructures. The investment freedom index is time varying. *Source: Heritage foundation and the Wall Street Journal.*
Press freedom	Measures the freedom of the press. Such index is time varying and ranges from 0 (free press) to 100 (no free press). *Source: Freedom House.*
A.3 Firm-level variables	
Investment	Investment in plant and equipment for firm i during period t. *Source: Datastream/Wordscope.*

FINANCING CONSTRAINTS: THE INFLUENCE OF POLITICAL AND LEGAL INSTITUTIONS

Cash-flow	Sum of income before extraordinary items and depreciation net of cash dividends. For robustness, we also measure Cash-flow as: net income + depreciation and/or amortization + changes in deferred taxes. *Source: Datastream/Wordscope.*
Market-to-Book	Firm's market to book ratio. *Source: Datastream/Wordscope.*
Size	Logarithm of the firm's market capitalization. *Source: Datastream/Wordscope.*
Number of analysts	Number of analysts following firm i during period t. *Source : I/B/E/S*
Cross-listing dummy	Equals 1 if the company is cross-listed via exchange ADRs (Level II and III), ordinary listings and private programs (Rule 144a). *Source: Depositary Banks and New York Stock Exchange.*
A.4 Control variables	
Accounting standards index	An index that rates companies' annual reports for their inclusion or exclusion of 90 items and ranges from 0 to 90 with 90 as the highest standard. *Source: Laporta et al. (1998) and Doidge et al. (2004).* The country's gross domestic product per capita. *Source: World Bank.*
Gross Domestic Product	

Legal origin is a dummy variable set equal to 1 for common law countries and 0 otherwise. We use an anti-director rights index (see Djankov et al. 2008 for more details) to measure the level of investors' protection (private enforcement). This index ranges from 0 to 1 and high values indicate strong protection of investors' rights. To proxy for public enforcement, we consider an index that measures the sanctions applied to controlling shareholders and approving bodies. The public enforcement index ranges from 0 to 1 and higher scores correspond to strong public enforcement. Our proxies of political rights capture different aspects of political risk (corruption, expropriation of investment, capital controls, and lack of transparency). To quantify the level of corruption, we use the Heritage foundation index. A higher score of our corruption index means that risks connected to corruption are low. Furthermore, to proxy for the expropriation risk and restrictions on the flow of investment, we rely on the investment freedom index (see Appendix A for more details). Higher scores indicate low risk of expropriation and few restrictions on the flow of capital. Finally, we measure the general information environment using an index of the press freedom. Greater scores of our press freedom index suggest that asymmetric information problems are severe in the country.

Table 1

Descriptive statistics

This table presents descriptive statistics for variables used in our analysis. We use a large sample of firms originating from 21 developed markets and 23 emerging markets over the period 1990-2006. For each variable, we provide the mean, median, 5th percentile, 95th percentile, standard deviation and the number of observations. All variables are defined in Appendix A.

Variables	Mean	median	5th Pctl.	95th Pctl.	Std dev	N
Investment (I/K)	0.478	0.076	0	0.903	18.621	89769
Cash flow (CF/K)	0.162	0.149	-0.496	0.894	35.694	89741
Size	11.692	11.607	8.628	15.168	1.965	94048
Market-to-Book (M/B)	2.589	1.317	0.1604	6.643	4.167	94576
Anti-director rights index (DRI)	0.615	0.56	0.27	0.96	0.244	170784
Legal Origin dummy (LO)	0.408	0	0	1	0.491	170784
Public enforcement (PE)	0.363	0	0	1	0.404	170076
Corruption (CO)	62.031	67	26	92	24.024	168583
Investment freedom (IF)	60.604	50	30	90	16.910	168583
Press Freedom (PF)	33.019	23	10	81	22.542	161172
Number of analysts (NA)	1.899	0	0	11	4.567	170784
Accounting standards index (ASI)	67.122	65	54	78	7.900	147708
Gross domestic product (GDP)	18908.82	21691	558	37867	1371.4	162756

Table 1 reports descriptive statistics of our key variables. We provide the mean, median, 5th percentile, 95th percentile, standard deviation and the number of observations. Table 2 presents the means of our country-level variables by country. Table 3 provides correlations between variables. Several patterns stand out in these correlations. First, some variables are highly correlated. Legal origin (LO) and anti-director rights index (DRI) are strongly correlated (0.67). Press freedom (PF) and corruption (CO) are also highly correlated (-0.61). Hence, to avoid multicollinearity, some variables should not be included simultaneously. For instance, we exclude LO when DRI and public enforcement (PE) are jointly examined, and exclude PF when investment freedom (IF) and CO are jointly examined. Second, firm's investment is positively and highly correlated to cash flow (0.689), which is consistent with the existence of financial hierarchy. Third, analyst coverage (NA), firm size, and US cross-listings (CL) are positively correlated with investment. Fourth, political and legal factors are negatively correlated with investment spending, which is consistent with the fact that strong legal systems and high political rights decrease investment on average. However, we argue that our tests should be best performed by using multivariate regression analysis, because our univariate tests do not account for the potential interrelationships among variables.

