Political Uncertainty and Cross-country IPO Underpricing

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Abstract

As information asymmetry drives IPO underpricing, we find evidence of political uncertainty widening the information gap and therefore increasing the cost to access capital. We use a quasi-natural experiment to assess the cost of capital channel in global IPO activities across the world and show a 9% swing of IPO underpricing from pre- to post-election year. Secondly, we report that institutional settings and political environment represent mitigating factors of political uncertainty, with better investor's protection and legal systems, alongside a market friendly government leading to lower IPO underpricing even in pre-election years.

1. Introduction

Political stability has proven to be an important factor that agents consider in their investment decisions. In fact, earlier work has established a significant impact of political risk on corporate and real investments because agents may decide to delay their decisions until greater certainty is achieved to predict policies affecting business and economic outcomes. Moreover, political uncertainty tends to widen the information gap existing between informed and uninformed investors.

In this paper, we explore how political uncertainty affects the valuation process of IPOs based on a cross-country sample. In particular, the phenomenon of underpricing has been mainly explained with the presence of information asymmetry in pre-market activities (alongside some post-market behavioral arguments). Therefore, a higher political uncertainty should exacerbate the extent of information asymmetry and the valuation uncertainty, hence increasing IPO underpricing. On the contrary, a political stability should be linked to a narrower gap between informed and uninformed investors and the average IPO underpricing should fall as a consequence.

The measurement of political risk has been widely debated in the literature and more recently the endogeneity issue between this risk and economic growth has been acknowledged. Following Yulio and Yook (2012) and Cao et al (2019), we use a quasi-natural experiment of national elections across the world to detach the impact of political instability from the one of other economic or market factors. National elections are exogenous events and reflect relatively short-term mandates to political leaders who may decide to introduce policy changes that may impact financial markets and investors either positively or negatively in several areas: taxation, business regulations, expansive or restrictive interventions, and sometimes privatization or nationalization programs. Finally, these events are timed differently across countries, avoiding the potential impact of global IPO waves.

Using around 9,500 IPOs in 33 countries between 1995 and 2017, we examine the difference in underpricing recorded in pre- and post-election years. In addition, we try to characterize the impact of such events by looking at the moderation effect that some institutional settings and government characteristics may play. Firstly, we show that political uncertainty increases IPO underpricing with a swing of around 9% from pre- to post-election years, where underpricing is respectively equal to 26% and 17% on average.

Our second contribution sheds light upon the role of institutions in each country. Even if political elections introduce uncertainty, the presence of better institutions should help mitigating such impact. Therefore, we should see that countries with better institutions suffer less

underpricing in pre-election years. We find confirmation of this prediction and report results that are consistent with several institutional proxies (e.g., investors' protection, home bias, legal framework, and enforcement).

Thirdly, we argue that a better political environment moderates the impact of political uncertainty. We use several proxies to test this prediction and find consistent results. In particular, IPOs in countries with market-friendly governments have to underprice less. In addition, we find that a bigger government expenditure leads to lower underpricing as government intervention may be associated to policies to sustain business and economic growth. On the contrary, the presence of a higher expropriation risk decreases the impact of political elections on IPO underpricing as these events may be seen as an opportunity for change of government and therefore reduction in expropriation risk.

Our results are robust to several model specifications and estimation methods (OLS, hierarchical modelling and propensity score matching), the exclusion of foreign issuance, and after controlling for political sensitive industries as suggested by Herron et al. (1999) and Julio and Yook (2012).

The rest of the paper is structured as follows: the next section contains literature review and hypothesis development. Sections 3 presents data and methodology, while section 4 and 5 discuss main results and robustness tests respectively. Section 6 concludes the paper.

2 Literature review and hypothesis development

Our study is based on three main streams of literature. Firstly, we base our overall framework to explain IPO underpricing within pre-market activities and the existing phenomenon of information asymmetry among investors. Rock (1986) Beaty and Ritter (1986), Benveniste & Spindt (1989), Allen and Faulhaber, (1989), Grinblatt and Hwang, (1989) and Welch (1989) are among the first ones to test it using slightly different arguments such as winner's curse, information extraction and signaling theory.

Moreover, international IPO studies are not common due to data availability but have recently caught a greater attention as globalization may play an important role in the functioning of financial markets. As an example, Doidge et al. (2013) and Caglio et al. (2016) prove that financial integration favours the development of IPO markets and impacts on IPO decisions. A complementary stream of literature – Banerjee et al., 2011, Engelen and Essen, 2010, Hopp and Dreher, 2013 – shows that institutional settings, such as investors' protection and legal frameworks, are significant drivers of cross-country variation in IPO underpricing, even after controlling for micro and macro factors. More recently, Marcato et al (2020) combine the two phenomena and

find a moderation effect of country institutions on the impact of market integration on IPO underpricing.

Clearly, the presence of market uncertainty increases the level of information asymmetry and therefore induces investment bankers to lower the initial offer price to attract an enough number of potential investors. An important element of the stability of financial markets is represented by political risk, which has been studied for both capital and real investments – see for example Bernanke (1983), Bloom, et al. (2007) and Rodrik (1991). However, the endogeneity of several aggregate measures of political uncertainty used to assess its impact on spending – e.g. Alesina and Perotti (1996), Pindyck and Solimano (1993) and Bekaert et al (2016) – led Yulio and Yook (2012) to use a quasi-natural experiment to show the existence of a 5% reduction of corporate investments during election years – see also Gulen and Ion (2015) and Jens (2017). Similarly, Cao et al. (2019) find that cross-border acquisitions are also affected by political uncertainty as foreign firms' inbound acquisitions are discouraged, while home country elections encourage firms to engage in outbound cross-border acquisitions, especially in countries that guarantee a free-trade agreement, are military allies, or show better governance. Furthermore, Colak et al (2017) show how greater political stability supports the development of IPO activities within the US context using gubernatorial elections. Finally, as far as pricing is concerned, Pastor and Veronesi (2012, 2013) provide both theoretical and empirical evidence of the existence of a risk premium associated to a change in policies and political uncertainty – see also Brogaard and Detzel (2015).

Hypothesis development

In this paper we investigate how political uncertainty affects the valuation process of cross-country IPOs. During pre-election years, the uncertainty is higher as the election can potentially result in a bad outcomes and it could then impact on IPO underpricing in two ways: firstly, the uncertainty increases the overall information asymmetry related to the newly listed company. In times when the uncertainty is high, investors tend to be cautious and delay their investments. Therfore, IPO issuers need to underprice more to attract a sufficient number of interested investors and subscriptions. Both channels lead to a higher level of underpricing.

IPO underpricing is higher in pre-election years (**H1**)

Similarly, after the election outcome is revealed, this uncertainty fades away and we then observe an increased level of certainty in the post-election year (i.e., year after the election)[3].

IPOs issued in the post-election years experience lower underpricing (**H2**)

Furthermore, when a country offers a better institutional setting, investors should be more likely to make timely investment decisions. In particular, a higher level of protection for minority investors offers a hedge to a greater number of investors which feel safer and hence are more likely to participate in an IPO deal. As a result, we argue that the level of investors protection weakens the impact of pre-election uncertainty on IPO valuation. Two specific layers of protection are represented by the rule of law (law in book) and public enforcement (law in action). Therefore, when the rule of law is better or public enforcement more effective, the impact of pre-election uncertainty on IPO valuation is also weakened.

