BI Norwegian Business School - campus Oslo

GRA 19703

Master Thesis

Thesis Master of Science

Government Effectiveness as a Factor Explaining Listings in Developing Countries

Navn:	Johan Antonio Oellingrath, Trym Tveito Myhre

Start:	15.01.2021 09.00
Finish:	01.07.2021 12.00

Government Effectiveness as a Factor Explaining Listings in Developing Countries

Johan Oellingrath & Trym Myhre

June 2021

Abstract

In this paper, we investigate the effect government effectiveness has on the number of listed firms worldwide from 2000 to 2016. We find that government effectiveness has a positive and significant effect on listings. A one-unit increase in government effectiveness for developing countries leads to a 79 % growth in listed firms. For advanced countries, we also have a positive effect, but it is not significant. One of our main explanations for these results is the increasing IPO volumes in developing countries.

.

Acknowledgments

We wish to express our sincere gratitude to our supervisor, Assistant Professor Daniel Kim, who has guided and advised us through the whole process. Without his feedback, expertise, and availability, we would not have been able to deliver our thesis on time. We would also like to thank the World Bank's database for its extensive data and high-quality indexes and Tuck School of Business at Dartmouth for publishing relevant data. Finally, we also want to thank our friends and family for their support throughout the process.

Contents

1 Introduction **5**

1.1 China and Government Effectiveness 6

1.2 Contribution to the Literature 9

2 Literature Review **10**

3 Hypotheses and Empirical Strategy **15**

3.1 Discussion 15

3.1.1 The M&A Channel 15

3.1.2 The Economic Growth Channel 16

3.1.3 Direct IPO channel 17

3.2 Hypotheses 20

3.3 Empirical strategy 21

3.4 Regression model explanation 22

4 Data **24**

4.1 Data collection 24

4.2 Data limitations 24

4.3 Limitations of the variable government effectiveness 25

4.4 Summary Statistics 26

5 Main Results and Analysis **32**

5.1 Government effectiveness affecting listings worldwide 32

5.2 Government effectiveness in developing and advanced countries 36

5.3 Robustness of our results 43

6 Conclusion **44**

Appendix **45**

A Country-Specific Information **45**

A.1 Global listing development across the world 45

A.2 Global GDP and Government Effectiveness Rank by Economic Development 49

B Country-Specific Analysis **51**

C IPO Activity Comparison **52**

D Robustness Tests **53**

D.1 Standalone Regressions 53

D.2 Additional Standalone Regressions 55

D.3 Additional Control Variable Regressions 57

D.4 Governance Variable Regressions 59

D.5 Regulatory Quality as Proxy for Government Effectiveness 61

D.6 Regressions Using Only Country Fixed Effects 63

D.7 Regressions Using Only Time Fixed Effects 65

D.8 Hausman Test 67

D.9 Common Denominator Regression with Population as Common Term 69

D.10 Common Denominator Regression with GDP as Common Term 71

D.11 Regressions Without Significant Government Effectiveness 73

E Country Observation Overview **75**

F Variable Definitions **81**

G Government Effectiveness Sources **85**

1 Introduction

Following the decline in listings across many Western countries, the question is: Are public markets becoming increasingly irrelevant? Listing a new company in public markets is not necessarily a natural part of a company's business cycle anymore (Salmon, 2011; Stulz, 2020). A vibrant IPO market has always been seen as essential for economic development. In recent years, however, many papers have been able to prove that M&A activity has the most significant effect on listings in a selection of advanced countries. Moreover, this activity negatively affects the number of IPOs (Eckbo & Lithell, 2021; Lattanzio et al., 2021). Although this has been the case in advanced countries, the same effect has not been proven for developing countries yet, and in China, we actually see a booming IPO market (Schloss, 2020). Like China, other developing countries also experience increasing IPO volumes, and we provide evidence that the fraction of IPOs coming from developing countries increases throughout the last two decades. This shift in importance does not necessarily affect economic growth. Nonetheless, it can help our understanding of financial development in developing countries if we find factors affecting the increase in listed firms.

The booming IPO market in China has been made possible because of favorable regulations. Recently, however, IPO regulations tighten, and as a consequence, companies voluntarily withdraw applications to list their companies on public exchanges (Spilka, 2021). This evolution shows how important regulations and effective policymaking are for listing development. Earlier literature has also shown how IPO activity is dependent on country-level laws and governance institutions (Doidge et al.,2013; Rosett & Smith, 2014; Stulz, 2020). When discussing how effective policymaking and implementation impact the number of listings worldwide, we use the government effectiveness index as a measurement. Not only does this measurement include regulatory effectiveness, but it also measures the quality of public and civil services.

Our paper examines this governance element, government effectiveness, as a factor explaining the aggregated number of listings worldwide. We have a specific focus on government effectiveness's impact on listings in developing countries as this differs from advanced countries. Showing the relevance of our factor can help understand listing development in specific countries, such as China, amongst other things. Our analysis covers a sample consisting of 84 countries' leading stock exchanges over 16

years from 2000-2016.

Our main results indicate that government effectiveness is a significant factor, where a one-unit change in index value leads to a 54,2 % increase in listings worldwide. Since the unit values cover a significant amount of government effectiveness states, it is unlikely that a one-unit change will happen over a shorter duration. Hence, the percentage increase will be smaller over a shorter period. Government effectiveness has an even more powerful effect on listings in developing countries, with a 79 % increase in listed firms. Advanced countries, however, do not have the same significant effect of government effectiveness on listings. We are unable to infer that government effectiveness is a factor explaining listing development in advanced countries.

We focus on the difference in government effectiveness between developing and advanced countries because of three economic channels, all influencing the number of listings differently. The first channel is the M&A channel that has a more substantial effect on advanced countries. The second channel is economic growth, which influences listings through several different channels. Higher economic growth results in periods of favorable market conditions, which further influence the IPO volume. The last channel shows how government effectiveness directly affects the number of listed firms through increasing IPO volume and foreign direct investments.

1.1 China and Government Effectiveness

As already mentioned, China is one of the developing countries experiencing an IPO boom. This boom has been made possible by new favorable regulations, and we, therefore, want to explore the link between government effectiveness and listings more closely. China has gradually increased its presence and power in the world economy after transitioning from a social economy with low efficiency and stagnation. Although China was an obvious choice for governance and listing development, we formalized the selection process by running univariate regressions for each country in our sample. Our findings confirm that the country with the highest listing increase over our sample period is China (Appendix A.1). Not surprisingly, China was the country exhibiting the most positive coefficient. This result indicates that China is the country with the most positive listing trend in the previous 25 years.

When comparing the listing trend in China with the government effectiveness development, we see a clear pattern (Figure 1, Figure 2). After testing the pattern formally, our results indicate that government effectiveness is positive and significantly related to the number of listings (Appendix B). Earlier research has provided similar results, that government effectiveness in China has a significantly positive effect on product innovation, technological innovation, etc., resulting in increasing listings (Jiao et al., 2015). Articles also argue that an increasing amount of listed firms are due to favorable regulations and that tightening these regulations leads to an immediate negative effect on IPOs (Schloss, 2020; Spilka, 2021). Further research, beyond the scope of this paper, can be helpful to understand the development in China better and whether they will experience a listing peak in the future.

Figure 1: Listing development in China

This figure shows the annual number of listed firms in China. Investment companies, mutual funds, REITS, and other investment vehicles are excluded from the count. The total sample includes listings in the period from 2000-2019. Data is from World Bank's database, WDI.

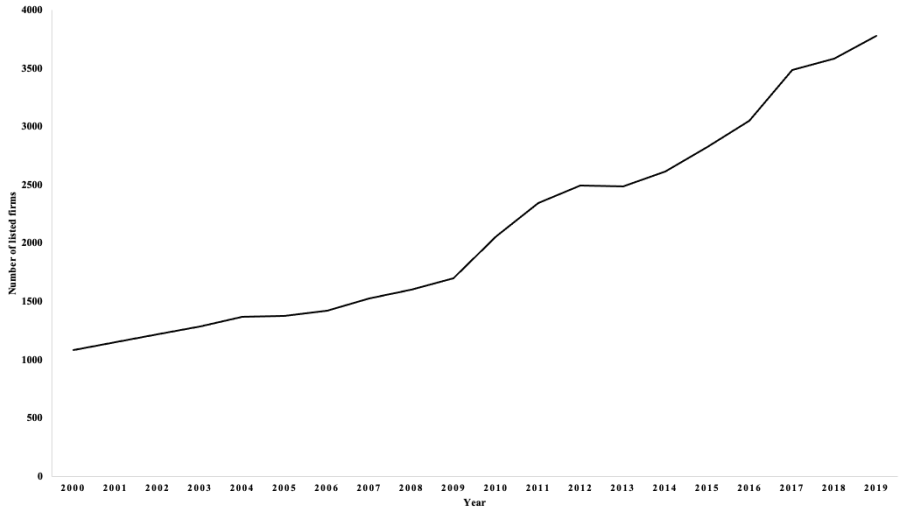
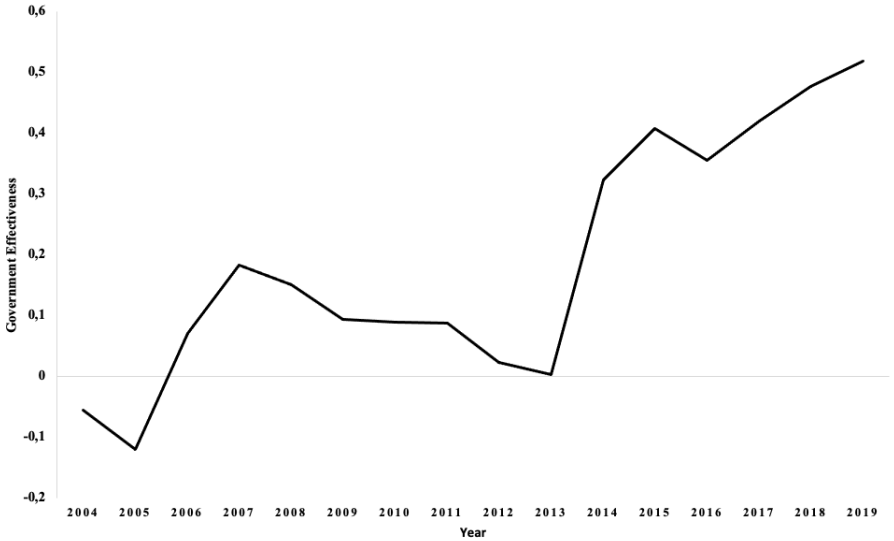


Figure 2: Government effectiveness development in China

This figure shows the annual government effectiveness index value in China. The total sample includes index values in the period from 2000-2019. Data is from the World Bank's database, WDI.



1.2 Contribution to the Literature

The majority of literature on decreasing numbers of listed firms and listing gaps is conducted on data from the US. There is also some research on listing gaps in major European countries like Germany and France. However, the focus is mostly on how listing gaps in these countries are explained by M&A. The focus is not on which factors that significantly affect the number of listings around the world. Our two primary inspirational papers by Doidge et al. (2017) and Eckbo and Lithell (2021) differ from our research in this exact way. Both inspirational papers used a pre-defined set of independent variables to focus on the country-specific listing gaps' interaction and estimation. We remove the interaction term and focus on government effectiveness explaining the aggregated number of listings worldwide. Furthermore, our research is unique in its investigation of differences between developing and advanced countries related to government effectiveness. Mainly, since research on listing increases in developing countries, without a peak in listings has not been conducted yet.