Table 2

Descriptive statistics by country

This table reports means for the variables by country. The sample period is from 1990 to 2006. All the variables are described in Appendix A

	LO	*DRI*	*PE*	*PF*	*CO*	*IF*	*GDP*	*ASI*
Panel A								
Developed markets								
Australia	1	0.79	0.5	11.66	83.91	70	24528.08	75
Austria	0	0.21	1	17	79.25	70	29664.5	54
Belgium	0	0.54	0.5	9.41	66.90	79.09	28177.58	61
Canada	1	0.65	1	15.91	89.72	50	25568.33	74
Denmark	0	0.47	0.75	9.25	95.72	70	36874.5	62
Finland	0	0.46	0	12.58	95.54	70	28584.33	77
France	0	0.38	0.5	22.91	71.41	53.33	26895.33	69
Germany	0	0.28	1	14.83	80.58	80	28395	62
Hong Kong	1	0.96	0	65.66	78.94	90	25144.19	69
Ireland	1	0.79	0	17.5	73.08	80	31827.67	-
Italy	0	0.39	0	29.44	51.93	70.01	23766.44	62
Japan	0	0.48	0	19.41	70.58	51.66	35122.08	65
Netherlands	0	0.21	0	14.08	88.81	80.90	29825.83	64
New Zealand	1	0.95	0	8.41	94	82.72	18823.67	70
Norway	0	0.44	1	7.08	88.36	59.09	44886.42	74
Portugal	0	0.3	1	15.83	65.16	68.33	13835	36
Singapore	1	1	1	65.66	91.08	90	24905.33	78
Spain	0	0.37	0.75	19.16	60.33	70	18463	64
Sweden	0	0.34	1	9.5	92.08	78.33	32379.5	83
Switzerland	0	0.27	0.5	9	87.63	71.81	42104.42	68
UK	1	0.93	0	19.66	87.08	73.33	28171.5	78
Panel B								
Emerging markets								
Argentina	0	0.44	0	36.25	36.83	63.33	6215.16	45
Brazil	0	0.29	0.25	33.83	37.58	50	4192.25	54
Chile	0	0.63	1	26.08	68.08	70	5568.41	52
China	0	0.78	0	81.33	31.08	40	1122.25	-
Colombia	0	0.58	0	58.41	27.91	66.66	2689.16	50
Czech Republic	0	0.34	1	21.25	45.83	70	8104.25	-
Greece	0	0.23	0.5	28.66	46.75	61.66	15179.67	55
Hungary	0	0.2	0	27.08	49.5	70	6622.33	-
India	1	0.55	0.5	41.5	24.83	45	518.5	57
Indonesia	0	0.68	0	60.66	18.66	53.33	980.58	-
Israel	1	0.71	1	28.75	61.25	83.33	18601.17	64
Korea (South)	0	0.46	0.5	27.66	47.58	66.66	12647.67	62
Malaysia	1	0.95	1	66.5	54.08	40	4397.33	76
Mexico	0	0.18	0.5	47.16	36.41	60	5761.33	60
Pakistan	1	0.41	0.75	59	22	56.66	538.16	-
Peru	0	0.41	0.25	49.5	34.83	68.33	2377.25	38
Philippines	0	0.24	0	35.58	27.41	46.66	1099.08	65
Poland	0	0.3	1	21.75	48.16	63.33	5364.25	-
Russia	0	0.48	1	60.91	24.41	50	3072.75	-
South Africa	1	0.81	0	26.33	50.08	66.66	3712	70
Taiwan	0	0.56	0	24.15	60.28	55.04	28395	65
Thailand	1	0.85	0	36.16	38.25	55	2345.91	64
Turkey	0	0.43	0	60.58	30.58	61.66	4444.58	51

Table 3

Pearson correlations

This table presents the correlations between variables. The sample period is from 1990 to 2006.