IPO underpricing in pre-election years is smaller in countries with better investors' protection (**H3**)

Home biased investors (favorably biased towards domestic stocks) are less likely to source investment opportunities abroad even around the election period. Therefore, it should be relatively easier for the IPO company to attract investors in countries where investors are favorably biased towards domestic stocks.

A higher home bias weakens the impact of pre-election uncertainty on IPO valuation (**H4**)

The political environment related to the central government can also moderate the relationship between pre-election issuance and IPO underpricing. During the IPO issuance year, if the incumbent government is generally market-friendly, the impact of political uncertainty should be moderated. Similarly, when the incumbent government spends more, this greater expenditure may substitute private investment and hence hinder the development of financial markets. Political elections are viewed as a positive signal towards an opportunity to change government and therefore government spending should moderate the impact of pre-election uncertainty on IPO valuation. Similarly, when the expropriation risk associated with the incumbent government is high, political elections are also viewed as a positive signal in the hope of a potential policy change.

[3] Please remember that the base case is represented by non pre- or post-election years which reflect respectively the highest and lowest level of political uncertainty.

Expropriation risk should also weaken the impact of pre-election uncertainty on IPO underpricing. Overall, we can state our last hypothesis as follows

A market-friendly government reduces the impact of pre-election uncertainty on IPO valuation **(H5)**

3 Data and methodology (short draft, needs to be extended)

Our sample period is from 1995 to 2017 when the latest election data is available. The primary worldwide IPO data is collected from Thomson ONE New Issues Database. We only include IPOs of which both offer price and the first-trading-day closing price is available as they are required for the measure of IPO underpricing. Figure 1 represents a worldwide map of our sample, which only includes countries with at least five observations to allow for hierarchical modelling. The data on elections and government characteristics is collected from World Bank's Database of Political Institutions (DPI). We only include countries where there is an election system and the data on election is available, which means China and Hong Kong are excluded from our study. This leaves us a sample of 9,427 IPOs across 33 countries. The firm-, issuing- and market-level data is collected from Thomson ONE New Issues Database and Thomson Reuters DataStream Professional.

[Insert Figure 1 here]

The dependent variable is the IPO underpricing which is measured by the initial return on the first day of trading as follows:

$$Initial\ Return = \frac{First\text{-}day\ Closing\ Price - Offer\ Price}{Offer\ Price} \quad (1)$$

As the market return is negligible compared to the level of underpricing, we do not adjust for it, in line with most of the previous empirical studies.

The main variable of interest in our study is the pre- and post-election IPO issuances. We follow Cao et al 2019 and define *Pre-election* as a dummy which equals 1 if the IPOs are issued in the year before the election year; 0 otherwise. Similarly, *Post-election* is a dummy which equals 1 if the IPOs are issued in the year following the election year; 0 otherwise.

We follow the literature and control for various firm-, issuing- and market-level characteristics. In particular, IPO size (*LSIZE*) is used to proxy for the ex-ante uncertainty about

the issuing company, as proposed by Beaty and Ritter (1986), and some dummy variables capture whether the IPO is venture capital-backed (*VB*) and/or uses a bookbuilding method (*BB*), both factors reducing underpricing through a process of information revelation. Secondly, we control for market-related variables. According to Loughran and Ritter (2002) and Ljungqvist et al. (2006), the market return represents the market sentiment and is positively related to underpricing. We include the three-month cumulative market return (*MRETURN*) before the IPO issuing date and expect a positive relationship with underpricing. We also control for cyclical patterns in the IPO market. Particularly, we define the volume variable (*VOLUME*) as the ratio between the number of IPOs in a specific year in one country divided by the total number of IPOs in that country during the overall sample period[4]. A negative relationship between the IPO underpricing and IPO volume in the market is recorded by Ibbotson and Jaffe (1975), Lowry and Schwert (2004) and Shi et al. (2013). We also include the market turnover (*TURNOVER*) to further control for market development. The data is collected from Thomson Reuters DataStream for each country.

While earlier studies report a negative effect of underwriter's reputation on IPO underpricing, this relationship is reversed in more recent studies. Nonetheless, the underwriters play an undeniably important role in IPO events. Following Megginson and Weiss (1991) and Shi et al. (2013), we measure the quality of underwriters by their shares in the IPO market and create a global underwriter reputation proxy (*UNDERWRITER*), taking the total proceeds underwritten by each underwriter as a share of the total proceeds raised across our sample period.

To test the moderation effect of the country-level institutional settings, we include four country-level variables based on previous empirical studies (Banerjee et al., 2011, Engelen and Essen, 2010, Hopp and Dreher, 2013, Marcato et al 2018). As expected, these country-level variables are time-invariant.

The *Investor Protection Index (IPI)* measures the level of minority investor protection and has. In countries where minority investors are not sufficiently protected, they tend to have less monitoring power over managers and big institutional investors, and they suffer from inappropriate managerial activities (e.g., self-dealing activities). In IPO events, the high uncertainty around a company valuation makes investors reluctant to participate, as they might become minority investors. As a result, higher underpricing is required to attract them. The *Investor Protection Index (IPI)* represents the most recent data on the level of minority investor protection, reported as part of the Doing Business project by the World Bank. The data is collected from the related

[4] This variable is calculated based on the IPOs recorded in the database before we apply any of the filtering criteria.

website[5] and ranges from 0 to 10, where higher values represent a better protection for minority investors.

By dividing a country's law system into "law in books" (written laws) and "law in action" (the effectiveness of legal enforcement), Engelen and Essen (2010) find that when the "law in books" is relatively weak to protect investors from controlling insiders and unjust deals, strong legal enforcement (i.e. effective police force or courts) can to some extent compensate the weak investor protection. We obtain the *Public Enforcement Index (PEI)* as a proxy for the effectiveness of the legal enforcement system from La Porta's website.[6] The index ranges from 0 to 1, with higher values representing more effective legal enforcement.

We also include the *Rule of Law Index (RLI)* to proxy for the overall quality of a country's legal system. The *Rule of Law Index* is constructed by the World Justice Project[7] and ranges between 0 and 1, with higher values representing better overall legal systems.

Finally, we include the *Home Bias Index (HB)* constructed by Lau et al. (2010), which measures the extent to which investors are biased towards domestic investments. It is defined as the percentage of domestic mutual funds invested in the domestic stock market divided by the percentage of the country's stock market capitalization on the world's total market capitalization. A higher value of the index represents a higher level of bias towards the home country. The data on *HB* is directly collected from Lau et al. (2010). The home bias data constructed by Lau et al. (2010) is based on the period from 1998 to 2007. Therefore, as a robustness check, we have also run estimations with a sub-sample from 1998 to 2007 to correspond to the home bias construction period.

To test the moderation effect of the political environment, we include three government-related variables. Following Julio and Yook (2012), we define a right-leaning or centrist central government as market friendly. We use the government expenditure as a share of GDP to capture the scale of government spending in an economy. Cao et al (2019) argue a country with more "checks and balance" often have institutions in place to prevent the executives of the government to abuse their power, hence managing the expropriation potentials. We follow their approach the construct a high expropriate risk dummy (*EXPRO*) which equals 1 if a country is ranked below the median in terms of judicial and legislative checks on executives; 0 otherwise.