The remaining sections of this thesis are organized as follows. In section 2, we summarize and review the existing literature and theory related to our research. Section 3 highlights our hypothesis and the development process of this hypothesis. Then we discuss the empirical strategy used to test our hypothesis in the best way possible and present our models. In section 4, we present our data and describe it in detail. Furthermore, we convey the data limitations of the research. In section 5, we provide the reader with our main results and interpretations of these results. Section 6 concludes our thesis.

2 Literature Review

Our study builds on earlier papers explaining the variation in listings and listing gaps in a range of Western countries. The explanations are often dependent on a diverse selection of theories within the existing financial literature. Therefore, we try to explain the concepts from earlier literature that is important for understanding our findings. This section is consequently divided into six subsections. First, we address IPO as a factor affecting the listing gap and the association with GDP growth. Then we transition to early research exploring missing listings and reasons for them. In the next part, we extensively explain our primary papers and their contribution to the literature. In part 5, we continue to look at a new factor affecting the number of listings, private equity. The next part focuses on regulations as a factor, and finally, we suggest future research in the area of listing developments.

Literature on variation in the IPO activity is of considerable interest, and we focus on market conditions and growth opportunities. It has been observed that the IPO volume is susceptible to changes in market conditions and that volumes vary across countries (Ritter, 2003). Changing market conditions can be studied by controlling for country-level Tobins's Q and GDP growth (Doidge et al., 2013). GDP growth is an essential determinant of the rate at which firms go public in a country. Lowry (2003) argues that changes in firms' need for capital and investor sentiment have been important explanations for the fluctuations in volume. Market-timing as an explanation for fluctuations in IPO volumes has also been studied in the US (Loughran & Ritter, 1995) and internationally (Henderson et al., 2006). Both papers support the explanation that firms are more likely to issue equity when the market seems to be overvalued.

IPO fluctuations and the recent decline in new listings after 2000, especially among smaller and newer firms in the US, have been extensively studied (Gao et al., 2013). This paper argues that the low rate of small-firm IPO activity increases the benefits of being acquired by more prominent companies and that it is not due to a broken IPO market. On the other hand, Doidge et al. (2017) argue that the decreasing benefit of listing a firm is a common occurrence amongst all firm sizes and sectors. The increasing benefits of mergers rather than IPOs are in contrast to earlier papers that have claimed that a vibrant IPO market is an important asset of the US market, playing a critical role for entrepreneurship and venture capital (Black & Gilson, 1998).

Low IPO activity in the US is not a worldwide phenomenon. Especially when it comes to small-firm IPO activity abroad, the trends are opposite. Here, the activity grew relative to that of the US market due to financial globalization (Doidge et al., 2013). It is established that an increasing amount of IPO activity can be attributed to global IPOs, which has become a significant fraction of total IPO proceeds in the later years. Global IPOs are also more likely to happen in countries with weaker institutions, explaining the increase in IPO activity abroad relative to the US (Caglio et al., 2016; Stultz, 2005, 2009). The development does not indicate that a lower amount of IPOs in the US is a sign of adverse development in the American economy, as their share of the world's GDP grew in the same period (Doidge et al., 2013). Instead, the negative shift in the number of new listings can be explained by other factors.

Further research has focused on the broad picture of a declining number of listings in the US. Early notice of the missing listings was done by Grullon et al. (2015), Rosett and Smith (2014), and Ciccotello (2014). Researchers have followed the development of the public equity markets with great interest. It has been argued that the US equity market has had a decrease in listed firms and become less critical (Rosett & Smith, 2014). Further, the fraction of institutional ownership compared to private investors has increased. As a result, private investors may lose benefits from regulations that have been passed to protect them. Ciccotello (2014) argues that the drop in listed firms on US exchanges results in larger, more effective, and influential enterprises. Rather than becoming less important, they become bigger and fewer, with an increasing influence worldwide. These results are consistent with the paper by Grullon et al. (2019), a published version of the 2015 paper by the same authors. They focus on the benefits of mergers related to technology, economies of scale, and capital requirements. Further, they argue that increasing merger activity has led to a more concentrated US industry. Consequently, the remaining firms have experienced higher operating profit margins without significantly increasing the efficiency of operations. Critics of the economy of scale view have pointed out that private firms do not change significantly, which would have been the case if this theory had held in the data (Doidge et al., 2017).

An explanation for the decrease in listed firms is related to mergers. There have been early signs of the importance of mergers, for example, for venture capitalists, when exiting their investment (Black & Gilson, 1998) as an alternative to equity issuance. In addition to identifying the US listing gap as common for all sectors and

firm sizes, Doidge et al. (2017) also attributed it mainly to the increase in delistings due to mergers. Lattanzio et al. (2021) improved the econometric approach in the previous paper and found similar results. Both papers argue that M&A activity emerges as the main driver of the listing gaps in Europe and the US. However, there are some differences. While Doidge et al. (2017) only focus on the delisting effect due to mergers, Lattanzio et al. (2021) go even further and focus on the type of firm that M&A activity targets. Results indicate that M&A deals that are focused on private targets have a more significant impact on the number of listed firms than delisting due to mergers. There is a significant effect of this M&A activity which prevents firms from reaching the IPO stage. To a certain extent, the papers also disagree on the importance of regulations. They also disagree on regulations' significance in increasing the listing gap. Finally, as GDP growth has been seen as an important determinant of the rate of new listings, both papers use this as a control variable when estimating the US listing gap. Again, Lattanzio et al. (2021) go even further and include additional control variables into the original model in the US listing gap paper (Doidge et al., 2017) to account for another determinant of the rate of IPOs, market-timing. The crucial role of M&As is further settled in the study conducted by Eckbo and Lithell (2021) which shows no US listing gap when adjusting for acquisitions and the IPO volume.

Naturally, other factors affect the M&A activity as well. Research conducted by Dessaint, Golubov, and Volpin (2017), Bonaime, Gulen, and Ion (2018), Hardford, Schonlau, and Standfield (2019), and Cornaggia and Li (2019) find other factors. One example is the trade relationships between firms, which affect the likelihood of being acquired. Some studies argue the importance of highlighting the interactions and feedback loops among the variables. An example of this is that certain firms go public to be more attractive with regard to future M&A deals (Brau & Fawcett, 2006; Celikyurt et al., 2010; Lattanzio et al., 2021).

When looking at reasons for a listing gap in the US, the rise of PE financing compared to public financing is extensively discussed. Ewens and Farre-Mensa (2020) focus on the founders' increased bargaining power and control if they choose PE financing. Furthermore, Doidge et al. (2018) state that, due to more intellectual capital than physical capital in US firms, they might be better off being financed by PE and debt. This view is supported by Stulz (2020), and he outlines a framework to explain how listing propensity has changed over time. The framework explains fewer listings with the rise of intangible assets, making it more complex and more

expensive for firms to be publicly listed as investors will not be able to value the company properly. Hence, it would be easier for founders to seek funding from specialized investors. On the other hand, Lattanzio et al. (2021) document that the presence of PE decreases the listing gap. The financial support PE gives start-ups until the IPO stage offsets the effect of substitution of public equity. Eckbo and Lithell (2021) further argue that PE cannot explain the increasing listing gap we experience in the US.

Another well-known factor affecting the listing gap documented by Zhang (2007), Engel, Hayes, and Wang (2007) and Iliev (2010) is the SOX regulation. The regulation imposed additional disclosure costs on publicly traded firms and might have made it less lucrative for firms to stay or go public. It is also argued that the SOX regulation leads to fewer underwriters focusing on small-firm IPOs. This further decreases the attractiveness to be listed (Gao et al., 2013; Ritter, 2014; Weild, 2010). Additional evidence of the effect of this regulation was presented by Dambra, Field, and Gustafson (2015). This study showed that the JOBS act of 20 12, which reduced disclosure requirements mandated by SOX, increased the IPO activity. On the other hand, Kahle and Stulz (2017) argue that regulatory costs play a small role in the increasing gap since the decline in listings predates the regulations. Lattanzio et al. (2021) show that there are two separated waves of increasing listing gaps. The second wave, which occurs between 2004 and 2008, can be affected by regulations. This study shows a robust first-order effect for the SOX act in expanding the US listing gap. Mulherin et al. (2017) and Lattanzio et al. (2021) highlighted that financing and innovation motivated mergers were most common during the 1990s.

As seen from the discussion surrounding possible factors affecting the number of listings and the emerging listing gap, the research focuses on Western countries and the US in particular. We therefore want to try, with our thesis, to widen the horizon and look at other factors affecting listings in developing countries especially. Future research should continue to search for other factors that explain the listing gap in Western countries and more general factors affecting listings worldwide. Furthermore, financial factors have a significant effect on the listing gaps in advanced countries. However, we lack research on whether these factors affect the listing development in developing countries just as much as in advanced countries. Especially interesting is the question: Do countries with an increasing listing trend exhibit an opposite listing gap, where the number of firms is higher than predicted?

If so, what are the reason for a reverse listing gaps in developing countries, and does it negatively or positively impact economic growth?

3 Hypotheses and Empirical Strategy

This section presents our main hypotheses and how they are developed. A significant part is devoted to explaining why we believe government effectiveness affects the number of listings worldwide. Then, we present the empirical approach we used in greater detail. In addition, clear limitations to our main analysis are being discussed.

3.1 Discussion

In this subsection, we discuss the reason for believing that government effectiveness affects listings worldwide. We highlighted three different paths of influence from government effectiveness towards the number of listed firms: "M&A channel", "Economic growth channel", and "Direct IPO channel". However, the effect of these paths is believed to have a different effect on developing countries compared to advanced countries, and we discuss this through the subsection. Earlier papers have also argued, in a similar fashion, that government effectiveness influences the number of listed firms through M&A and economic growth (Blum (2011);Harford (2005); Hur et al. (2011);Sasmaz et al. (2020). The influence it has on the economy is first and foremost through well thought out policies, high quality of institutions, and an effective decision-making process.

3.1.1 The M&A Channel

The first path where government effectiveness can influence the number of listed firms is through the M&A channel. This channel is connected to economic growth, where increased government effectiveness will lead to growth in the economy (Sasmaz et al., 2020). In turn, this channel will contribute to an increasing number of M&A deals, as discussed by Hardford (2005). He further argues that merger waves require economic motivation and a relatively low transaction cost to generate large enough volumes. Both effective policy changes from the government leading to lower transaction costs and other deregulating events leading to industry shocks drive merger waves. Therefore, a country with effective policies will have higher M&A activity, which again has a negative effect on the number of firms (Eckbo & Lithell, 2021). As the effective policies stay optimal over a more extended period, adding new policies might not significantly affect the economy or listings. On the other hand, if government effectiveness is low or decreasing, all else equal, inefficient policies and less economic growth will lead to less M&A activity, making the

negative effect of mergers on listings less significant.