	I	CF	Size	M/B	DRI	LO	PE	CO	IF	PF	NA	CL
I	1.00											
CF	0.689***	1.00										
Size	0.21***	0.22***	1.00									
M/B	-0.00	-0.00	0.00	1.00								
DRI	-0.10***	-0.08***	-0.12***	0.00	1.00							
LO	-0.17***	-0.15***	-0.17***	0.00	0.67***	1.00						
PE	-0.07***	-0.06***	-0.11***	-0.00	-0.13***	0.21***	1.00					
CO	-0.10***	-0.08***	0.10***	0.01	0.12***	0.022***	0.22***	1.00				
IF	-0.03***	-0.02***	-0.05***	0.00	0.11***	0.20***	0.12***	0.47***	1.00			
PF	-0.03***	-0.04***	-0.07***	-0.00	0.40***	0.00	-0.11***	-0.61***	-0.39***	1.00		
NA	0.12***	0.13***	0.61***	0.00	-0.11***	-0.07***	0.00	0.11***	0.09***	-0.13***	1.00	
CL	0.02***	0.02***	0.24***	-0.00	-0.03***	0.00	0.03***	0.00**	0.03***	-0.02***	0.26***	1.00

*** Significant at 1% level

** Significant at 5% level

*Significant at 10% level

Empirical results

Table 4 provides coefficients estimates of variants of Eq. (1). The variables of interest are cash flow and interactions of cash flow with legal and political factors. Our main hypothesis is that strong legal and political institutions reduce financing constraints (investment-cash flow sensitivity). Model 1, 2 and 3, in Table 4, examine the separate impact of DRI, LO, and PE, respectively. The interaction between cash flow and two of our legal proxies (DRI and LO) is negative and significant at 1% level (in the case of model 1, the coefficient of interest is -0.302 with a p-value of .001). These primary results suggest that common law origin and high levels of investor protection decrease the investment-cash flow sensitivity. Contrary to predictions, the coefficient of the interaction between cash flow and PE is positive and non significant (0.003 with a p-value of .697), indicating that public enforcement aspects do not impact firm's financing constraints. Model 4, 5 and 6 investigate the impact of our three political factors separately (CO, IF and PF). Our coefficients of interest have their predicted signs and are significant at 1% level. As expected, we find that low corruption (high scores of CO) and high investment freedom (high scores of IF) are associated with low investment-cash

flow sensitivity (lower financing constraints). Furthermore, as suggested earlier, the PF variable is constructed such as high scores reflect low realization of the underlying factors. In fact, high scores of PF indicate low levels of press freedom. We argue that the absence of press freedom should worsen asymmetric information problems between market participants, and ultimately increase financing constraints (investment-cash flow sensitivity). Indeed, the findings of model 6 suggest that high levels of PF (no free press) increase the investment-cash flow sensitivity (θ_3 is positive and significant). An alternative interpretation of the positive interaction between cash flow and PF is that low levels of PF (greater press freedom) are associated with low investment-cash flow sensitivity (lower financing constraints).

Table 4

Firm's financing constraints and political and legal institutions: primary results

This table presents the results of the following regression:

$$(I/K)_{i,t} = \beta_0 + \beta_1(CF/K)_{i,t} + \beta_2(M/B)_{i,t-1} + \beta_3(Size)_{i,t-1} + \theta_0 Legalfactors_{i,t-1} + \theta_1 Legalfactors_{i,t-1} * (CF/K)_{i,t}$$

$$+ \theta_2 Politicalfactors_{i,t-1} + \theta_3 Politicalfactors_{t-1} * (CF/K)_{i,t} + \varepsilon_{i,t}$$

Investment spending divided by total assets (I/K) is the dependent variable. Cash flow/total assets (CF/K), Firm's market-to-book ratio (M/B), firm's size, country legal and political factors are the independent variables. In addition, the political and legal variables are interacted with cash flow to measure the impact of such factors on the investment-cash flow sensitivity. Model (1), (2) and (3) are used to test the impact of three legal factors separately (private enforcement, legal origin and public enforcement). Model (4), (5) and (6) investigate the impact of three political factors separately (corruption, investment freedom and press freedom). The remaining models include both legal and political factors. All models report estimates of regressions with firm fixed and year fixed effects. Standards errors are adjusted for clustering at the firm level. P-values for two-tailed tests are in parentheses. One, two or three asterisks denote significance at the 10%, 5% and 1% levels, respectively.