A detailed variable description and other variables used in various robustness tests are presented in Table 1.

[5] Source: http://www.doingbusiness.org/
[6] Source: http://faculty.tuck.dartmouth.edu/rafael-laporta/research-publications/
[7] For more details about how the rule of law index is constructed, please refer to the World Justice Project website. http://worldjusticeproject.org/

[Insert Table 1 here]

The information about IPOs (number and underpricing) and elections (type and number) in each country are reported in Table 2. Elections are either legislative or presidential if we exclude Israel where they are prime ministerial. A minimum of 3 and maximum of 8 elections are recorded for each country over the sample period. The country-by-country average of IPO underpricing ranges between 0.67% in Finland to 40.08% in Japan. Mexico is the country with the smallest number of IPOs (3), while the United States represent almost 45% of our sample with 4,198 IPOs.

[Insert Table 2 here]

Hierarchical linear modelling

While the common method to model IPO underpricing is OLS estimations, the recent development in the cross-country IPO literature suggests that the cross-country setting presents a hierarchical structure with IPOs nesting within the same country sharing similar patterns. The hierarchical linear modelling (HLM) by Raudenbush and Bryk (1992) is a more appropriate method which allows us to test the country-level factors and control for country effects at the same time, without violating the independence assumption of residuals (Engelen and Essen 2010; Marcato et al 2018).[8]

We use a two-level HLM, where level 1 represents individual IPO companies and level 2 treats countries as a random sample from a wider population. As a rule of thumb, at least 20 observations at level 2 are required in order to achieve good estimations; and our dataset meets this requirement with 33 countries. We adopt a random intercept model, which allows for the level 1 intercept to shift between countries (i.e. the random factor is the country variable where correlated errors are created and slopes are parallel lines between countries[9]). In the random intercept model, the intercept of the IPO performance at level 1 is then modelled as a random effect of the relative country at level 2. The specification for hypothesis 1 and 2 are as follows:

$$U_{ijt} = \beta_0 + \beta_1 Pre - election_{jt} + \beta_2 X_{ijt} + \mu_j + \epsilon_{ijt} \quad (2a)$$

[8] Garson (2013) points out that, in the presence of a nesting or clustering structure, observations from the same group are not independent and the standard errors of the predicted parameters by an OLS regression are underestimated. As a result, wrong or imprecise inferences might be made.

[9] The other model is the random slope model, which allows the slope to differ across countries too. In order to choose between these two models, we use a likelihood ratio test and the random intercept model is more appropriate.

$$U_{ijt} = \beta_0 + \beta_1 Post - election_{jt} + \beta_2 X_{ijt} + \mu_j + \epsilon_{ijt} \quad (2b)$$

where U_{ijt} is the underpricing level for IPO i in country j in year t; $Pre - election_{jt}$ is a dummy that equals 1 if year t is the year before the election in country j; $Post - election_{jt}$ is a dummy that equals 1 if year t is the year following the election in country j; X_{ijt} represents a vector of the control variables; μ_j is the random country effect shifting the regression line between countries; and ϵ_{ijt} is the overall error term at level 1.[10]

In order to test for the moderation effect of the country-level institutional settings, we use the interaction term between pre-election dummy (*Pre-election*) and each of the four institutional variables. Our specification is as follows:

$$\begin{aligned} U_{ijt} = \beta_0 + \beta_1 Pre - election_{jt} + \beta_2 INSTITUTION_j \\ + \beta_3 (Pre - election_{jt} * INSTITUTION_j) + \beta_4 X_{ijt} + \mu_j \\ + \epsilon_{ijt} \end{aligned} \quad (3)$$

where $INSTITUTION_J$ is the institutional variable for country j; the variable of interest is the interaction term $(Pre - election_{jt} * INSTITUTION_j)$. All other variables are the same as in Equation (2a) and (2b).

Similarly, to test the moderation effect of the political environment, we use the interaction term between pre-election dummy (*Pre-election*) and each of the three government-related variables. Our specification is as follows:

$$\begin{aligned} U_{ijt} = \beta_0 + \beta_1 Pre - election_{jt} + \beta_2 POLITICAL_j \\ + \beta_3 (Pre - election_{jt} * POLITICAL_j) + \beta_4 X_{ijt} + \mu_j + \epsilon_{ijt} \end{aligned} \quad (4)$$

where $POLITICAL_J$ represents each of the three government-related variables for country j and the variable of interest is the interaction term $(Pre - election_{jt} * POLITICAL_j)$. All other variables are the same as in Equation (2a) and (2b).

We start with a two-level null model to partition the variance in level 1 and level 2. For parsimonious reasons, and also considering that the model is simple, we do not report the

[10] Note that the random effect μ_j and the overall error term ϵ_{ijt} are independent of each other.

intermediate results. The between-country variance is 83 and the level 1 variance is 1,501. Therefore, the between-country differences could explain 5.5% of the variance in the cross-country IPO underpricing.

4 Main results

Table 3 reports the effect of elections on cross-country IPO underpricing using a hierarchical linear modelling. We find confirmation of both hypothesis 1 and 2 as underpricing is 4%-5% higher in pre-election years (hp 1) and 5%-6% lower in post-election years (hp 2) depending upon the specification of our model.

[Insert Table 3 here]

Consistent with previous studies, other control variables generally show the expected relationship with IPO underpricing. We dismiss the certification role of the venture capital status by Megginson and Weiss (1991) and instead find support for the analyst lust theory by Boeh and Dunbar (2016), Guo et al. (2006) and Liu and Ritter (2011), which predicts a positive relationship between venture-backed IPOs and underpricing as venture capitalists are more interested in the market price on the day shares are distributed to the limited shareholders (usually after the lock-up periods), they have a great desire to attract the all-star analysts' coverage and this can affect the IPO price.

We report a positive relationship of the bookbuilding technique in line with Kuntara Pukthuanthong et al. (2007), while company size shows a negative impact on IPO as bigger companies tend to be associated with lower levels of information asymmetry – Reber and Vencappa (2016). Consistent with Marcato et al. (2018), we find a 0.47% increase in IPO underpricing for each percentage point of cumulative market return increase during the three months prior to the deal (*MRETURN*) following the "hot issue" period argument by Ritter (1984). This result is also supported by the behavioural argument of a higher sentiment demand from exuberant investors causing an increase in underpricing – Ljungqvist et al. (2006). Correspondingly, a lower underpricing is found when market liquidity (represented by *TURNOVER*) is higher.

In line with Shi et al. (2013), we report years with a higher *VOLUME* of IPO deals are linked with lower underpricing (albeit insignificant), supporting the information revelation argument by Altı (2005). Finally, as a higher reputation increases the underpricing, we show a significantly positive coefficient on *UNDERWRITER*.