In the case of economic downturns, we see two main scenarios. The first would be a scenario where the number of M&A increased. Firms with strong cash flow and high revenue in downturns can take advantage of other firms' economic problems (Kenglbach et al., 2019). As a result of the increased number of M&A transactions, the number of listed firms would decrease. The second scenario would be that a downturn would result in a company not completing any M&A transactions. If the companies in a country are strong and the industry is concentrated, as we see in the US (Grullon et al., 2019), it would be more likely that economic downturns would result in higher M&A activity. While the weaker companies, often in developing countries (Ficery et al., 2018), will not be able to take advantage of the downturn, leading to less merger activity. Hence, favorable regulations, measured by government effectiveness, have an impact on the merger activity in economic downturns as well.

From this subsection, we have seen that M&A activity seems to have less impact on developing countries and that government effectiveness impacts M&A activity directly through regulations and indirectly through economic growth. Following this subsection is the direct economic growth channel which impacts listings in more ways than just M&A activity.

3.1.2 The Economic Growth Channel

In this subsection, we argue that economic growth influences the number of listed firms and that government effectiveness influences economic growth. Government effectiveness impacts the economic growth channel in more than one way and can be directly linked with developing countries simultaneously. Consequently, our focus will be on this path and the explanation as to why the channel influences listings.

As previously stated, government effectiveness influences economic growth positively (Alam et al., 2017). Sasmaz et al. (2020) further argue that government effectiveness impacts a country's economy through the political decision-making processes and institutions. Economic growth, however, did not have the same effect on government effectiveness, and hence the relationship is only one way. Alam et al. (2017) and Gisselquist and Resnick (2014) also mention the importance of aiding government effectiveness in developing countries, to achieve higher growth. We already mentioned the positive effect government effectiveness had on technological

innovation, product innovation, process innovation, and management innovation (Jiao et al., 2015). Furthermore, innovation is seen as a major force in economic growth (Rosenberg, 2004).

Our next step is to explain why economic growth affects the number of listed firms. First, our M&A channel explains some of the variation in listings as a consequence of economic growth. However, we will focus on the capital demand hypothesis by Lowry (2003) to explain the effect. As previously mentioned, he proposes three possible explanations for variation in IPO volume: Capital demand, investor sentiment, and information asymmetry. In our discussion, we will not consider the information asymmetry hypothesis since it is not economically significant.

The intuition behind the capital demand hypothesis is that periods with expected economic growth will make firms want to increase their financing to take advantage of capital investments. There are several ways of obtaining financing; however, according to Kecskés (2009), IPOs will often provide the highest net proceeds. Additionally, there is more capital in rotation during times of economic growth, and the firm can therefore attract more capital for its IPO. The investor sentiment hypothesis is built on the theory that firms will time their IPO to a period where there is economic growth. This is because investors often are overly optimistic during these periods. The market can overvalue the firms' value, at this time, hence, the relative cost of equity decreases.

3.1.3 Direct IPO channel

In addition to the economic growth channel affecting the number of IPOs, we directly link government effectiveness to increasing IPO volumes. Government effectiveness leads to increased confidence in the government and its processes, policies, and governance. If countries previously exhibiting low levels of government effectiveness increase the confidence in their regulatory environment, foreign direct investments often increase (Gani 2007; Nizam & Hassan, 2018). Foreign direct investments indirectly positively affect economic growth in developing countries (Loungani & Razin, 2001). It also have a direct positive effect on listings because firms prefer to enter public markets to attract foreign direct investments (Kornieieva, 2018).

Government effectiveness is also known as a measure of how much the government intervenes in the economy. Increased government effectiveness from low levels, with

little confidence in government services and regulations, will improve companies' market conditions and growth opportunities. As a result of the newfound belief in the market, firms become more confident that listing their shares in public markets has an upside through FDI inflows (Kornieieva, 2018). IPO volume then increases, which again results in higher numbers of listings.

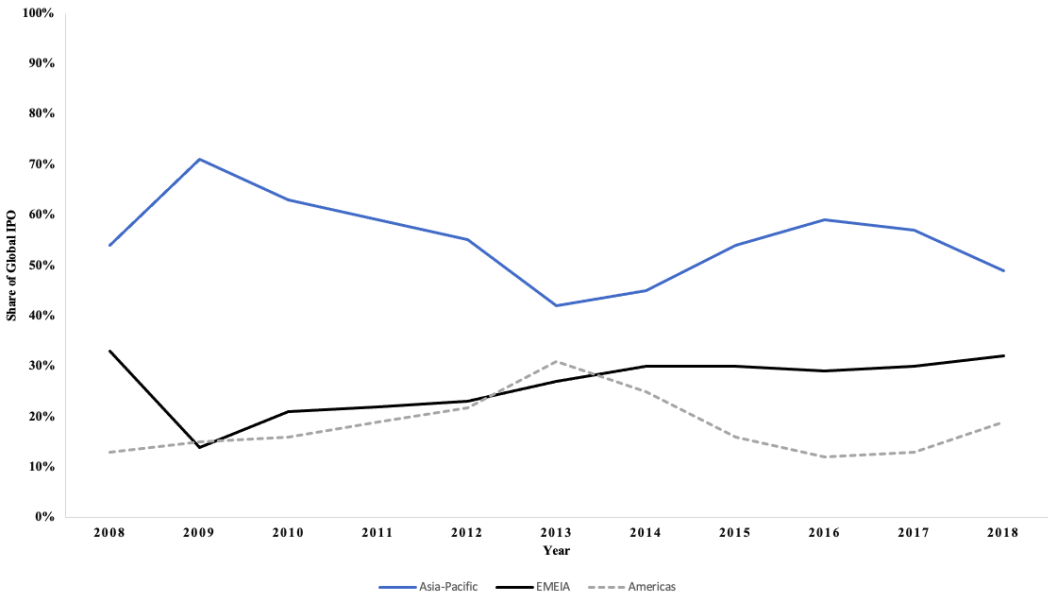
When examining the direct IPO channel, it becomes increasingly apparent that developing countries experience a different IPO pattern than advanced countries. News articles started to focus on this in 2010 as an IPO glut in developing countries was reported (The Economic Times, 2010). The article continues to report that even though some of the largest deals throughout history had been executed in advanced countries - even in periods of low IPO volume worldwide - the trend started to exhibit a change. The change was that developing countries raised more money through IPOs than advanced countries. Furthermore, as one of the developing countries, China has been a driving force behind the increase in IPO volume (Appendix C). An increasing number of listed firms is a common trend among developing countries, which can suggest that IPO activity can be a driving force.

Lastly, we examine global IPOs as a possible explanation for the difference in listings in developing and advanced countries. As earlier stated, global IPOs are more likely in countries with weaker institutions, specifically poorly regulated markets where the issuers find it more interesting to collect funds internationally (Caglio et al., 2016; Stultz, 2005, 2009). If global IPO volume increases while domestic IPO volume continues at present volume, we would see an increasing amount of IPOs in developing countries and less volume in advanced economies. However, this is not the most appealing explanation, as M&A activity is seen as the most significant factor affecting listings in advanced countries (Lattanzio et al., 2021). Still, since global IPOs are most present in developing countries (Figure 3), we are inclined to believe that they can affect the total number of IPOs in these countries.

Based on the theory in this section, we argue that the effect of government effectiveness on listings through IPOs is higher in developing countries and that government effectiveness influences the aggregated number of listings worldwide as well as in developing countries.

Figure 3: Regional shares of Global IPOs

This figure shows the regional shares of Global IPOs for the central regions of the world: Asia-Pacific (blue line), Europe, Middle East, India, and Africa - EMEIA (black line) and Americas (broken grey line). The total sample consists of observations over a 10 year period from 2008-2018. Data is collected from the EY Global IPO Trend Reports (2009, 2011, 2013, 2018) and when regions were separated, we merged them.



3.2 Hypotheses

Based on the discussion, we will propose three hypotheses on government effectiveness. First, we believe that it will affect listings worldwide because of the extensive effect on channels impacting the number of listed companies. Second, we want to test if government effectiveness is significant in the sub-sample of developing countries and afterward in the sub-sample of advanced countries.

Hypothesis 1: Government effectiveness does influence the number of listed firms worldwide.

Earlier papers (Doidge et al., 2017; Eckbo & Lithell, 2021; Lattanco et al., 2020) have only included variables such as GDP, Anti-self-dealing index, Population, GDP growth, and stock market return when explaining listings. No clear indication is given as to why the particular variables were chosen as most decisive for listing changes. Therefore, our first null hypothesis can support the belief, from earlier research, that government effectiveness does not affect number of listings.

Since we have not presented any literature supporting that additional factors can affect listings worldwide, we choose not to focus on other factors. However, suppose our first null hypothesis can be rejected. In that case, it could indicate a possible estimation bias in previous research, from omitted variables, that could have influenced their measurement of the listing gap in the US and other major European economies. Hence, the hypothesis is also motivated by previous literature. We mainly used additional factors from the World Bank's database to test the robustness of our results (Appendix D) and future research should continue to study other links that we did not focus on, in this paper.

Hypothesis 2: Government effectiveness has a significant effect on the number of listed firms in developing countries.

When examining the different paths affecting listings through government effectiveness, we found a different effect in developing and advanced economies. Hence, we want to look into the effect of government effectiveness on the number of listed firms in developing countries. The classification of countries is according to the International Monetary Fund (IMF) as of 2019. It divides the countries into the two classifications on the following criteria: GDP, purchasing power parity, total exports of goods and services, and population. It follows that a direct link between government effectiveness and classification is not present.

Hypothesis 3: Government effectiveness has a significant effect on the number of listed firms in advanced countries.

From our discussion, there is reason to believe that government effectiveness has a different effect on listings in the two classes we divided the countries into. However, both types of economies could end up having a significant effect which would challenge our argument. The null hypothesis for both hypotheses is that government effectiveness does not affect the number of listed firms in either advanced or developing countries.

3.3 Empirical strategy

Our hypotheses call for a new empirical approach, compared to earlier papers, to obtain meaningful results. Earlier papers usually applied an interaction term to measure the listing gap, but this would not provide any useful information in our case. Further, we consider country fixed effects and time fixed effects as essential components in the regression model and rely on a two-way error component model. Including these effects capture time-specific variation and country-specific variation that might exist in the variables. A general assumption is that both the expected time fixed effect and expected country fixed effect is uncorrelated with the error term.

Before we conducted the first analysis, it became apparent that the listed firm variable exhibited high kurtosis and skewness, which challenges the normality assumption. Logarithmic transformation makes the skewed listed firms variable more normalized, and we do the same for GDP and Population. When it comes to the remaining variables, they are all denoted in percentage values already and thereby exhibit similar characteristics as the log-transformed variables. We also question the validity of using a common denominator as our dependent variable, which is also present in one or more of our independent variables. Including a common denominator can lead to spurious regressions. If we had run our regressions with common denominators, the results would still be the same. Still, because of the estimation problems associated with this approach, we are reluctant to trust the output (Appendix D.9 and D.10). Lastly, we apply t-statistics based on robust standard error and adjust for clustering by country and time.

3.4 Regression model explanation

Our regressions are developed to study how government effectiveness responds to a selection of important control variables. Country fixed and time fixed effects are denoted as δ_i and τ_t, respectively. Model 1-2 is considered a base for the other regressions to find variation in coefficients and change in significance from the base regressions to our additional models. The base models contain a large sample of 1.796 observations over a more extended period. In model 2, we include the same variables as used in previous research and look for differences from model 1. Contrary to earlier research, we consequently use country fixed effects in our regressions. This makes it, among other things, impossible to measure the effect of anti-self-dealing since we only have one measure across time for each country. We expand our regression with one variable at a time, adding them to the base regression in model 2. When it comes to choosing the explanatory variables, we first used macroeconomic theory to filter out the most relevant variables. Afterward, we conducted additional regression analyses to filter out the variables that were a bad fit, with the intent to balance the model between having enough explanatory power and enough observations. We put such focus on enough observations because of the drastic effect excluding only a few developing or advanced countries had on the results. A detailed description of the variables used in the main analysis and robustness tests are in Appendix F and Appendix D.