The remaining models in Table 4 examine the joint impact of both legal and political factors. Due the possibility of results being contaminated by multicolliniarity, we do not include some highly correlated variables simultaneously (e.g. LO and DRI). When our legal and political indicators are included together, our primary findings remain unchanged. For instance, when we examine the joint impact of DRI, PE, CO, and IF (model 7 in Table 4), we find that high scores of DRI, CO and IF decrease significantly the investment cash flow sensitivity. The impact of PE remains non significant. These additional findings do not lend support to the claim that political factors are irrelevant given legal factors.

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Intercept	-0.300 (0.001)***	-0.329 (0.001)***	-0.435 (0.001)***	-0.443 (0.001)***	-0.468 (0.001)***	-0.264 (0.001)***	-0.269 (0.001)***	-0.132 (0.001)***	-0.314 (0.001)***	-0.218 (0.001)***
Cash Flow	0.385 (0.001)***	0.213 (0.001)***	0.218 (0.001)***	0.324 (0.001)***	0.279 (0.001)***	0.085 (0.001)***	0.510 (0.001)***	0.243 (0.001)***	0.442 (0.001)***	0.187 (0.001)***
Market-to-Book	-0.000 (0.474)	-0.000 (0.491)	-0.000 (0.440)	-0.000 (0.403)	-0.000 (0.447)	-0.000 (0.528)	-0.000 (0.423)	-0.000 (0.555)	-0.000 (0.441)	-0.000 (0.581)
Size	0.054 (0.001)***	0.051 (0.001)***	0.055 (0.001)***	0.056 (0.001)***	0.056 (0.001)***	0.052 (0.001)***	0.052 (0.001)***	0.049 (0.001)***	0.049 (0.001)***	0.046 (0.001)***
DRI	-0.240 (0.001)***						-0.235 (0.001)***	-0.221 (0.001)***		
DRI * Cash Flow	**-0.302 (0.001)***						**-0.129 (0.001)***	**-0.073 (0.005)***		
LO		-0.104 (0.001)***							-0.096 (0.001)***	-0.105 (0.001)***
LO * Cash Flow		**-0.213 (0.001)***							**-0.192 (0.001)***	**-0.179 (0.001)***
PE			-0.086 (0.001)***				-0.105 (0.001)***	-0.059 (0.001)***	-0.033 (0.011)**	-0.001 (0.871)
PE * Cash Flow			**0.003 (0.697)**				**-0.000 (0.930)**	**0.008 (0.320)**	**-0.009 (0.294)**	**0.006 (0.429)**
CO				-0.000 (0.001)***			0.000 (0.413)		-0.000 (0.013)**	
CO * Cash Flow				**-0.002 (0.001)***			**-0.002 (0.001)***		**-0.003 (0.001)***	
IF					-0.000 (0.434)		0.000 (0.134)	0.000 (0.001)***	0.000 (0.183)	0.000 (0.001)***
IF * Cash Flow					**-0.001 (0.001)***		**-0.002 (0.001)***	**-0.002 (0.001)***	**-0.001 (0.001)***	**-0.001 (0.001)***
PF						-0.002 (0.001)***		-0.002 (0.001)***		-0.002 (0.001)***
PF * Cash Flow						**0.003 (0.001)***		**0.003 (0.001)***		**0.003 (0.001)***
R^2	0.4396	0.4193	0.4375	0.4729	0.4408	0.4539	0.4699	0.4525	0.4643	0.4453
N	81 794	81 939	81 794	81 473	81 473	77 203	81 473	76 882	81 473	76 882

Table 5

The impact of political institutions on firm's financing constraints, conditional on legal origin and the level of investors' protection

This Table addresses whether our political institutions proxies have explanatory power for firm's financing constraints, given legal institutions. Panel A reports results of separate regressions for countries with strong investors' protection laws (model (1), (2) and (3)) and countries with low levels of investors' protection (model (4), (5) and (6)). Panel B presents findings of separate regressions for common law countries (model (7), (8) and (9)) and civil law countries (models (10), (11) and (12)).