[Insert Table 4 here]

Table 4 reports the moderation effect that country institutions have on the relationship between political uncertainty and IPO underpricing. Firstly, all control variables show similar results and we confirm a higher and lower initial return respectively in pre-election and post-election years. While we do not find support for a direct impact of institutional settings on underpricing (coefficients are insignificant), country institutions show a significant impact when they are interacted with the dummy for pre-election years. In other words, we find evidence of hypothesis 3 that when the political risk is higher (pre-election years) institutions protecting investors' interests are an important mitigating factor reducing the impact of such risk on the level of underpricing companies have to offer. Our results are consistent to different proxies of country institutions (investors protection index, public enforcement index, rule of law). Finally, we also find evidence for hypothesis 4 as countries with a greater home bias mitigate the impact of political risk because more investors can already be found domestically and therefore the need to underprice is reduced.

[Insert Table 5 here]

The political environment is found to be important and a more market friendly government (whether proxied as right-leaning or centrist government, ratio between total expenses of the central government to GDP, or possibility of expropriation risk) reduces IPO underpricing. Moreover, the political environment also acts as a moderation effect, reducing the impact of political risk on IPO underpricing in pre-election years. As all control variables are also consistent with previous models, we find full support for hypothesis 5.

5 Robustness checks

Table 6 presents an OLS estimation similar to the one obtained in Table 3 using a hierarchical model. Pre-election and post-election years still show significantly higher and lower IPO underpricing respectively. The coefficients are also confirmed in magnitude with +4%-5% initial return in pre-election years and -4.5%-5.5% in post-election years.

[Insert Table 6 here]

One may argue that our results are affected by endogeneity issues. We therefore estimate a propensity score matching model, where treatment and control samples are matched using all control variables and either pre-election – column (1) – or post-election year – column (2) – is used as a treatment effect. Consistent with previous findings shown in tables 3 and 6, we report a 4% increase in underpricing for IPOs during the pre-election year and a decrease of 5% during the post-election year in Table 7.

[Insert Table 7 here]

As our results may be mainly affected by foreign IPO issuances, we estimate our main model excluding this component of the sample, which includes around 650 of the more 8,000 total observations used in the main estimations. Results of the impact of political uncertainty introduced by national elections is confirmed both in significance and magnitude and reported in Table 8.

[Insert Table 8 here]

Previous studies have highlighted the issue of political sensitive industries being more affected when political risk is higher, therefore suggesting the potential existence of endogeneity for omitted variables. Even if, as expected, we find a consistently lower underpricing for politically sensitive industries across different model specifications, we do not find evidence for this effect to be different in years where political uncertainty is higher. Table 9 show similar magnitude for both pre-election and post-election years.

[Insert Table 9 here]

Finally, as our results may be affected by economic cycles, we estimate the main model adding a macro-economic variable. With other control variables still in line with our main predictions and model, we find that correcting for more general macro factors does not affect the key results on pre- and post-election periods, which are significant and in an order of magnitude previously discussed.

[Insert Table 10 here]

6 Conclusion

In this paper we investigate the impact of political uncertainty on IPO underpricing using the quasi-natural experiment of national elections. We find consistent and compelling evidence that IPO underpricing is 4%-5% higher in pre-election years and 5%-6% in post-election years. These results suggest that the information gap between informed and uninformed investors may widen during election period as uncertainty is increased and IPO valuations are less easy to assess.

Moreover, we show that country institutions do not directly affect initial returns, but they may mitigate the impact of political uncertainty on IPO underpricing as investors feel more protected by the existence and public enforcement of laws. This finding is consistent to the use of several proxies of such protection while political uncertainty still shows being significant in explaining cross-country differences in IPO underpricing.

Furthermore, the presence of a home bias seems to exert a moderation effect of the impact of political risk on initial returns. As more domestic investors tend to prefer domestic stocks to foreign ones, the need to underprice to obtain a full subscription is reduced even when political uncertainty is highest in pre-election years.

In addition, we also show that a more market friendly political environment – proxied with centre-right or centrist government, higher public expenditure (as percentage of GDP) and likelihood of expropriation risk – directly reduces initial returns and it can at the same time moderate the higher underpricing recorded in pre-election years even further.

Our results are robust to the use of several estimation methods (HLM, OLS and PSM) different model specifications (incl. use of politically sensitive industries), sample selection (e.g., foreign issuance) and after controlling for several macro-economic variables.

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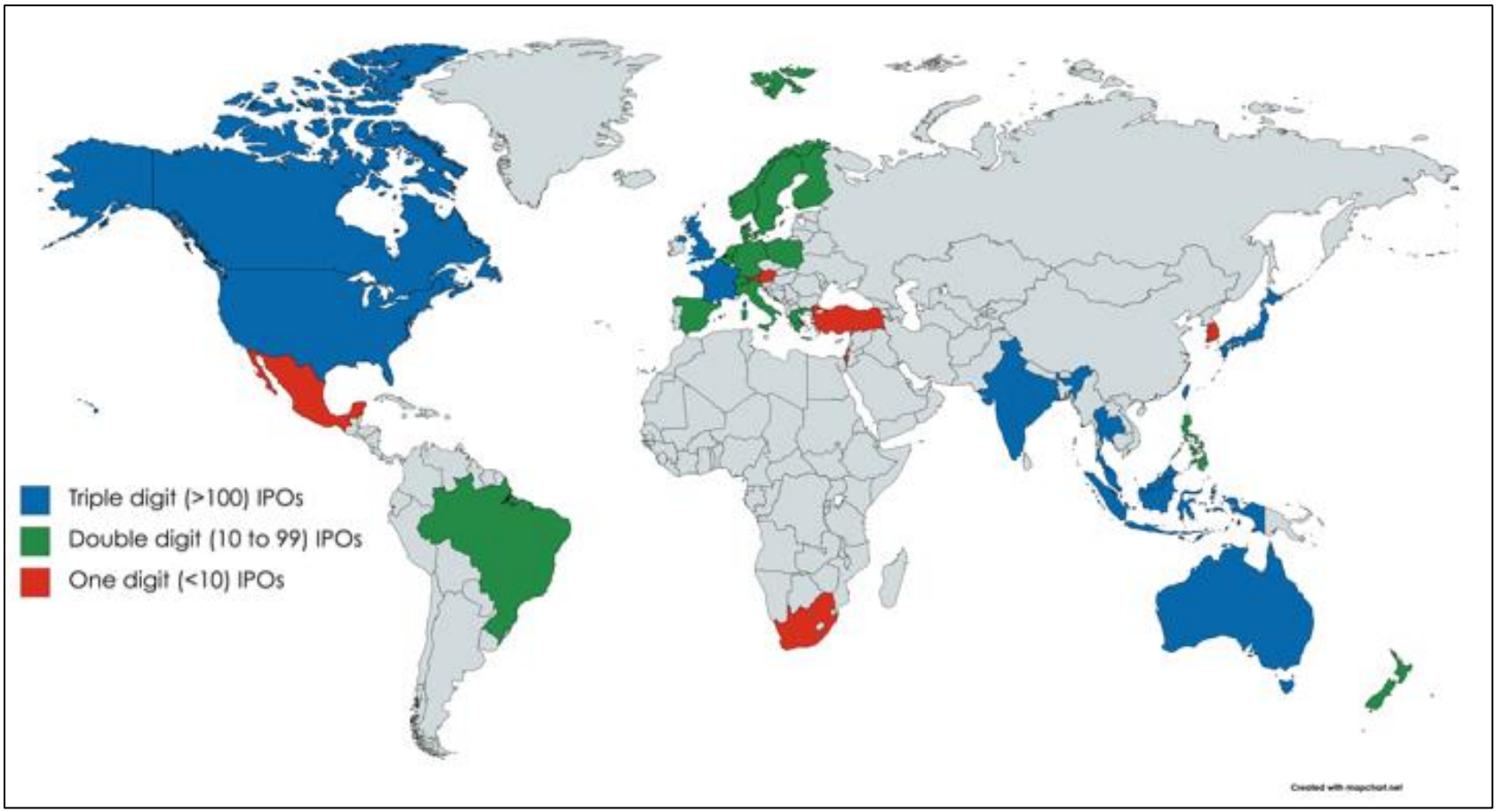
Figure 1: Worldwide IPOs coverage to allow for hierarchical modelling (HLM).