Model 1

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot log(GDP_{i,t}) + \beta_2 \cdot Stock\ market\ return_{i,t}$$

In model 1, we include the variable *log(GDP)* and stock market return to see how GDP and stock market return affect the number of listed firms. Using *log(GDP)*, we aim to catch the effect of wealth, and since we have log-transformed the listing variable already, the same should be done for GDP.

Model 2

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot log(GDP_{i,t}) + \beta_2 \cdot log(Population_{i,t}) + \beta_3 \cdot GDP\ growth_{i,t} + \beta_4 \cdot Stock\ market\ return_{i,t}$$

In model 2, we added the extra control variables included in previous papers to see the effect country fixed effects have on the results.

Model 3

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot log(GDP_{i,t}) + \beta_2 \cdot log(Population_{i,t}) + \beta_3 \cdot GDP\ growth_{i,t} + \beta_4 \cdot Stock\ market\ return_{i,t} + \beta_5 \cdot Government\ Effectiveness_{i,t}$$

In model 3, we include government effectiveness in addition to the control variables from model 2. We want to capture perceptions of the quality of public services, the quality of the civil service, the degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

Model 4

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot log(GDP_{i,t}) + \beta_2 \cdot log(Population_{i,t}) + \beta_3 \cdot GDP\ growth_{i,t} + \beta_4 \cdot Stock\ market\ return_{i,t} + \beta_5 \cdot Government\ Effectiveness_{i,t} + \beta_6 \cdot Foreign\ Direct\ Investment\ Net\ Inflows_{i,t}$$

We build on the previous model by adding an extra control variable, which can affect the significance of government effectiveness, foreign direct investments inflows. In model 4, we only included FDI net inflows to see if the difference is significant between adding one or two FDI variables. It has earlier been suggested that government effectiveness has the most significant link to FDI inflows (Sabir et al., 2019), and we, therefore, believe that the variable is a suitable control.

Model 5

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot log(GDP_{i,t}) + \beta_2 \cdot log(Population_{i,t}) + \beta_3 \cdot GDP\ growth_{i,t} + \beta_4 \cdot Stock\ market\ return_{i,t} + \beta_5 \cdot Government\ Effectiveness_{i,t} + \beta_6 \cdot Foreign\ Direct\ Investment\ Net\ Inflows_{i,t} + \beta_7 \cdot Foreign\ Direct\ Investment\ Net\ Outflows_{i,t}$$

In model 5, we add FDI net outflows in addition to FDI inflows. We want to measure if domestic investors invest significantly abroad and possibly correct any estimation errors from omitting it.

4 Data

In this section, we present the data used in the empirical analysis to test our hypothesis. First, we present the data collection process and the limitations of the data selected. Then we explore the descriptive statistics and the significance it has on our future analysis.

4.1 Data collection

As this thesis aims to study a worldwide sample of countries, we have to utilize an appropriate database covering the relations. Other studies have used listing numbers and other information from more than one source. We have limited databases to find the necessary information and do not merge datasets. Consequently, we ended up only using the World Bank's database, with a selection of sub-databases. Appendix E includes an overview of the countries initially found in the sample and the countries used for each separate analysis. The dataset covers observations from 1975-2019, although few countries have observations across the entire period. This creates issues related to the precision of listings in specific countries, which we will examine closely. First, the sample consisted of 10 557 observations after removing the area entries not qualifying as countries. After conducting regressions, the observations not containing enough information on the variables of interest were removed. For the main regression, there are 1 183 observations. Appendix F shows detailed explanations of the meaning behind variables used in the main analysis. The number of listed firms is from the WDI database and consists of domestic companies and foreign companies exclusively listed in the given country and counted at the end of the year. Investment funds, unit trusts, holding companies, and other collective investment vehicles are excluded. As we avoid using other data sources to predict the number of listings in the countries, we have to rely on the precision of the WDI dataset.

4.2 Data limitations

Doidge et al. (2017) established that 81 % of the listing counts from WDI and one of the databases other papers used, the World Federation of Exchanges database (WFE), are within a 25 % margin of each other. Also, larger discrepancies are due to double/triple counts or because of fewer restrictions on listing types in the WFE database. However, there are other issues with the WDI database. One of them being the consolidation of exchanges within a country, leading to a spike or sudden

decline in the number of listings. We have examples of this in Canada and Japan, both being countries with a high GDP ranking which might affect the analysis. Taiwan is the only country with a high GDP not included in the sample. We, therefore, believe that Taiwan has a limited effect on the analysis. Spain is an example of a country that has included regional exchanges and consequently has a different peak year than it would have if we had only included the main exchange (Eckbo & Lithell, 2021). Other issues in the WDI data are abrupt gaps, in France, for instance, inaccurate listings in some countries such as Italy, Denmark, Sweden, and Norway, which also have interrupted time series. However, as we both test our results on various sub-samples and rely on a large number of countries, we do not believe that these limitations are critical.

4.3 Limitations of the variable government effectiveness

Government effectiveness measures the quality of public services and civil services and the degree of its independence from political pressures, the quality of policy formulation and implementation, as well as the credibility of the government's commitment to such policies. The World Bank gathers data from sources that reflect the opinions of a very diverse group of respondents through surveys (e.g., analysts, firms, agencies with first-hand knowledge of the governance situation in the country, etc.). Several researchers claim that while these indexes are good indicators to get a snapshot of the state of a country's governance, there is usually less emphasis on the limitations of the indexes and the limitations are often not accounted for (Andrews, 2010; Arndt, 2008; Pollitt, 2011). Examples that are being highlighted are: 1) lack of transparency, 2) absence of an underlying theory of good governance, 3) hidden bias, 4) lack of comparability over time and 5) lack of accountability.

The critics have been challenged by Kaufman et al. (2007) which argue that the criticism has either been conceptually incorrect or empirically unsubstantiated. Furthermore, Williams and Siddique (2007) argue that even though the data is limited to recent years, with limited sources each year and with possible influence by other individual datasets, it still provides a reasonable. The indicator fits our purpose of broad cross-country measurement and comprehensive trend analysis over time. To further confirm the appropriateness of our index, we measured the average amount of sources for each country used to find the government effectiveness estimate each year. When comparing the average amount of sources each year, only a few early years show a noticeably lower amount of sources (Appendix G). Still,

having an average above four sources is reasonably good, even in an early period, where critics warned about using too few sources to estimate government effectiveness. Subsequently, we used the remaining variables in the WGI database as independent variables in additional robustness tests, and found no loss in significance for government effectiveness (Appendix D.4). Lastly, we used regulatory quality as a proxy for government effectiveness, which captures a sufficient portion of the effect of our main variable of interest and found similar results (Appendix D.5). After conducting these tests, we had no reasons to believe that government effectiveness had limited quality as a variable of interest which is unsurprising as the index is published under strict restrictions from a well-renowned organization.

4.4 Summary Statistics

Table 1 reports summary statistics for the different variables used in our main regression. Each variable has different numbers of observations, leading to the exclusion of certain countries each time we add a new variable to the regression. Population, GDP, and GDP growth are the variables with most observations, and including these will not affect the sample size in our regressions. The average GDP over the sample period is roughly around the same as the average GDP for Belgium and Argentina over the same period, while the US, France, and China, for example, are well above, as expected. The average GDP growth for all countries expressed in percentage shows a 4 % average growth per year with an interquartile range between 1,25 – 6,1 %. Many highly developed countries show less growth than the average growth, over our sample period, compared to countries such as Egypt, Vietnam, and Pakistan. We will look more into the difference between advanced countries and developing countries later. The average amount of listed firms over the sample period is 522, even though the middle 50 % of observations are below. Many of the bigger countries such as the United States, Canada, and China push the average upwards.

After looking at the summary statistics for all countries in the sample, we want to study the effect of omitting observations not containing data on government effectiveness (Table 2). Our fear is that we would see a specific country trend within our observations since critics of the government effectiveness index highlighted this as a possible downside. In Appendix E, we show that the country sample after including government effectiveness only changes with a few countries. Initially, the main sample only excludes smaller states and countries without a proper economy.

Therefore, we defuse the criticism related to country omitting bias. The reduction in sample size is simply due to the government effectiveness variable only being measured from 1996 and onward. Nonetheless, the summary statistics provide useful insight into the specific variable situation between 1996-2019. Our overall impression is that the aggregated data only changes slightly when using a 45 year period compared to a 25 year period. Especially, the average number of listed firms only increases slightly as well as GDP, population, and GDP growth which is covered during the entire 45 year period. The most noticeable change is a decrease in average stock market return and volatility.

Finally, we divide all countries into advanced economies and developing/emerging economies, classified by IMF as of 2019. Let us only examine the following summary statistics (Table 3 and Table 4) for differences. We see that advanced countries have a higher average amount of listings over the sample period. However, we need to be aware that this period is from 1975-2019, both in the pre-peak and post-peak period. The US is the advanced country with the maximum amount of listings over the period, 8090 companies on the main exchanges in 1996. The standard deviation and interquartile range for advanced countries are also higher, supporting the idea that the number of listings is less relevant for measuring how far an economy has developed (Salmon, 2011). Further, we observe higher volatility in the stock market return and GDP growth for developing countries, and higher mean values. Another interesting observation is that the mean FDI inflows is higher in advanced economies than in developing countries, including the FDI outflows being higher, as expected.

Table 1: Summary Statistics - World Sample

This table shows the summary statistics for our main variables of interest, which have been used in our central models. All countries are included. The total sample includes all observations from 1975-2019 where possible, if not, it reports the statistics from when the first observations appear. All amounts are denoted in USD. Percentages are denoted as percentage values. The initial sample consisted of 10 557 observations, and when including the listed firms variable, it decreases to 2 667 observations. Stock market return is the variable with the least amount of observations, 2 147. The number of countries included varies across the different variables as well. Variable definitions and data sources are provided in Appendix F. Data is from the World Bank's databases, WDI and WGI.

Variables	Mean	Std. Dev.	Min	Max	Percentile 25	Percentile 75
Listed Firms	521,68	1033,45	0	8090	57	440
Log (GDP)	23,12	2,48	15,99	30,7	21,37	24,82
Log(Population)	14,87	2,43	8,66	21,06	13,18	16,53
GDP Growth	3,62	6,15	-64,05	149,97	1,25	6,1
Stock Market Return	25,79	267,24	-91,66	8173,69	-6,07	25,94
Government Effectiveness	-0,03	1	-2,48	2,44	-0,74	0,65
Foreign Direct Inv. Inf.	7,91	54,54	-58,32	1704,59	0,82	5,3
Foreign Direct Inv. Outf.	2,04	12,46	-202,82	247,9	0,01	1,29

Table 2: Summary Statistics - Government Effectiveness Sample

This table shows the summary statistics for our main variables of interest, which have been used in our central models. Only countries with data on government effectiveness are included, although it is roughly the same amount of countries as the total worldwide sample. The main difference in this summary statistics is that the number of years included has decreased for all variables of interest and now only covers the period 1996-2019. All amounts are denoted in USD. Percentages are denoted as percentage values and not fractions. The initial sample consisted of 4 168 observations, and when including the listed firms variable, it decreases to 1 618 observations. Stock market return is the variable with the least amount of observations, 1 528. Variable definitions and data sources are provided in Appendix F. Data is from the World Bank's databases, WDI and WGI.