Panel A. Separate regressions based on the level of investors' protection

Independent Variables	Countries with strong legal protection for minority investors			Countries with weak legal protection for minority investors		
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
Intercept	-0.189 (0.001)***	-0.182 (0.001)***	0.071 (0.006)***	-0.717 (0.001)***	-0.649 (0.001)***	-0.552 (0.001)***
Cash Flow	0.381 (0.001)***	0.172 (0.001)***	0.107 (0.001)***	0.306 (0.001)***	0.478 (0.001)***	0.045 (0.001)***
Market-to-Book	-0.000 (0.757)	-0.000 (0.768)	-0.000 (0.842)	-0.000 (0.418)	-0.000 (0.416)	-0.000 (0.450)
Size	0.020 (0.001)***	0.023 (0.001)***	0.019 (0.001)***	0.083 (0.001)***	0.080 (0.001)***	0.081 (0.001)***
CO	0.000 (0.001)***			0.000 (0.455)		
CO * Cash Flow	**-0.003 (0.001)***			**-0.003 (0.001)***		
IF		-0.000 (0.778)			-0.000 (0.134)	
IF * Cash Flow		**0.000 (0.049)**			**-0.003 (0.001)***	
PF			-0.003 (0.001)***			-0.002 (0.001)***
PF * Cash Flow			**0.002 (0.001)***			**0.003 (0.001)***
R^2	0.3721	0.3511	0.3547	0.4798	0.4727	0.4637
N	38 261	38 261	33 752	43 212	43 212	43 451

Panel B. Separate regressions based on legal origin

Independent Variables	Common law countries			Civil law countries		
	Model 7	*Model 8*	*Model 9*	*Model 10*	*Model 11*	*Model 12*
Intercept	-0.082 (0.001)***	-0.072 (0.001)***	-0.041 (0.001)***	-0.658 (0.001)***	-0.800 (0.001)***	-0.509 (0.001)***
Cash Flow	0.335 (0.001)***	0.515 (0.001)***	0.330 (0.001)***	0.301 (0.001)***	0.265 (0.001)***	0.081 (0.001)***
Market-to-Book	-0.000 (0.891)	-0.000 (0.938)	-0.000 (0.994)	-0.000 (0.421)	-0.000 (0.420)	-0.000 (0.446)
Size	0.008 (0.001)***	0.009 (0.001)***	0.009 (0.001)***	0.081 (0.001)***	0.086 (0.001)***	0.079 (0.001)***
CO	0.000 (0.474)			-0.001 (0.001)***		
CO * Cash Flow	**0.000 (0.560)**			**-0.002 (0.001)***		
IF		-0.000 (0.002)***			0.001 (0.001)***	
IF * Cash Flow		**-0.002 (0.001)***			**-0.001 (0.001)***	
PF			-0.000 (0.001)***			-0.002 (0.001)***
PF * Cash Flow			**0.000 (0.001)***			**0.002 (0.001)***
R^2	0.6058	0.6008	0.5846	0.4435	0.4061	0.4221
N	30 148	30 148	25 639	51 325	51 325	51 564

Table 5 presents separate regressions that examine the impact of political institutions on firm's financing constraints, conditional on the level of investors' protection (Panel A) and legal origin (Panel B). This additional analysis addresses whether our political factors have explanatory power for firm's financing constraints, given legal institutions. The results show that our political factors impact firm's financing constraints and behave quite similarly in different legal systems. Hence, both political and legal factors are relevant in explaining capital constraints. It is worth mentioning that the empirical specifications in Table 4 and 5 are not intended to examine whether legal and political institutions are substitutes or complement. Future research could investigate this issue.

One potential problem with our primary results is the omitted effect of analyst coverage and US cross-listings. As suggested by Hope (2003), analyst following could moderate or eliminate any effect of country institutions because firms followed by a large number of security analysts may have a rich information environment and therefore less severe asymmetric information problems (less financing constraints). We should then control for analyst coverage in our regressions. We obtain data on analyst coverage from I/B/E/S. Furthermore, we propose to include a dummy variable set equal to 1 for firms with US cross-listings and 0 otherwise because such mechanism may have an impact on firm's access to capital (Coffee, 1999; Stulz, 1999; Hail and Leuz, 2009). In the literature, US cross-listing is viewed as a mechanism that enhances the protection of minority investors. In fact, the notion that non-US firms may cross-list in the US in order to improve investors' protection and capital allocation has been proposed by Stulz (1999) and Coffee (1999). These authors argue that US strict disclosure rules and enforcement by the Securities and Exchange Commission (SEC) help relax firm's financing constraints. The data on US cross-listings comes from Bank of New York, Citibank, Deutsche Bank, JP Morgan, NYSE and NASDAQ websites.