This map represents the worldwide coverage of our sample that allows hierarchical modelling requiring a minimum number of observations in each country (level 1). In blue countries with more than 100 IPOs, in green countries with double digits IPOs and in red countries with at least 5 observations.

Table 1: Variables description and summary statistics

Variable	Description	Statistics				
		Obs	Mean	StD	Min	Max
	Dependent variable					
IR	Initial Return (%), which measures the level of underpricing as the difference between the offer price and the closing price on the first trading day. Source: Thomson One	9427	22.04	39.39	-58.33	502.91
	Firm-, issuing- and market-level variables					
VB	A dummy variable that equals 1 if the IPO is venture capital backed; 0 otherwise. Source: Thomson One	9,384	0.28	0.45	0	1
BB	A dummy variable that equals 1 if the IPO method is bookbuilding; 0 otherwise. Source: Thomson One	8,967	0.69	0.46	0	1
LSIZE	Frim size: natural log of the total proceeds of the IPOs. Source: Thomson One	9,427	3.21	1.79	-6.21	9.99
VOLUME	IPO volume: for each country-year companion, it is the number of IPOs in a given year in this country divided by the total number of IPOs throughout the sample period in this country, expressed in 100%. Source: Thomson One.	9,427	9.75	7.33	0.10	51.10
MRETURN	Market return: 3-month cumulative market return before the IPO date, based on the market index in DataStream. Source: DataStream	9,427	3.79	7.84	-40.46	80.16
TURNOVER	Stock market turnover: annual turnover by value in the year of IPO. Source: DataStream	9,120	910.18	460.87	4.17	4227.25
UNDERWRITER	Global underwriter reputation: this is a widely-used measure of underwriters' reputation following Megginson and Weiss (1991). Following Shi et al (2013), we use the total proceeds underwritten by each lead underwriter as a share of the total proceeds during our sample period. Source: Thomson One	8,849	1.39	2.68	0.00	8.99
SSIND	Politically sensitive industry: a dummy variable that equals 1 if the IPO company belongs to one of the politically sensitive industries classified by Herron et al. (1999) and Julio and Yook (2012) including: tobacco products, pharmaceuticals, health care services, defense, petroleum and natural gas, telecommunications, and transportation; 0 otherwise.	9,427	0.18	0.38	0	1

Table 1: Variables description and summary statistics (continued)

Variable	Description	Statistics				
		Obs	Mean	StD	Min	Max
	Election variables					
PRE_ELEC	A dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed. Source: World Bank Database of Political Institutions.	9427	0.28	0.45	0	1
POST_ELEC	A dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. Source: World Bank Database of Political Institutions.	9427	0.24	0.43	0	1
	Country-level variables					
IPI	Investor Protection Index: measures the level of legal protection of minority investors in one country; it ranges from 0 to 10 with higher values representing better protection. For each company, the IPI of the country where it is firstly listed has been included. This data is directly collected from the website of the Doing Business project by the World Bank.	9,427	6.66	0.60	4.20	8.20
HB	Home Bias: the percentage of the domestic mutual funds invested in the domestic stock market divided by the percentage of the country's stock market capitalization in the world's total market capitalization, expressed in natural log. The data on home bias is directly collected from Lau et al (2010).	9,291	2.30	1.77	0.70	6.71
PEI	Public Enforcement Index: measures the effectiveness of one country's legal enforcement, i.e. court enforcement; it ranges from 0 to 1 with higher values representing more effective legal enforcement (Djankov et al., 2008). For each company, the *PEI* of the country where it is firstly listed has been included. This data is directly collected from Rafael La Porta's website.	9,427	0.21	0.35	0.00	1.00
RLI	Rule of Law Index: measures the overall quality of the legal framework. This data is constructed by the Worldwide Governance Indicators (WGI) project and reported every two years. It ranges from -2.5 to 2.5, with higher values representing a better legal framework. For each company, the *RLI* of the country where it is firstly listed has been included.	8,680	0.72	0.08	0.45	0.88
MF	A dummy variable equals 1 if the incumbent government in the election year is considered as market friendly, i.e. classified as right-leaning or centrist; 0 otherwise. Source: World Bank Database of Political Institutions	8,066	0.45	0.50	0	1

Table 1: Variables description and summary statistics (continued)

Variable	Description	Statistics				
		Obs	Mean	StD	Min	Max
GOVEX (GOVSIZE)	Total expenses of the central government as a percentage of GDP. Source: World Development Indicators Database	9,418	16.55	3.69	7.26	28.35
EXPRO	A dummy variable that equals 1 if a country's score is no larger than the median score of the judicial and legislative checks on executives, hence indicating higher expropriation risk; 0 otherwise. Source: World Bank Database of Political Institutions	9,418	0.23	0.42	0	1
MI	Market Integration: a measure of the actual market integration of one country with the global markets by identifying the explanatory power of a multi-factor model on global factors. R-squared is then used as an indicator of market integration. This method is developed by Pukthuanthong and Roll (2009) with high frequency data. For comparison purpose, it is presented in percentage levels in the estimations. Source: DataStream	9,418	78.47	29.11	2.25	99.98

Table 2: IPO underpricing and elections by country from 1995 to 2017

Country	Election Type	No. of Election	No. of IPOs	Mean	Median
Australia	Legislative	8	963	18.15	8.70
Austria	Legislative	7	6	8.54	4.64
Belgium	Legislative	6	35	5.20	3.72
Brazil	Presidential	5	31	1.02	0.33
Canada	Legislative	7	291	21.80	7.92
Denmark	Legislative	6	12	9.61	4.37
Finland	Legislative	6	11	0.67	0.56
France	Presidential	5	281	3.28	0.30
Germany	Legislative	6	70	15.49	1.26
Greece	Legislative	7	29	27.93	9.30
India	Legislative	5	182	14.80	5.70
Indonesia	Presidential	3	115	20.81	10.53
Israel	Prime Ministerial	8	6	28.37	11.61
Italy	Legislative	5	54	8.19	3.49
Japan	Legislative	7	547	40.08	29.53
Malaysia	Legislative	5	293	26.10	12.82
Mexico	Presidential	4	3	7.24	5.15
Netherlands	Legislative	7	23	7.59	4.87
New Zealand	Legislative	8	40	6.52	3.38
Norway	Legislative	6	64	2.54	0.14
Philippines	Presidential	4	33	9.57	3.33
Poland	Legislative	5	33	20.21	7.54
Singapore	Legislative	5	337	24.07	13.08
South Africa	Legislative	4	5	7.15	7.26
South Korea	Presidential	6	9	34.71	4.78
Spain	Legislative	6	10	3.22	0.48
Sweden	Legislative	5	44	22.65	7.02
Switzerland	Legislative	6	21	8.73	8.37
Taiwan	Presidential	6	720	24.25	13.29
Thailand	Legislative	6	261	33.42	17.12
Turkey	Legislative	6	6	4.77	2.30
United Kingdom	Legislative	6	694	13.18	8.08
United States	Presidential	6	4198	23.54	10.87
Total		192	9427	22.04	9.72

This table shows the summary statistics of the IPO underpricing and the elections by country based on a sample of 9,427 IPOs across 33 countries from 1995 to 2017. It contains the number of IPO issuances as well as the mean and median values of IPO underpricing for each country.