Variables	Mean	Std. Dev.	Min	Max	Percentile 25	Percentile 75
Listed Firms	526,06	1032,27	0	8090	51	398
Log (GDP)	23,84	2,39	16,44	30,7	22,22	25,58
Log(Population)	15,43	2,19	9,15	21,06	14,14	16,93
GDP Growth	3,78	5,42	-62,08	123,14	1,66	6
Stock Market Return	12,19	34,8	-91,66	402,46	-6,14	24,35
Government Effectiveness	-0,03	1	-2,48	2,44	-0,74	0,65
Foreign Direct Inv. Inf.	9,88	63,95	-58,32	1704,59	1,22	6,11
Foreign Direct Inv. Outf.	2,41	13,94	-202,82	247,9	0,02	1,59

Table 3: Summary Statistics - Developing Countries Sample

This table shows the summary statistics for our main variables of interest, which have been used in our central models. Only developing countries are included in the sample. The total sample includes all observations from 1975-2019 where possible, if not, it reports the statistics from when the first observations appear. All amounts are denoted in USD. Percentages are denoted as percentage values. The initial sample consisted of 8 695 observations, and when including the listed firms variable, it decreases to 1 530 observations. Stock market return is the variable with the least amount of observations, 1 187. Economic development status is classified by the IMF as of 2019. Variable definitions and data sources are provided in Appendix F. Data is from the World Bank's databases, WDI and WGI.

Variables	Mean	Std. Dev.	Min	Max	Percentile 25	Percentile 75
Listed Firms	313,25	744,52	0	5999	43	277
Log (GDP)	22,61	2,21	15,99	30,29	21,08	24,11
Log(Population)	14,82	2,41	8,66	21,06	13,19	16,5
GDP Growth	3,74	6,63	-64,05	149,97	1,2	6,38
Stock Market Return	39,44	358,31	-91,66	8173,69	-6,47	31,8
Government Effectiveness	-0,35	0,75	-2,48	1,98	-0,85	0,16
Foreign Direct Inv. Inf.	6,01	43,37	-41,06	1704,59	0,81	5,25
Foreign Direct Inv. Outf.	1,06	9,85	-202,82	247,9	0	0,65

Table 4: Summary Statistics - Advanced Countries Sample

This table shows the summary statistics for our main variables of interest, which have been used in our central models. Only advanced countries are included in the sample. The total sample includes all observations from 1975-2019 where possible, if not, it reports the statistics from when the first observations appear. All amounts are denoted in USD. Percentages are denoted as percentage values. The initial sample consisted of 1 862 observations, and when including the listed firms variable, it decreases to 1 137 observations. Government effectiveness is the variable with the least amount of observations, 735. Economic development status is classified by the IMF, as of 2019. Variable definitions and data sources are provided in Appendix F. Data is from the World Bank's databases, WDI and WGI.

Variables	Mean	Std. Dev.	Min	Max	Percentile 25	Percentile 75
Listed Firms	802,15	1274,02	0	8090	111	936
Log (GDP)	25,15	2,45	18,31	30,7	23,46	26,81
Log(Population)	15,12	2,5	9,87	19,61	13,12	16,71
GDP Growth	3,13	3,56	-21,59	26,76	1,4	4,59
Stock Market Return	8,91	22,94	-86,73	180,71	-5,73	21,38
Government Effectiveness	1,48	0,47	0,14	2,44	1,15	1,83
Foreign Direct Inv. Inf.	16,69	89	-58,32	1282,63	0,97	5,59
Foreign Direct Inv. Outf.	5,77	18,97	-89,65	219,83	0,71	5,14

5 Main Results and Analysis

The result section is divided into three parts. First, we present our main findings regarding possible factors affecting the number of listed firms and whether government effectiveness, in particular, has an equal effect on developing and advanced countries. In section 5.3, we test the robustness of our results to various assumptions made.

5.1 Government effectiveness affecting listings worldwide

Table 5 shows the results from the panel regressions outlined in section 3.4, where we investigate if government effectiveness affects listings worldwide over a 16-year period. Model 1-2 shows the base regressions with and without extra control variables. Including the extra control variables in model 2 does not change the significance or the number of observations and only slightly changes the within R-squared and coefficient estimates. Both base regressions show that log(GDP) and stock market return are statistically significant on all ordinary levels, consistent with earlier research. Furthermore, GDP has a strong positive effect on the number of listings, while stock market return has only a slight effect on listings. Contrary to earlier research, Log(Population) and GDP growth are insignificant in our sample, but they have a negative effect after adjusting for country fixed effects. Statistical significance is indicated by * at the 10% level, ** at the 5% level, and *** at the 1% level. FE is denoted as fixed effects.

Adding our variable of interest in model 3 substantially decreases the sample size as the government effectiveness variable only covers observations from 1996 and onward. The significance of the stock market return variable is completely removed. Increasing government effectiveness, with a limited range of unit values, leads to a high estimated percentage change in listings for a unit increase in effectiveness score, as well as being significant on a 1 % level. As the dependent variable is log-transformed, we have a slightly different interpretation of the coefficient. For every one-unit increase in government effectiveness, the number of listings increases by 54,34 %. What this tells us is not apparent at first since a one-unit increase with the current index indicates an abnormal development of effectiveness, which most likely does not happen in a short period. Hence, the effect of a short-term increase in government effectiveness is substantially lower but still significant. Our results indicate that the quality of public services, policy formulation, and implementation,

measured on a government effectiveness scale, has an effect on the number of listed firms worldwide. Countries with more effective regulations, policies and services does have more public firms, which seems contrary to what earlier research has found. However, other factors might cancel the effect out in countries with a listing peak, as the model only explains some of the variations in listings. The within R-squared has increased, but the model still explains only 10,66 % of the variation in listings within countries and the given period.

Model 4-5 shows that government effectiveness stays significant after adding controls, with an unimportant sample size reduction. The coefficient estimate of government effectiveness does not change considerably. A one-unit increase in government effectiveness now leads to a 54,2 % increase in the number of listed firms. The within R-squared does not increase much by adding extra controls. Overall, the main factors explaining changes in listings are GDP and government effectiveness. This also suggests that only government effectiveness is a factor that has been overlooked in previous papers, confirming our hypothesis that government effectiveness is significant after controlling for important controls.

Table 5: Main Results - World

This table presents the results of our regression models explained in section 3.4 for all countries in the sample. The dependent variable is the number of listed firm for country i in year t. We use country and time fixed effects. The total sample period varies as we include additional independent variables, with two main periods: 1975-2019 and 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)				
VARIABLES	(1) Base Regression	(2) Extra Control Variables	(3) Government Effectiveness	(4) Foreign Direct Investments Net Inflows	(5) Foreign Direct Investments Net Outflows
Log(GDP)	0.455***	0.475***	0.321**	0.321**	0.320**
	(0.124)	(0.140)	(0.133)	(0.133)	(0.145)
Log(Population)		-0.167	-0.676	-0.706	-0.748
		(0.561)	(0.500)	(0.499)	(0.568)
GDP Growth		-0.00360	-0.00266	-0.00302	-0.00159
		(0.00401)	(0.00295)	(0.00296)	(0.00317)
Stock Market Return	0.000143***	0.000140***	-0.000466	-0.000445	-0.000402
	(1.31e-05)	(1.34e-05)	(0.000365)	(0.000385)	(0.000394)
Government Effectiveness			0.434***	0.435***	0.433***
			(0.137)	(0.136)	(0.141)
FDI Net Inflows				-0.000276	0.000478
				(0.000219)	(0.000784)
FDI Net Outflows					-0.00132
					(0.000999)
Constant	-6.403*	-4.117	7.879	8.398	9.109
	(3.212)	(8.270)	(7.221)	(7.256)	(8.192)
Observations	1,796	1,796	1,263	1,257	1,183
Within R-squared	0,0709	0,0722	0,1066	0,1079	0,1037
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
Sample	1975-2017	1975-2017	2000-2017	2000-2017	2000-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2 Government effectiveness in developing and advanced countries

After considering if government effectiveness affects the number of listed companies worldwide, we focus on possible differences between advanced and developing economies. First, we run a regression with only developing countries, as classified by IMF. An overview of countries considered developing economies is shown in Appendix A.2. The results for developing countries are in Table 6, where we use the same independent variables as in the previous regressions. This limits our analysis to the most recent years, 2000-2016. Model 1 excludes FDI inflows and outflows and exhibits a higher R-squared rate than model 5 in Table 5. For developing countries, none of the factors except government effectiveness impact listings. Government effectiveness is still significant, although it is on a 5 % level in both models with the new specifications.

The coefficient estimate for government effectiveness increases in model 2, and one-unit increase in government effectiveness has an even more significant impact on listings. A one-unit increase leads to a 79 % increase in the number of listings. Its influence is greater for developing countries than it is for the overall country sample. As already mentioned, a one-unit increase in government effectiveness is highly unlikely to happen over a short period. Therefore, incremental changes in government effectiveness will not have as much impact on listings as a huge change in value. When controlling for FDI inflows and outflows, the within R-squared actually decreases to 9,74 %, contrary to the increase when including all countries in the model. Nevertheless, government effectiveness is significant in both models, confirming our hypothesis that the variable has an effect on the number of listings.

Following our analysis of developing countries, our focus shift to advanced countries, also listed in Appendix A.2. We run the same regressions on advanced countries to compare results. Including only advanced countries further decreases the number of observations in Table 7. We notice is that government effectiveness has no significant effect on the number of listed firms in advanced countries, contrary to the significance in developing countries. The coefficient estimate is also lower for advanced countries, inferring that a one-unit increase in government effectiveness has a more negligible effect on listings. More precisely, a one-unit increase can lead to a 36,2 % increase in listings. The within R-squared is lower in both models, compared to the models for developing countries.

Model 2 gives the same inference, being that government effectiveness cannot be proven to affect listings in advanced countries. Including the extra control variables proved not to affect the significance of government effectiveness, but FDI net outflows was significant on a 10 % level. The coefficient estimate for government effectiveness, in model 2, can be interpreted as a one-unit increase in government effectiveness that might result in a 29 % increase in listings. Since government effectiveness is not proven to be significant, there are other factors more important to explain listings in advanced countries. Our main takeaway from studying advanced economies is that we cannot confirm our hypothesis that government effectiveness has an effect on the number of listed firms in advanced countries.

Our results are in line with the reasoning used when developing our hypotheses. We believe there are three channels where government effectiveness affects listings and that these channels have a different effect on developing compared to advanced countries. The results indicate that government effectiveness has more effect on developing countries and we try to explain one of the factors as a reason for the difference in significance. In China, driving forces for increasing numbers of listed firms are less extensive M&A activity and an increasing amount of IPOs. We have decided to focus on the IPO activity in developing countries and found that an increasing fraction of the world's IPOs comes from developing countries (Figure 4). Using the SDC Platinum database, we could divide all IPOs into different countries before classifying them again as developing or advanced countries. Changes in IPO activity in countries with increasing government effectiveness can help explain the number of listed firms in developing countries.