In Table 6, column 1, 3, 5, and 7 include controls for analyst coverage and interactions between analyst coverage and firm's cash flow. Taking into account the potential moderating role of analysts, we find that DRI impact becomes non significant (our coefficient of interest is -0.013 with a p-value of .698 in the case of model 1), which suggests that our DRI primary results are not robust to some aspects of our methodology. Furthermore, the coefficient of the interaction between PE and cash flow becomes positive and significant in two specifications (model 1 and 5), which runs contrary to the conventional wisdom that strong public enforcement allows for more efficient financial contracts and their enforcement (less risk for investors and hence less financing constraints for firms). On the other hand, the remaining coefficients reinforce the results reported in Table 4. In column 2 and 6, we augment Eq. (1) with US cross-listing and interactions between US cross-listing and cash flow. Again, we show that common law origin (model 6) and high levels of investors' protection (model 2) alleviate firm's financing constraints. In addition, improvements in IF and CO translate into less investment-cash flow sensitivity. Finally, column 3, 4, 7, and 8 include other country-level factors (accounting standards (ASI) and the level of economic development (GDP)), in addition to controls for NA and CL. When we use these additional controls, we see that LO, high IF and PF decrease firm's financing constraints, while DRI and PE remain non significant. In column 3, 4, 7 and 8, we do not test for the impact of CO because CO and

GDP are highly correlated (0.7948, results not tabulated). Again, our DRI primary results are not robust to some aspects of our methodology.

Table 6

Firm's financing constraints and political and legal institutions: robustness results

For robustness, we add several control variables to equation 1. We use analyst coverage because analyst activities may impact firm's financing constraints. Further, we also propose to include a US cross-listing dummy to control for differences in financing constraints between firms with US cross-listings (Exchange and private programs) and firms without US cross-listings. Finally, we control for accounting standards and the level of economic development. All models report estimates of regressions with firm fixed and year fixed effects. Standards errors are adjusted for clustering at the firm level. P-values for two-tailed tests are in parentheses. One, two or three asterisks denote significance at the 10%, 5% and 1% levels, respectively.

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	0.318 (0.001)***	-0.268 (0.001)***	0.663 (0.001)***	0.010 (0.839)	0.228 (0.001)***	-0.314 (0.001)***	0.297 (0.001)***	-0.350 (0.001)***
Cash Flow	0.340 (0.001)***	0.511 (0.001)***	0.901 (0.001)***	0.585 (0.001)***	0.328 (0.001)***	0.436 (0.001)***	0.903 (0.001)***	0.665 (0.001)***
Market-to-Book	-0.000 (0.608)	-0.000 (0.421)	-0.000 (0.705)	-0.000 (0.527)	-0.000 (0.600)	-0.000 (0.440)	-0.000 (0.726)	-0.000 (0.538)
Size		0.052 (0.001)***		0.053 (0.001)***		0.049 (0.001)***		0.051 (0.001)***
DRI	-0.280 (0.001)***	-0.238 (0.001)***	-0.144 (0.001)***	-0.160 (0.001)***				
DRI * Cash Flow	**-0.013 (0.698)**	**-0.146 (0.001)*** **	**-0.037 (0.370)**	**0.047 (0.257)**				
LO					-0.042 (0.012)**	-0.094 (0.001)***	-0.064 (0.001)***	-0.092 (0.001)***
LO * Cash Flow					**-0.213 (0.001)*** **	**-0.193 (0.001)*** **	**-0.246 (0.001)*** **	**-0.256 (0.001)*** **
PE	-0.145 (0.001)***	-0.104 (0.001)***	-0.079 (0.001)***	-0.066 (0.001)***	-0.061 (0.001)***	-0.031 (0.015)**	-0.063 (0.001)***	-0.050 (0.001)***
PE * Cash Flow	**0.075 (0.001)*** **	**-0.005 (0.559)**	**-0.001 (0.924)**	**-0.021 (0.147)**	**0.067 (0.001)*** **	**-0.013 (0.142)**	**0.009 (0.505)**	**-0.010 (0.450)**
CO	0.000 (0.005)***	0.000 (0.399)			-0.000 (0.219)	-0.000 (0.013)**		
CO * Cash Flow	**-0.001 (0.001)*** **	**-0.002 (0.001)*** **			**-0.001 (0.001)*** **	**-0.003 (0.001)*** **		
IF	0.000 (0.096)*	0.000 (0.124)	-0.000 (0.067)*	0.000 (0.857)	0.000 (0.163)	0.000 (0.177)	-0.000 (0.331)	0.000 (0.297)
IF * Cash Flow	**-0.002 (0.001)*** **	**-0.002 (0.001)*** **	**-0.002 (0.001)*** **	**-0.003 (0.001)*** **	**-0.002 (0.001)*** **	**-0.001 (0.001)*** **	**-0.002 (0.001)*** **	**-0.003 (0.001)*** **
PF			-0.001 (0.001)***	-0.001 (0.001)***			-0.001 (0.001)***	-0.001 (0.001)***
PF * Cash Flow			**0.002 (0.001)*** **	**0.002 (0.001)*** **			**0.002 (0.001)*** **	**0.002 (0.001)*** **
Log (1+NA)	0.044 (0.001)***		0.042 (0.001)***		0.044 (0.001)***		0.037 (0.001)***	
Log(1+NA)* Cash Flow	0.061 (0.001)***		0.057 (0.001)***		0.061 (0.001)***		0.056 (0.001)***	
CL		-0.073 (0.001)***		-0.086 (0.001)***		-0.067 (0.001)***		-0.073 (0.001)***
CL * Cash Flow		0.103 (0.001)***		-0.060 (0.624)		0.099 (0.001)***		-0.012 (0.293)
GDP			0.000 (0.013)**	-0.000 (0.001)***			-0.000 (0.002)***	-0.000 (0.001)***
GDP * Cash Flow			-0.000 (0.680)	-0.000 (0.363)			-0.000 (0.245)	-0.000 (0.383)
ASI			-0.004 (0.001)***	-0.003 (0.001)***			0.001 (0.092)*	0.003 (0.001)***
ASI * Cash Flow			-0.010 (0.001)***	-0.004 (0.001)***			-0.011 (0.001)***	-0.005 (0.001)***
R^2	0.4797	0.4518	0.5244	0.5093	0.4722	0.4447	0.5156	0.5007
N	80 056	81 473	70 432	69 209	80 056	81 473	70 432	69 209