Table 3 Effect of elections on cross-country IPO underpricing: hierarchical linear modelling

Dependent Variable		Hierarchical Linear Modelling		
Underpricing	NULL	(1)	(2)	(3)
Pre-election	4.483***	4.980***		3.725***
	0.898	0.953		0.989
Post-election			-5.967***	-4.889***
			1.012	1.051
VB		10.66***	10.64***	10.51***
		1.071	1.070	1.070
BB		2.454*	2.624*	2.538*
		1.489	1.488	1.487
LSIZE		-2.976***	-2.974***	-2.991***
		0.319	0.319	0.319
VOLUME		-0.068	-0.117	-0.098
		0.071	0.071	0.072
MRETURN		0.465***	0.472***	0.474***
		0.054	0.054	0.054
TURNOVER		-0.006***	-0.006***	-0.006***
		0.001	0.001	0.001
UNDERWRITER		1.719***	1.713***	1.717***
		0.192	0.192	0.191
Constant	15.63***	23.96***	27.45***	25.91***
	2.000	2.737	2.729	2.761
var(c.country)	84.12***	65.54***	65.45***	65.50***
	27.28	22.58	22.32	22.39
var(e.ir)	1,497***	1,450***	1,449***	1,447***
	21.84	22.87	22.85	22.81
Observations	9,427	8,067	8,067	8,067
Number of groups	33	33	33	33

This table presents the regression results of the IPO underpricing from 1995 to 2017 across 33 countries, by multi-level modelling. IPO underpricing is firstly modelled at firm level and then at country level. A random intercept model is assumed with the intercept shifting between countries due to the random country effect. The dependent variable is *Underpricing* which is the initial return between the first-trading day closing price and the IPO offer price, expressed as a percentage. The variables of interest are the pre- and post-election measures: *Pre-election* is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed; *Post-election* is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. *VB* captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. *BB* is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. *LSIZE* is the offer size of the IPO, expressed in logarithm. *VOLUME*, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. *MRETURN* is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. *TURNOVER* is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. *UNDERWRITER* is the underwriter's reputation which is measured by the IPO market share of this underwriter during the 1995-2017 sample period. *var(c.country)* is the variance between countries and *var(e.ir)* is the variance between individual IPOs. The figures below each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.

Table 4 Effect of elections on cross-country IPO underpricing: moderation effect of country institutions

Dependent Variable Underpricing	**Hierarchical Linear Modelling**				
	(1)	(2)	(3)	(4)	(5)
	IPI	*PEI*	*RLI*	*HB*	*HB (1998-2007)*
Pre-election	27.46**	6.295***	27.39***	10.69***	13.38***
	12.03	1.116	10.37	1.574	2.551
Post-election	-4.640***	-4.546***	-5.860***	-5.016***	-4.174**
	1.058	1.051	1.102	1.066	1.869
INSTITUTION	1.839	1.135	6.367	-0.880	-5.096***
	2.288	4.399	15.55	0.641	1.083
Pre-election X INSTITUTION	-3.558**	-13.92***	-32.79**	-3.202***	-3.363***
	1.796	2.808	14.34	0.548	0.855
VB	10.54***	10.45***	10.45***	10.10***	15.99***
	1.070	1.068	1.096	1.083	1.757
BB	2.455*	2.570*	1.414	2.731*	-6.267**
	1.489	1.489	1.709	1.536	2.902
LSIZE	-2.972***	-2.974***	-2.974***	-2.953***	-2.185***
	0.319	0.318	0.331	0.323	0.54
VOLUME	-0.101	-0.079	-0.012	-0.106	0.551***
	0.072	0.072	0.073	0.073	0.175
MRETURN	0.474***	0.478***	0.479***	0.486***	0.666***
	0.054	0.054	0.059	0.056	0.0884
TURNOVER	-0.006***	-0.006***	-0.005***	-0.007***	-0.0228***
	0.001	0.001	0.001	0.001	0.00271
UNDERWRITER	1.717***	1.732***	1.740***	1.811***	2.150***
	0.191	0.191	0.194	0.194	0.305
Constant	13.84	25.71***	19.61*	31.01***	135.6**
	15.48	3.399	11.25	3.961	59.96
var(c.country)	64.41***	67.47***	67.12***	71.34***	1,863***
	21.93	23.27	23.72	24.69	42.54
var(e.ir)	1,446***	1,442***	1,469***	1,454***	49.97***
	22.8	22.74	24.16	23.19	6.862
Observations	8,067	8,067	7,413	7,883	3,865
Number of groups	33	33	30	30	28

This table presents the regression results of the IPO underpricing from 1995 to 2017, by multi-level modelling. IPO underpricing is firstly modelled at firm level and then at country level. A random intercept model is assumed with the intercept shifting between countries due to the random country effect. The dependent variable is *Underpricing* which is the initial return between the first-trading day closing price and the IPO offer price, expressed as a percentage. *Pre-election* is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed. *Post-election* is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. Models (1) to (5) present the results including four different country-level institutional variables respectively. *IPI* is the Investor Protection Index, which measures the level of legal protection of minority investors in one country; it ranges from 0 to 10 with higher values representing better protection. *HB* measures the level of domestic home bias which is the percentage of the domestic mutual funds invested in the domestic stock market divided by the percentage of the country's stock market capitalization in the world's total market capitalization, expressed in natural log. *PEI* is the Public Enforcement Index, which measures the effectiveness of one country's legal enforcement, i.e. court enforcement; it ranges from 0 to 1 with higher values representing more effective legal enforcement. *RLI* is the Rule of Law Index, which measures the overall quality of the legal framework; it ranges from 0 to 100 with higher values representing a better legal system. The variables of interest are the interaction terms between *Pre-election* and each of the four country institutions (*Pre-election X INSTITUTION*). *VB* captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. *BB*

is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. *LSIZE* is the offer size of the IPO, expressed in logarithm. *VOLUME*, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. *MRETURN* is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. *TURNOVER* is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. *UNDERWRITER* is the underwriter's reputation which is measured by the IPO market share of this underwriter during the 1995-2017 sample period. *var(c.country)* is the variance between countries and *var(e.ir)* is the variance between individual IPOs. The figures below each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.