Figure 4: Fraction of IPOs in developing countries

This figure shows the annual fraction of IPOs in developing countries. The total sample consists of observations over a 20 year period from 2000-2020. Data is collected from the SDC Platinum database where all new listings with IPO flagging are included for every country in our sample. After merging the new listings by country and year, we merged the number of IPOs for each country into two groups, developing and advanced economies. To obtain the fraction of IPOs in developing countries, we divided the sum of IPOs in developing countries on the total sum of IPOs for each year. Economic development status is classified by the IMF, as of 2019.

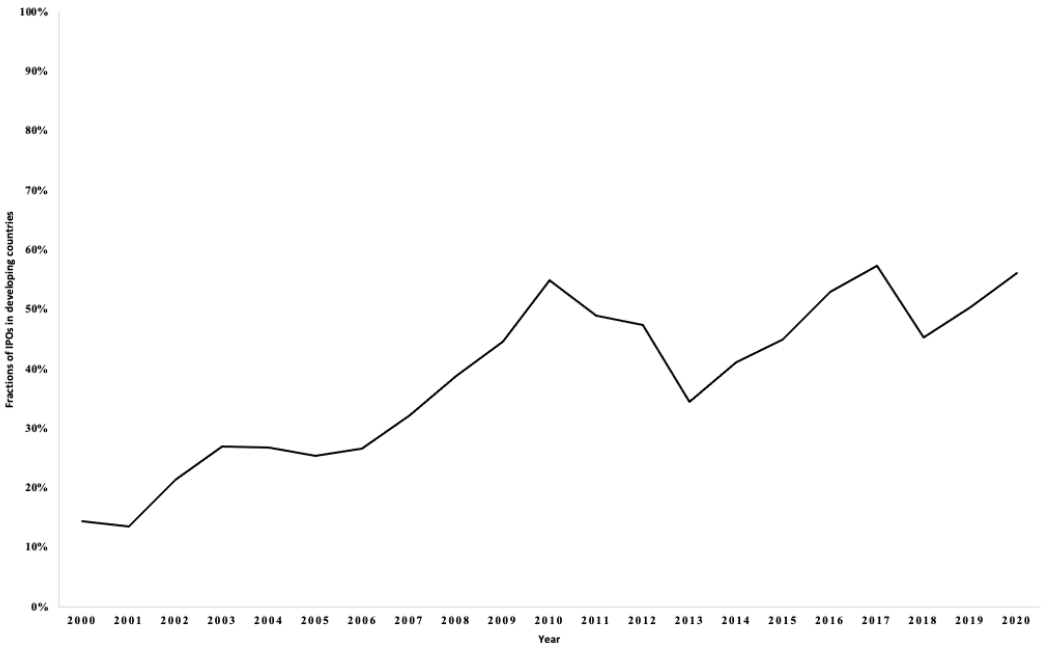


Table 6: Main Results - Developing Countries

This table presents the results of our regression models explained in section 3.4, for only developing countries. The dependent variable is the number of listed firm for country i in year t. We use country and time fixed effects. The total sample period varies as we include additional independent variables, with two main periods: 1975-2019 and 2000-2016. Data is from the World Bank's databases, WDI and WGI. Economic development status is classified by the IMF, as of 2019. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)	
	(1)	(2)
VARIABLES	Base Regression	Full Regression
Log(GDP)	-0.122	-0.152
	(0.406)	(0.422)
Log(Population)	1.260	1.368
	(1.641)	(1.781)
GDP Growth	0.00841	0.00811
	(0.00757)	(0.00645)
Stock Market Return	-0.000716	-0.000277
	(0.000543)	(0.000379)
Government Effectiveness	0.292	0.245
	(0.225)	(0.234)
FDI Net Inflows		0.00174
		(0.00119)
FDI Net Outflows		-0.00300*
		(0.00152)
Constant	-11.88	-12.78
	(17.90)	(19.50)
Observations	503	475
Within R-squared	0,0569	0,0775
Country FE	YES	YES
Year FE	YES	YES
Sample	2000-2017	2000-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 7: Main Results - Advanced Countries

This table presents the results of our regression models explained in section 3.4 for only advanced countries. The dependent variable is the number of listed firm for country i in year t. We use country and time fixed effects. The total sample period varies as we include additional independent variables, with two main periods: 1975-2019 and 2000-2016. Data is from the World Bank's databases, WDI and WGI. Economic development status is classified by the IMF, as of 2019. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)	
	(1)	(2)
VARIABLES	Base Regression	Full Regression
Log(GDP)	0.307	0.306
	(0.185)	(0.202)
Log(Population)	-0.966	-1.033
	(0.568)	(0.645)
GDP Growth	-0.00663*	-0.00498
	(0.00373)	(0.00373)
Stock Market Return	-0.000449	-0.000428
	(0.000422)	(0.000444)
Government Effectiveness	0.496**	0.519**
	(0.185)	(0.194)
FDI Net Inflows		-0.00103
		(0.000628)
FDI Net Outflows		0.000477
		(0.000557)
Constant	13.41	14.55
	(9.851)	(11.11)
Observations	760	708
Within R-squared	0,0974	0,0545
Country FE	YES	YES
Year FE	YES	YES
Sample	2000-2016	2000-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.3 Robustness of our results

We also consider the countries excluded from the results to determine if our country sample influences the variation in significance throughout the analysis. There are instances where government effectiveness is not significant in our sub-samples (Appendix D.11). The reason lies in our sub-sample, where government effectiveness stops being significant when enough developing countries are excluded from the analysis. Our overall impression is that factors affecting the number of listings worldwide are sensitive to changes in the number of observations and countries in the sample.

Changing specifications, either by including more variables or excluding certain variables, does not change the fact that government effectiveness is significant. However, it is only significant on a 10 % level in some cases (Appendix D). Even when changing the dependent variable and have a restricted model with constrained coefficient estimates, we still see a significance of government effectiveness on a 1 % level (Appendix D.9 and D.10). Another worry is the loss of significance when only utilizing time fixed effects. Therefore, we want to examine if the fixed effect models are the right choice and if multicollinearity caused by introducing a fixed effect matrix might impact. Random effects model is the alternative, and we run a Hausman test to determine if the unique errors are correlated with the regressors (Appendix D.8). The result indicates that we can reject the null hypothesis that the difference in coefficients is not systematic. We, therefore, find support for using our fixed effects model. Furthermore, we tested the use of the government effectiveness index in our analysis. As a proxy, we chose regulatory quality and proved that changing the measurement still produced similar results, as we already discussed earlier.

6 Conclusion

This thesis documents the effect of government effectiveness on the number of listed firms worldwide. Contrary to earlier research, we show that other factors can explain some variation in listings than those already included. Using the World Bank's database, we can conduct our analysis in the period between 2000-2016, as the government effectiveness index used only show values from this period. Subsequently, when taking the development of our country sample into account and dividing them into advanced and developing economies, we had two different inferences. We found that for developing countries, there is a significant influence on number of listed firms from government effectiveness. However, the advanced countries did not have a significant connection between the number of listed firms and government effectiveness. In this case, we were not able to confirm our hypothesis.

IPOs have become less important in advanced countries and more important in developing countries, such as China. The fraction of IPOs from these countries has consistently increased over the past 20 years, in addition to the fraction of global IPOs. Global IPOs are more present in countries with weaker institutions and hence, these findings are consistent with theory. The "direct IPO channel" we just described is one reasons why we believed that there was a difference between the two types of countries. We also have two other channels believed to affect listings, namely the "M&A channel" and the "Economic growth channel". All of these channels can be used as an explanation for our results related to development differences.

Our paper leaves out some important issues. First, we suggest conducting a case study going into depth regarding which factors affect listings in specific developing countries, such as China. Second, research should be conducted on aggregated listings in developing countries and whether or not factors affecting listings in the US have just as much effect on developing countries. Then, we suggest conducting a study on if or how government efficiency is a factor explaining the decreasing number of firms in the US, which might have been previously overlooked. Does adding government effectiveness in previous models changes the inferences already made or not? Moreover, we suggest researching listing increases in developing countries and more profound analysis on how the different channels affect listings. Possibly, the channels can end up having a two-way effect in some cases.

Appendix

A Country-Specific Information

A.1 Global listing development across the world

This table reports country specific listing trends across the world. The trend is calculated using two simple regressions over the sample period from 1975-2019. The coefficient estimates from the following regression specification:

$$Listed\ firms_{i,t} = \alpha + \beta_1 \cdot Time_{i,t} + \epsilon_{i,t}$$

$$Listed\ firms_{i,t} = \alpha + \beta_1 \cdot Time_{i,t} + \beta_2 \cdot Time_{i,t}^2 + \epsilon_{i,t}$$

where the dependent variable stay constant across the models, while the Time variable changes between the linear and non-linear regression. In the first regression, the Time variable stay linear and in the second regression, we add a second degree Time variable which captures the force of an increase/decrease over time. Both regression exhibit similar results, related to listing development, when using linear and non-linear regression although the significance and estimations change. The regressions are run on a sample size with a mean of 30 observations pr country. Data is collected from the World Bank's database, WDI. *, **, and *** indicate statistical significance on a 10 %, 5 %, and 1 % levels.

	Linear regression	Non-linear regression	
Country:	First degree	First degree	Second degree
China	129,5***	-14551,6***	3,6***
India	116,4***	30492***	-7,6***
Spain	79,3***	-5486,3**	1,3**
Canada	71,2***	-3524,1	0,9
Korea, Rep,	53,3***	-1489,9*	0,3*
Japan	49,7***	-6502,6***	1,6***
Hong Kong SAR, China	47,1***	-4310,6***	1***
Poland	36,9***	-2530,5*	0,6*
Vietnam	27,8***	20548**	-5,1**
Australia	25,4***	-3262,4***	0,8***
Malaysia	24,6***	2665,1***	-0,7***
Bulgaria	18,6***	5875,6***	-1,5***
Thailand	17***	519,9**	-0,2*
Indonesia	16,2***	-214,9	0
Bangladesh	12,8***	-4858,7***	1,2***
Singapore	12,4***	507,3*	-0,2*
Russian Federation	9,3*	7453,8***	-1,9***
Kuwait	9,1***	-629,6	0,1
Israel	9,1***	3887***	-1***
Saudi Arabia	8,5***	723,5**	-0,2**
Turkey	7,6***	737,3*	-0,2*
Iran, Islamic Rep,	7,4***	428,8*	-0,2*
Sweden	7,1***	-1159,3***	0,2***
Croatia	6,6***	3742,9***	-1***
Slovak Republic	6,4***	-375,2	0
Seychelles	5,8***	-3018,2	0,7*
Finland	5,7***	-643,3	0,1
Jordan	5,5***	1895,6***	-0,5***
Paraguay	4,9	19119	-4,8
Italy	4,8***	360,7***	-0,1***
Latvia	4,3**	7437,8***	-1,9***
Greece	4,2***	1363,3***	-0,4***
Germany	3,9***	1919,9***	-0,5***
Philippines	3,8***	589,8***	-0,2***
Switzerland	3,7***	593***	-0,2***
Sri Lanka	3,2***	-352,2*	0*
United Arab Emirates	2,9***	91,4	-0,1
Kazakhstan	2,8***	478,1*	-0,2*
Mauritius	2,6***	-272,3**	0**
Tunisia	2,3***	-101,8	0
Cyprus	1,9**	1809,5***	-0,5***