Table 7

Firm's financing constraints and political and legal institutions: controls for the endogeneity of analyst coverage and US cross-listing decision

This table reports the results of the Heckman (1979) two-stage procedure. In the first stage, we specify a model of the choice of covering a firm (model (1) and (3)) and the choice of cross-listing in US markets (model (2) and (4)). In the second stage, we estimate our main equation. We report estimates of the impact of private enforcement, public enforcement and political factors on the investment-cash flow sensitivity.

Endogenizing analyst coverage and US cross-listing for regressions using jointly private enforcement, public enforcement and political factors

First stage	Model 1 Probit (NA)	Model 2 Probit (CL)	Model 3 Probit (NA)	Model 4 Probit (CL)	Second Stage	Model 1 (I/K)	Model 2 (I/K)	Model 3 (I/K)	Model 4 (I/K)
Intercept	-10.562 (0.001)***	-0.820 (0.001)***	-20.658 (0.001)***	-0.690 (0.001)***	Intercept	1.543 (0.001)***	0.317 (0.002)***	1.593 (0.001)***	0.363 (0.015)**
Size	1.590 (0.001)***	0.062 (0.001)***	2.097 (0.001)***	0.053 (0.001)***	Cash Flow	0.686 (0.001)***	1.474 (0.001)***	0.681 (0.087)*	1.768 (0.001)***
TV	-0.097 (0.159)		0.110 (0.001)***		Market-to-Book	-0.000 (0.134)	-0.000 (0.125)	-0.000 (0.080)*	-0.000 (0.236)
EV	0.026 (0.576)		-0.003 (0.828)		Size		0.163 (0.001)***		0.161 (0.001)***
O	-0.019 (0.013)**		-0.014 (0.001)***		**DRI**	0.0327 (0.616)	0.085 (0.121)	0.978 (0.001)***	0.570 (0.001)***
M/B		-0.000 (0.550)		-0.000 (0.512)	**DRI * Cash Flow**	**-0.000 (0.997)**	**-0.348 (0.238)**	**-0.279 (0.342)**	**-1.140 (0.003)***
Leverage		0.000 (0.977)		0.000 (0.965)	**LO**				
LO		0.019 (0.383)		0.030 (0.072)*	**LO * Cash Flow**				
					PE	-0.108 (0.002)***	0.131 (0.001)***	0.173 (0.001)***	0.259 (0.001)***
					PE * Cash Flow	**-0.247 (0.001)***	**-0.487 (0.001)***	**-0.149 (0.194)**	**-0.454 (0.001)***
					CO	0.000 (0.804)	0.002 (0.003)***		
					CO * Cash Flow	**-0.007 (0.001)***	**-0.004 (0.047)**		
					IF	-0.003 (0.001)***	-0.003 (0.001)***	-0.004 (0.001)***	-0.000 (0.474)
					IF * Cash Flow	**-0.003 (0.037)**	**-0.013 (0.001)***	**-0.006 (0.011)**	**-0.014 (0.003)***
					PF			-0.019 (0.001)***	-0.010 (0.001)***
					PF * Cash Flow			**0.006 (0.013)**	**0.007 (0.011)**
					Log (1+NA)	0.396 (0.001)***		0.438 (0.001)***	
					Log(1+NA)* Cash Flow	-0.016 (0.001)***		-0.104 (0.001)***	
					CL		-0.420 (0.001)***		-0.313 (0.001)***
					CL * Cash Flow		-0.035 (0.825)		0.191 (0.280)
					GDP			0.000 (0.001)***	0.000 (0.001)***
					GDP * Cash Flow			-0.000 (0.718)	-0.000 (0.678)
					ASI			-0.006 (0.023)**	-0.001 (0.446)
					ASI * Cash Flow			-0.001 (0.778)	-0.007 (0.336)
					λ	-27.717 (0.001)***	2.749 (0.001)***	-9.516 (0.001)***	2.063 (0.001)***
					N	26 471	67 492	25 991	60 093