Table 5 Effect of elections on cross-country IPO underpricing: moderation effect of political environment

Dependent Variable Underpricing	**Hierarchical Linear Modelling**		
	(1)	(2)	(3)
	MF	*GOVEX*	*EXPRO*
Pre-election	9.567***	15.70***	7.131***
	1.314	4.518	1.099
Post-election	-3.959***	-4.983***	-4.867***
	1.102	1.051	1.046
POLITICAL	-5.893***	-1.341***	9.486***
	1.293	0.381	1.949
Pre-election X POLITICAL	-10.27***	-0.720***	-15.74***
	2.032	0.267	2.35
VB	10.77***	10.29***	10.30***
	1.088	1.070	1.067
BB	0.715	1.955	1.151
	1.695	1.498	1.620
LSIZE	-2.069***	-2.916***	-2.927***
	0.337	0.319	0.318
VOLUME	-0.134*	-0.104	-0.138*
	0.075	0.073	0.072
MRETURN	0.323***	0.489***	0.443***
	0.060	0.054	0.054
TURNOVER	-0.005***	-0.005***	-0.007***
	0.001	0.001	0.001
UNDERWRITER	1.783***	1.711***	1.706***
	0.191	0.191	0.191
Constant	24.88***	48.66***	24.53***
	3.349	7.080	2.666
var(c.country)	78.76***	83.93***	53.63***
	28.91	31.73	18.65
var(e.ir)	1,368***	1,438***	1,435***
	23.35	22.69	22.63
Observations	6,881	8,058	8,058
Number of groups	26	32	32

This table presents the regression results of the IPO underpricing from 1995 to 2017, by multi-level modelling. IPO underpricing is firstly modelled at firm level and then at country level. A random intercept model is assumed with the intercept shifting between countries due to the random country effect. The dependent variable is *Underpricing* which is the initial return between the first-trading day closing price and the IPO offer price, expressed as a percentage. *Pre-election* is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed. *Post-election* is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. Models (1) to (3) present the results including three different political environment variables respectively. MF equals 1 if the incumbent government in the election year is considered as market friendly. GOVEX measures the total expenses of the central government as a percentage of GDP. EXPRO measures the expropriation risk and equals 1 if a country's score is no larger than the median score of the judicial and legislative checks on executives, hence indicating higher expropriation risk. The variables of interest are the interaction terms between *Pre-election* and each of the three measures of the political environment (*Pre-election X POLITICAL*). *VB* captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. *BB* is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. *LSIZE* is the offer size of the IPO, expressed in logarithm. *VOLUME*, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. *MRETURN* is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. *TURNOVER* is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. *UNDERWRITER* is the underwriter's reputation which is measured by the IPO market share

of this underwriter during the 1995-2017 sample period. *var(c.country)* is the variance between countries and *var(e.ir)* is the variance between individual IPOs. The figures below each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.

Table 6 Effect of elections on cross-country IPO underpricing: OLS

Dependent Variable	**OLS**		
Underpricing	(1)	(2)	(3)
Pre-election	4.925***		3.801***
	1.009		1.051
Post-election		-5.470***	-4.377***
		0.872	0.91
VB	12.69***	12.76***	12.61***
	1.113	1.113	1.111
BB	4.251***	4.275***	4.209***
	1.001	0.999	1.000
LSIZE	-3.144***	-3.117***	-3.147***
	0.304	0.304	0.304
VOLUME	-0.187***	-0.228***	-0.209***
	0.056	0.057	0.057
MRETURN	0.466***	0.470***	0.472***
	0.055	0.055	0.055
TURNOVER	-0.006***	-0.006***	-0.006***
	0.001	0.001	0.001
UNDERWRITER	1.574***	1.562***	1.564***
	0.237	0.237	0.236
Constant	27.78***	30.79***	29.37***
	1.518	1.518	1.553
Observations	8,067	8,067	8,067
R-squared	0.051	0.051	0.053

This table presents the regression results of the IPO underpricing from 1995 to 2017 across 33 countries, by OLS estimations. The dependent variable is *Underpricing* which is the initial return between the first-trading day closing price and the IPO offer price, expressed as a percentage. The variables of interest are the pre- and post-election measures: *Pre-election* is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed; *Post-election* is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. *VB* captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. *BB* is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. *LSIZE* is the offer size of the IPO, expressed in logarithm. *VOLUME*, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. *MRETURN* is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. *TURNOVER* is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. *UNDERWRITER* is the underwriter's reputation which is measured by the IPO market share of this underwriter during the 1995-2017 sample period. *var(c.country)* is the variance between countries and *var(e.ir)* is the variance between individual IPOs. The figures below each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.

Table 7 Treatment of pre- and post-election IPO issuance: propensity score matching

Outcome variable:	**Propensity Score Matching**	
Underpricing	(1)	(2)
Treatment	Pre-election	Post-election
ATE	3.955***	-5.166***
	-1.164	-1.022
Total Observations	8,067	8,067
Treated Observations	2,287	1,914

This table presents the results on the treatment effect regression with propensity score matching (PSM). *ATE* is the estimate average treatment effect on IPO underpricing. Model (1) and (2) include the treatment that IPOs are issued in a pre- or post-election year respectively. Each observation in the non-treated group is matched to a single subject in the treatment group whose propensity score is closest. The propensity score is obtained by using a logit model to regress *Pre-election* or *Post-election* on a series of firm-, issuing- and market-level variables including *VB, BB, LSIZE, VOLUME, MRETURN, TURNOVER* and *UNDERWRITER*. *Pre-election* is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed; *Post-election* is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. *VB* captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. *BB* is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. *LSIZE* is the offer size of the IPO, expressed as a logarithm. *VOLUME*, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. *MRETURN* is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. *TURNOVER* is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. *UNDERWRITER* is the underwriter's reputation, which is measured by the IPO market share of this underwriter during the 1995-2017 sample period. The statistics shown under each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.

Table 8 Effect of elections on cross-country IPO underpricing: excluding foreign IPO issuances

Dependent Variable Underpricing	**Hierarchical Linear Modelling**		
	(1)	(2)	(3)
Pre-election	5.328***		3.936***
	1.003		1.041
Post-election		-6.594***	-5.444***
		1.071	1.112
VB	11.06***	11.02***	10.90***
	1.127	1.126	1.126
BB	2.392	2.583	2.499
	1.605	1.604	1.603
LSIZE	-3.020***	-3.014***	-3.033***
	0.339	0.339	0.339
VOLUME	-0.134*	-0.188**	-0.168**
	0.076	0.076	0.076
MRETURN	0.462***	0.468***	0.472***
	0.062	0.062	0.062
TURNOVER	-0.008***	-0.009***	-0.008***
	0.001	0.001	0.001
UNDERWRITER	2.014***	2.010***	2.013***
	0.205	0.204	0.204
Constant	26.18***	30.10***	28.38***
	2.876	2.863	2.901
var(c.country)	63.63***	64.02***	63.84***
	22.24	22.13	22.12
var(e.ir)	1,485***	1,483***	1,480***
	24.45	24.41	24.37
Observations	7,403	7,403	7,403
Number of groups	32	32	32

This table presents the multi-level regression results of the IPO underpricing from 1995 to 2017, excluding foreign IPO issuances. IPO underpricing is firstly modelled at firm level and then at country level. A random intercept model is assumed with the intercept shifting between countries due to the random country effect. The dependent variable is *Underpricing* which is the initial return between the first-trading day closing price and the IPO offer price, expressed as a percentage. The variables of interest are the pre- and post-election measures: *Pre-election* is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed; *Post-election* is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. *VB* captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. *BB* is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. *LSIZE* is the offer size of the IPO, expressed in logarithm. *VOLUME*, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. *MRETURN* is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. *TURNOVER* is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. *UNDERWRITER* is the underwriter's reputation which is measured by the IPO market share of this underwriter during the 1995-2017 sample period. *var(c.country)* is the variance between countries and *var(e.ir)* is the variance between individual IPOs. The figures below each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.