	Linear regression	Non-linear regression	
Country:	First degree	First degree	Second degree
Norway	1,4**	636,9***	-0,2***
Morocco	1,2***	13,6	-0,1
Jamaica	0,9***	-637,8***	0,1***
Malta	0,9***	54,8***	-0,1***
Zambia	0,9**	219,7	-0,1
Zimbabwe	0,8**	-759,6	0,1
Ghana	0,7***	119,2***	-0,1***
Botswana	0,6***	63,9**	-0,1**
Kenya	0,5***	-29,1	0
Hungary	0,5**	422,3***	-0,2***
Channel Islands	0,5	-29,9	0
Azerbaijan	0,5	1998,4	-0,5
Tanzania	0,4	2000,4	-0,5
France	0,4	1975,1***	-0,5***
Bahrain	0,3***	97,3***	-0,1***
Austria	0,3*	323,7***	-0,1***
Qatar	0,3**	-388***	0***
Cayman Islands	0,2***	-91,1***	0***
Eswatini	0,1***	59,9	-0,1
Iceland	0**	4425,4***	-1,2***
Barbados	-0,1	102,9***	-0,1***
Lebanon	-0,1	58,1**	-0,1**
Papua New Guinea	-0,1	223,7***	-0,1***
Namibia	-0,2	-1,8	0
Nigeria	-0,2	1000,3***	-0,3***
Uruguay	-0,2	665,4	-0,2
Portugal	-0,3	671,7***	-0,2***
Romania	-0,3	-1242***	0,3***
Chile	-0,4	822,6***	-0,3***
Costa Rica	-0,5***	127,3***	-0,1***
Bermuda	-0,7***	-106,3***	0***
Denmark	-1*	839,3***	-0,3***
Peru	-1,1**	-740,2***	0,1***
Oman	-1,2	1751,6***	-0,5***
Colombia	-1,4***	527,2***	-0,2***
Slovenia	-1,4	2404,5***	-0,6***
Panama	-1,9**	-348,3	0
Ireland	-2,2***	-312,8***	0***
Ecuador	-2,3*	5062,8**	-1,3**
Luxembourg	-2,3***	135,9	-0,1
Belgium	-2,4***	121	-0,1
Estonia	-2,5***	-716,9	0,1

	Linear regression	Non-linear regression	
Country:	First degree	First degree	Second degree
Netherlands	-2,5***	987,8***	-0,3***
Czech Republic	-2,5***	500,9	-0,2
New Zealand	-2,9***	-1275,1***	0,3***
Lithuania	-2,9**	-2503,6	0,6
Mexico	-4,9***	-450,4**	0,1**
Venezuela, RB	-5***	-751,8*	0,1*
Argentina	-5,3***	-624,7***	0,1***
Belarus	-6,1*	4024	-1,1
Brazil	-6,1***	972,5***	-0,3***
South Africa	-7,1***	1793,7***	-0,5***
United Kingdom	-8,4**	-2473,2*	0,6*
Pakistan	-9,2***	2773,7***	-0,7***
Honduras	-9,6	16118,5***	-4,1***
Ukraine	-25,3***	-1753,3	0,4
Egypt, Arab Rep,	-43,6***	-3925,9	0,9
Montenegro	-53,2*	95206,6	-23,8
United States	-68***	22269,8***	-5,6***

A.2 Global GDP and Government Effectiveness Rank by Economic Development

This table provides an overview of country-specific information and rankings. GDP and government effectiveness are sorted by economic development. Column (2) shows the government effectiveness mean value, calculated over the sample period for each country, column (3) shows GDP values denoted in US dollars and shown in billions, column (4) shows each country's GDP rank, column (5) shows each country's government effectiveness rank. The total sample period for each country is roughly the period from 1975-2019 for GDP and 1996-2019 for government effectiveness. Economic development status is classified by the IMF, as of 2019. Both, comes from the World Bank's database. GDP data is from WDI sub-database and government effectiveness data is from the WGI sub-database.

Table: A.2.1 Advanced countries

Country	Government Effeciveness Mean	GDP	Rank GE	Rank GDP
Australia	1,7	120,9	13	10
Austria	1,7	39,6	15	15
Belgium	1,6	47,6	20	14
Canada	1,8	152,8	8	7
Czech Republic	0,9	19,6	42	24
Denmark	2,1	31,3	3	20
Finland	2,1	24,1	2	22
France	1,5	247,1	21	5
Germany	1,6	346,7	17	3
Greece	0,5	19,5	52	25
Hong Kong SAR, China	1,7	32,1	11	17
Ireland	1,5	30,1	23	21
Israel	1,3	31,9	25	18
Italy	0,5	187,6	57	6
Japan	1,5	492,3	22	2
Korea, Rep.	1,1	150,0	35	8
Luxembourg	1,7	6,1	10	27
Netherlands	1,9	78,4	7	11
New Zealand	1,8	18,8	9	26
Norway	1,9	36,9	6	16
Portugal	1,1	20,6	34	23
Singapore	2,2	31,9	1	19
Spain	1,2	123,2	28	9
Sweden	1,9	51,6	5	13
Switzerland	2,0	67,1	4	12
United Kingdom	1,6	269,4	16	4
United States	1,6	1871,5	19	1

Table: A.2.2 Developing countries

Country	Government Effeciveness Mean	GDP	Rank GE	Rank GDP
Argentina	-0,1	55,8	92	9
Bangladesh	-0,8	22,1	157	22
Brazil	-0,1	179,6	94	3
Chile	1,2	25,0	31	21
China	0,1	1123,3	79	1
Colombia	-0,1	28,3	93	19
Costa Rica	0,3	5,7	67	33
Egypt, Arab Rep.	-0,5	33,2	129	15
Hungary	0,7	12,8	50	28
India	0,0	229,5	89	2
Indonesia	-0,2	93,2	103	6
Iran, Islamic Rep.	-0,5	41,8	123	11
Kazakhstan	-0,4	13,7	115	27
Kenya	-0,5	6,9	126	31
Malaysia	1,0	30,1	38	17
Mexico	0,2	107,8	78	5
Morocco	-0,1	10,3	96	29
Nigeria	-1,0	40,5	171	13
Oman	0,3	6,5	69	32
Pakistan	-0,6	27,9	141	20
Peru	-0,3	19,2	109	24
Philippines	0,0	31,9	88	16
Poland	0,6	47,3	51	10
Qatar	0,7	15,2	49	26
Romania	-0,2	18,8	106	25
Russian Federation	-0,3	127,7	112	4
Saudi Arabia	0,0	64,5	90	8
South Africa	0,5	29,6	58	18
Sri Lanka	-0,2	8,2	100	30
Thailand	0,3	41,3	68	12
Turkey	0,2	87,0	76	7
United Arab Emirates	1,1	35,7	36	14
Vietnam	-0,2	20,5	102	23

.

B Country-Specific Analysis

This table show coefficient estimates from the following regression specification:

$$Listed\ firms_{CH,t} = \alpha + \beta_1 \cdot Government\ Effectiveness_{CH,t} + \epsilon_{CH,t}$$

where the dependent variable is the number of listed firms in China in period t and we run it only with government effectiveness as independent variable. This is a simple univariate regression where we do not log-transform our dependent variable. We acknowledge that the number of observations are limited but in our case it still give us an indication of the relationship. In addition there might be estimation bias when we only include one independent variable. Hence, we put less emphasis on the coefficient estimates and focus on whether government effectiveness has a positive or negative effect on the number of firms and if it is significant.

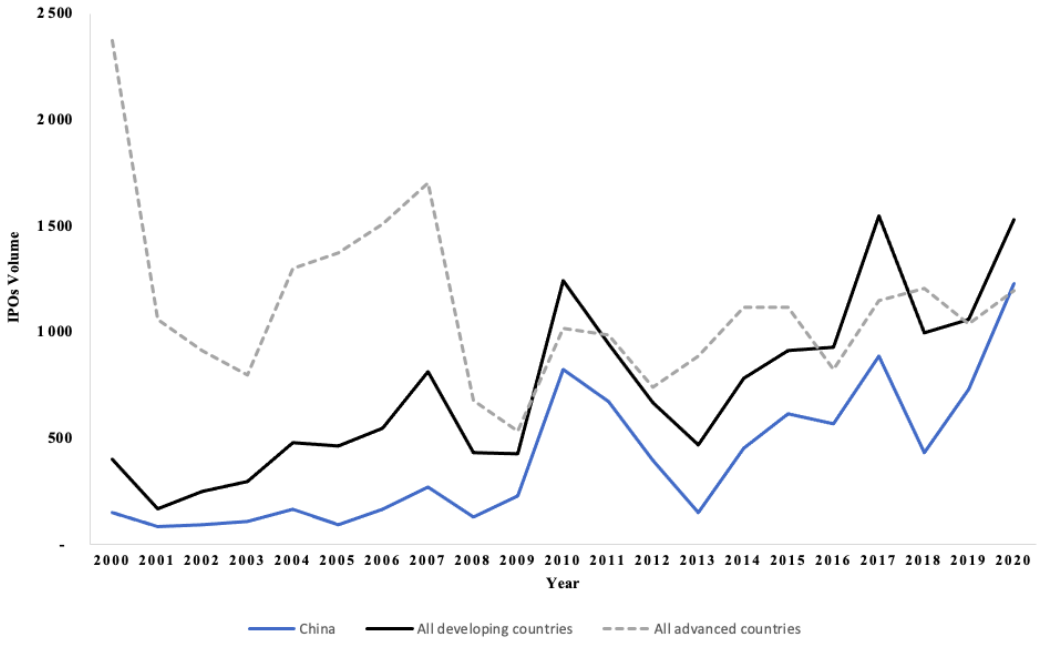
	(1)
VARIABLES	China
Government Effectiveness	3638.21***
	(240.8)
Constant	1636.21***
	(90.998)
Observations	21
R-squared	0.814
Country FE	NO
Year FE	NO
Sample	1998-2019

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

C IPO Activity Comparison

Figure C: China

This figure shows the annual number of IPOs worldwide divided into developing countries (black line) and advanced countries (broken grey line). In addition, China's IPO development (blue line) is shown to compare with the overall sample of developing countries. The total sample consists of observations over a 20 year period from 2000-2020. Data is collected from the SDC Platinum database where all new listings with IPO flagging is included, for every country in our sample. After merging the new listings by country and year, we merged the number of IPOs for each country into two groups, developing and advanced countries. Economic development status is classified by the IMF, as of 2019.