In Table 6, analyst coverage and US cross-listing are viewed as exogenous. However, a remaining concern is endogeneity because not all firms in our sample have analyst coverage. In reality, security analysts could self-select the firms they follow based on their financial status, which will introduce a selection bias. In the same line of reasoning, cross-listing in US markets is not a random decision, which raises the possibility of an endogenous relation between the US cross-listing dummy and our dependant variable (Investment spending). Consequently, we propose to test the determinants of analyst coverage and US cross-listings and their effect on firm's financing constraints using the Heckman's (1979) two-step estimator.

In the first stage, through a probit model, we model the choice of covering a firm or the choice of cross-listing on US markets. Building upon prior literature (e.g. Barth et al. 2001; Piotroski and Roulstone, 2004; Chan and Hameed, 2006), we hypothesize that analysts' activities are affected by firm's size, trading volume (TV), earnings volatility (EV), and firm's ownership (O). Furthermore, we follow Doidge et al. (2004) and make the cross-listing decision depend on firm's size, LO, firm's growth opportunities (M/B ratio) and leverage. The results of the Heckman's two-stage procedure are reported in Table 7. Again, some of our primary results are not robust to endogeneity controls. In particular, we find that strong PE is associated with low investment-cash flow sensitivity. The interaction term (PE * cash flow) is negative and significant at 1% level in three of the fourth specifications reported in Table 7. We also find no relation between DRI and firm's financing constraints in three of the fourth specifications that investigate DRI impact and other institutional factors. These additional tests show again that private enforcement has no "real" consequences on firm's financing constraints, standing in contrast to results found in previous papers. On the other hand, the results (not tabulated) for legal origin (endogenizing NA and CL for regressions using jointly LO, PE, and political factors) remain unchanged and are consistent with previous research. In fact, legal origin can be viewed as an important legal factor in explaining financing constraints. Finally, low corruption, few restrictions on investment, and high press freedom still improve firm's financial status, confirming our earlier results. A consideration of the combined evidence in Table 4, 5, 6 and 7 imply the following conclusions. First, common law origin affects positively and strongly capital allocation. Second, strong public enforcement aspects help relax firm's financing constraints, but legal origin is a more "primitive" determinant of better capital allocation than public enforcement. Third, private enforcement is not important in explaining firm's financing constraints. Fourth, we find strong negative associations between press freedom, investment freedom and the sensitivity on investment to the availability of cash flow. Finally, low levels of corruption help improve capital allocation.

Conclusion

In this paper, we investigate the impact of political and legal factors on capital allocation. Our analysis is based on models of capital markets imperfections that suggest that information asymmetry and agency costs increase the sensitivity of investment to internal capital. The results indicate that financing constraints, proxied by investment-cash flow sensitivity, are negatively related to legal and political development. In particular, we show that common law origin and strong public enforcement reduce the sensitivity of investment to the availability of internal capital. In contrast, the private enforcement aspects of securities laws have no impact on firm's financing constraints. Moreover, we find that low levels of corruption and high investment freedom allow for an easy access to external capital for firms. We also provide evidence that improvements in the general information environment (e.g. high freedom of the press) help alleviate firm's financing constraints.

We contribute to the literature by proposing a new empirical approach that examines the impact of political institutions on corporate investment. We also extend the existing literature by considering the joint impact of political and legal factors on investment-cash flow sensitivity. Summarizing, the results of this research indicate that both legal and political institutions are important in explaining capital constraints. As a result, academics and policy makers should not dismiss political rights as relevant factors in capital allocation.

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