Table 9 Effect of elections on cross-country IPO underpricing: controlling for politically sensitive industries

Dependent Variable Underpricing	**Hierarchical Linear Modelling**			
	(1)	(2)	(3)	(4)
Pre-election	5.019***	3.782***	5.439***	4.196***
	0.952	0.988	1.046	1.079
Post-election		-4.820***		-4.816***
		1.049		1.049
INDSS	-6.338***	-6.274***	-5.637***	-5.586***
	1.146	1.144	1.356	1.354
Pre-election X INDSS			-2.394	-2.352
			2.473	2.47
VB	10.44***	10.29***	10.44***	10.29***
	1.070	1.069	1.069	1.069
BB	2.42	2.504*	2.407	2.491*
	1.485	1.484	1.485	1.484
LSIZE	-2.772***	-2.789***	-2.774***	-2.791***
	0.321	0.320	0.321	0.320
VOLUME	-0.079	-0.109	-0.079	-0.109
	0.071	0.071	0.071	0.071
MRETURN	0.465***	0.475***	0.465***	0.475***
	0.054	0.054	0.054	0.054
TURNOVER	-0.006***	-0.006***	-0.006***	-0.006***
	0.0012	0.0012	0.0012	0.0012
UNDERWRITER	1.697***	1.695***	1.694***	1.692***
	0.191	0.191	0.191	0.191
Constant	24.57***	26.48***	24.43***	26.34***
	2.717	2.741	2.721	2.745
var(c.country)	63.37***	63.33***	63.42***	63.38***
	21.93	21.74	21.95	21.76
var(e.ir)	1,445***	1,441***	1,445***	1,441***
	22.79	22.73	22.78	22.72
Observations	8,067	8,067	8,067	8067
Number of groups	33	33	33	33

This table presents the regression results of the IPO underpricing from 1995 to 2017 across 33 countries, by multi-level modelling. IPO underpricing is firstly modelled at firm level and then at country level. A random intercept model is assumed with the intercept shifting between countries due to the random country effect. The dependent variable is *Underpricing* which is the initial return between the first-trading day closing price and the IPO offer price, expressed as a percentage. The variables of interest are the pre- and post-election measures: *Pre-election* is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed; *Post-election* is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. *INDSS* is a dummy which equals 1 if the IPO company is classified as a politically sensitive industry. *VB* captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. *BB* is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. *LSIZE* is the offer size of the IPO, expressed in logarithm. *VOLUME*, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. *MRETURN* is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. *TURNOVER* is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. *UNDERWRITER* is the underwriter's reputation which is measured by the IPO market share of this underwriter during the 1995-2017 sample period. *var(c.country)* is the variance between countries and *var(e.ir)* is the variance between individual IPOs. The figures below each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.

Table 10 Effect of elections on cross-country IPO underpricing: controlling for other macro-economic variables

Dependent Variable Underpricing	Hierarchical Linear Modelling				
	(1)	(2)	(3)	(4)	(5)
	GDP Growth	GDP per capita	Market Integration	English Common Law	Presidential System
Pre-election	4.033***	3.698***	6.153***	3.725***	3.722***
	1.034	1.038	1.042	0.989	0.990
Post-election	-5.958***	-5.833***	-5.374***	-4.876***	-4.894***
	1.095	1.100	1.048	1.051	1.051
MACRO	2.683***	-2.576*	-0.816***	3.349	-1.085
	0.340	1.438	0.120	3.681	4.157
VB	10.13***	10.54***	9.899***	10.54***	10.51***
	1.090	1.092	1.071	1.070	1.070
BB	1.221	1.652	2.857*	2.698*	2.555*
	1.693	1.698	1.513	1.496	1.488
LSIZE	-3.152***	-2.953***	-2.989***	-2.980***	-2.994***
	0.329	0.331	0.320	0.319	0.319
VOLUME	-0.141*	-0.039	-0.251***	-0.092	-0.100
	0.074	0.073	0.078	0.072	0.072
MRETURN	0.452***	0.473***	0.500***	0.474***	0.474***
	0.059	0.059	0.054	0.054	0.054
TURNOVER	-0.002	-0.004***	-0.005***	-0.006***	-0.006***
	0.001	0.001	0.001	0.001	0.001
UNDERWRITER	1.750***	1.735***	1.874***	1.715***	1.717***
	0.193	0.194	0.191	0.191	0.191
Constant	14.69***	49.32***	73.93***	24.27***	26.22***
	3.090	14.24	9.064	3.298	2.999
var(c.country)	65.84***	66.66***	679.9**	63.51***	64.78***
	22.61	23.29	266.6	21.6	22.35
var(e.ir)	1,454***	1,466***	1,423***	1,446***	1,447***
	23.88	24.07	22.50	22.81	22.81
Observations	7,437	7,437	8,058	8,067	8,067
Number of groups	32	32	32	33	33

This table presents the regression results of the IPO underpricing from 1995 to 2017, by multi-level modelling. IPO underpricing is firstly modelled at firm level and then at country level. A random intercept model is assumed with the intercept shifting between countries due to the random country effect. The dependent variable is Underpricing which is the initial return between the first-trading day closing price and the IPO offer price, expressed as a percentage. The variables of interest are the pre- and post-election measures: Pre-election is a dummy variable that equals 1 if the IPO year is the year prior to an election year of the country where the IPO is listed; Post-election is a dummy variable that equals 1 if the IPO year is the year post an election year of the country where the IPO is listed. MACRO represents a series of macro-economic variables which are included in Model (1) to (5) respectively, including GDP growth rate, GDP per capita, financial market integration, a dummy indicating an English common law system and a dummy indicating a presidential election system. VB captures the venture-backed status of the IPO firm and equals 1 if the IPO is venture capital-backed. BB is a dummy variable and equals 1 if the IPO uses book-building as an issuing technique. LSIZE is the offer size of the IPO, expressed in logarithm. VOLUME, for each country-year companion, is the number of IPOs in a certain year in one country divided by the total number of IPOs throughout the sample period in this country. MRETURN is the 3-month cumulative market return before the IPO, based on the country market index in DataStream. TURNOVER is the stock turnover by value recorded in DataStream which is the value of the shares traded divided by the average market capitalization. UNDERWRITER is the underwriter's reputation which is measured by the IPO market share of this underwriter during the 1995-2017 sample period. var(c.country) is the variance between countries and var(e.ir) is the variance between individual IPOs. The figures below each coefficient are the standard errors. Significance at 10%, 5% and 1% levels are marked with *, **, and *** respectively.