D Robustness Tests

D.1 Standalone Regressions

The first robustness test shows how government effectiveness stay significant with only *Log(GDP)* as a control variable and how the coefficient estimate changes when including stock market return and FDI inflows/outflows without the extra control variables. Below, we show the coefficient estimates from model 1, the base regression and additional models explained below:

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Stock\ Market\ Return_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. δ_i and τ_t is the country and time fixed effects. Government effectiveness is included and stock market return is removed, in column (2), foreign direct investments inflows is included and government effectiveness is excluded in column (3), foreign direct investments outflows is included in column (4) and lastly, we add all the variables previously used in these models in column (5). The total sample period varies as we include additional variables, with two main periods: 1975-2019 and 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)				
VARIABLES	(1) Base Regression	(2) Government Effectiveness	(3) Foreign Direct Investments Net Inflows	(4) Foreign Direct Investments Net Inflows and Outflows	(5) Full Regression
Log(GDP)	0.455***	0.274**	0.377***	0.368***	0.247*
	(0.124)	(0.100)	(0.115)	(0.122)	(0.134)
Stock Market Return	0.000143***				-0.000460
	(1.31e-05)				(0.000408)
Government Effectiveness		0.475***			0.461***
		(0.132)			(0.148)
FDI Net Inflows			0.000778***	0.00252**	0.000498
			(0.000193)	(0.00106)	(0.000810)
FDI Net Outflows				-0.00270	-0.00138
				(0.00164)	(0.00101)
Constant	-6.403*	-2.258	-4.589	-4.334	-1.453
	(3.212)	(2.567)	(2.938)	(3.106)	(3.478)
Observations	1,796	1,605	2,179	1,934	1,183
Within R-squared	0,0709	0,0926	0,0443	0,0425	0,0904
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
Sample	1975-2019	2000-2019	1998-2016	1990-2016	2000-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.2 Additional Standalone Regressions

Further, we want to study additional regressions with fewer control variables before testing with a bigger sample of independent variables in robustness test X. Below, we show the coefficient estimates from model 1 and 2:

(1)

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Government\ Effectiveness_{i,t} + \beta_3 \cdot Stock\ Market\ Return_{i,t} + \epsilon_{i,t}$$

(2)

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Government\ Effectiveness_{i,t} + \beta_3 \cdot Foreign\ Direct\ Investment\ Net\ Inflows_{i,t} + \beta_4 \cdot Foreign\ Direct\ Investment\ Net\ Outflows_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. δ_i and τ_t is the country and time fixed effects. Government effectiveness is included and stock market return is removed, in column (2), foreign direct investments inflows is included and government effectiveness is excluded in column (3), foreign direct investments outflows is included in column (4) and lastly, we add all the variables previously used in these models in column (5). The total sample period is from 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)	
	(1)	(2)
VARIABLES	Model 1	Model 2
Log(GDP)	0.247*	0.269**
	(0.122)	(0.111)
Government Effectiveness	0.465***	0.485***
	(0.144)	(0.140)
FDI Net Inflows		0.000827
		(0.000809)
FDI Net Outflows		-0.00160
		(0.00103)
Stock Market Return	-0.000528	
	(0.000375)	
Constant	-1.473	-2.096
	(3.164)	(2.840)
Observations	1,263	1,375
Within R-squared	0,0944	0,0889
Country FE	YES	YES
Year FE	YES	YES
Sample	1971-2020	1975-2019

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.3 Additional Control Variable Regressions

We want to check if government effectiveness is significant when including a variation of different independent variables, found through macroeconomic analysis. Below, we show the coefficient estimates from model 1, the base regression and additional models explained below:

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Log(Population_{i,t}) + \beta_3 \cdot Anti - Self - Dealing\ Index_{i,t} + \beta_4 \cdot GDP\ growth + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. δ_i and τ_t is the country and time fixed effects.
Market Cap Share is included in column (2), Tax-revenue % of GDP is included in column (3), Control of Corruption is included in column (4), Government Effectiveness is included in column (5), Political Stability and Absence is included in column (6), Foreign Direct Investment net Inflows is included in column(7), Foreign Direct Investment Outflows is included in column(8), Stock Market Capitalization/GDP is included in column(9), Stock Market Return is included in column(10), Stock Market Turnover Ratio is included in column(11)
The total sample period varies as we include additional variables, with two main periods: 1975-2019 and 2000-2016. Data is from the World Bank's databases, WDI and WGI . Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
VARIABLES	Base Panel Regression	Market Cap Share	Taxrevenue % of GDP	Control of Corruption	Government Effectiveness	Political Stability and Absence	Foreign Direct Investmentnet Inflow	Foreign Direct Investment Outflow	Stock market capitalization/GDP	Stock market return	Stock market turnover ratio
Log(GDP)	0.530***	0.471***	0.602**	0.575**	0.537**	0.520**	0.520**	0.528**	0.449**	0.292**	0.267**
	(0.160)	(0.169)	(0.291)	(0.229)	(0.224)	(0.221)	(0.219)	(0.230)	(0.205)	(0.114)	(0.104)
Log(Population)	-0.688	-0.893	-1.207	-1.975*	-1.900*	-1.895*	-1.792*	-2.042*	-1.265	-0.768	-0.822
	(0.629)	(0.694)	(1.235)	(1.083)	(1.059)	(1.057)	(1.033)	(1.162)	(1.033)	(0.826)	(0.829)
Anti Selfdealing Index	0	0	0	0	0	0	0	0	0	0	0
	(0)	(0)	(0)	(4.02e-08)	(1.55e-08)	(0)	(2.28e-08)	(0)	(0)	(3.73e-08)	(7.10e-09)
GDP Growth	-0.00649	-0.00725	0.00152	-0.00941***	-0.0103***	-0.0105***	-0.0107***	-0.00856**	-0.00995**	-0.00261	-0.00103
	(0.00652)	(0.00652)	(0.00810)	(0.00314)	(0.00285)	(0.00299)	(0.00289)	(0.00312)	(0.00409)	(0.00327)	(0.00302)
Market Capitalization of Listed Domestic Companies		0.00174*	0.000881	0.000903	0.000691	0.000638	0.000521	0.000487			
		(0.000992)	(0.000801)	(0.000817)	(0.000694)	(0.000681)	(0.000695)	(0.000805)			
Tax Revenue Percentage of GDP			-0.00633	0.000166	0.000369	-2.85e-05	0.00247	0.00435	0.00827	-0.0169	-0.0194
			(0.0193)	(0.0203)	(0.0205)	(0.0208)	(0.0207)	(0.0238)	(0.0226)	(0.0155)	(0.0155)
Control of Corruption				0.0625	-0.0543	-0.0532	-0.0336	-0.0447	0.00799	-0.0297	-0.0221
				(0.160)	(0.130)	(0.131)	(0.127)	(0.122)	(0.127)	(0.102)	(0.0970)
Government Effectiveness					0.347**	0.331*	0.303*	0.322*	0.349**	0.299*	0.280*
					(0.159)	(0.161)	(0.161)	(0.178)	(0.164)	(0.165)	(0.157)
Political Stability and Absence of Violence						0.0458	0.0556	0.0701	-0.00440	0.0155	-0.00824
						(0.0546)	(0.0574)	(0.0608)	(0.0508)	(0.0572)	(0.0548)
FDI Net Inflows							0.000366	0.000660	0.000186	-0.00141	-0.00147*
							(0.00134)	(0.00157)	(0.00141)	(0.000841)	(0.000836)
FDI Net Outflow								-0.000953	-0.00166	-0.00136*	-0.00162**
								(0.000809)	(0.00104)	(0.000710)	(0.000764)
Stock Market Capitalization GDP									0.000636	0.000901	0.00112
									(0.000877)	(0.000728)	(0.000736)
Stock Market Return										-0.00131**	-0.00141***
										(0.000462)	(0.000417)
Stock Market Turnover Ratio											0.000476

	Dependent variable: Log(Listings)										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
VARIABLES	Base Panel Regression	Market Cap Share	Taxrevenue % of GDP	Control of Corruption	Government Effectiveness	Political Stability and Absence	Foreign Direct Investmentnet Inflow	Foreign Direct Investment Outflow	Stock market capitalization/GDP	Stock market return	Stock market turnover ratio (0.000348)
Constant	3.444	8.329	10.45	24.06	23.57	23.94	22.20	26.18	14.85	11.16	12.75
	(9.370)	(11.04)	(15.95)	(14.44)	(13.86)	(13.99)	(13.68)	(15.42)	(14.26)	(12.73)	(12.81)
Observations	1,883	1,584	979	751	751	751	748	658	721	677	669
Within R-squared	0,067	0,0759	0,1157	0,1645	0,1899	0,191	0,186	0,1932	0,1438	0,1485	0,1485
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Sample	1971-2020	1971-2020	1971-2020	1971-2020	1971-2020	1971-2020	1971-2020	1971-2020	1971-2020	1971-2020	1971-2020

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

D.4 Governance Variable Regressions

This table shows that the results, when including all of the governance variables in the World Bank's database, does not lead to a change in significance for government effectiveness. The base regression is equal to the base regression in our main results. Hence, the following regression specification are for model 5 in the following table:

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Log(Population_{i,t}) + \beta_3 \cdot GDP\ growth + \beta_4 \cdot Stock\ Market\ Return_{i,t} + \beta_5 \cdot Government\ Effectiveness_{i,t} + \beta_6 \cdot Control\ of\ Corruption_{i,t} + \beta_7 \cdot Political\ Stability\ and\ Absence\ of\ Violence_{i,t} + \beta_8 \cdot Rule\ of\ Law_{i,t} + \beta_9 \cdot Voice\ and\ Accountability_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. δ_i and τ_t is the country and time fixed effects. Government effectiveness is included in column (1), control of corruption is included in column (2), Political Stability and Absence of Violence is included in column(3), Rule of Law is included in column(4), Voice and Accountability is included in column(5). The total sample period is between 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)				
VARIABLES	(1) Base Regression	(2) Control of Corruption	(3) Political Stability and Absence of Violence	(4) Rule of Law	(5) Voice and Accountability
Log(GDP)	-0.00145	-0.00748	0.0222	0.0343	0.00717
	(0.120)	(0.129)	(0.129)	(0.123)	(0.122)
Log(Population)	0.686***	0.693***	0.624***	0.615***	0.649***
	(0.125)	(0.133)	(0.140)	(0.135)	(0.137)
GDP Growth	0.00842	0.00832	0.0106	0.0118	-0.00475
	(0.0152)	(0.0151)	(0.0148)	(0.0151)	(0.0147)
Stock Market Return	-0.00166	-0.00167	-0.00163	-0.00108	-0.000582
	(0.00103)	(0.00102)	(0.00107)	(0.00111)	(0.00102)
Government Effectiveness	0.871***	0.813**	0.942***	0.758**	0.778**
	(0.164)	(0.343)	(0.327)	(0.338)	(0.300)
Control of Corruption		0.0579	0.124	-0.0978	-0.111
		(0.321)	(0.309)	(0.361)	(0.346)
Political Stability and Absence of Violence			-0.302*	-0.343**	-0.307*
			(0.162)	(0.161)	(0.157)
Rule of Law				0.450	0.683*
				(0.325)	(0.328)
Voice and Accountability					-0.323**
					(0.134)
Constant	-6.692***	-6.649***	-6.353***	-6.524***	-6.358***
	(1.515)	(1.571)	(1.476)	(1.431)	(1.402)
Observations	1,263	1,263	1,263	1,263	1,259
Within R-squared	0,6467	0,6468	0,6581	0,6624	0,6751
Country FE	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES
Sample	1975-2019	1975-2019	2000-2019	2000-2019	2000-2019

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.5 Regulatory Quality as Proxy for Government Effectiveness

We use regulatory quality as a proxy for government effectiveness as it covers one of the important aspects of the government effectiveness variable. The base regression consists of the same control variables as in our main results for easy comparison. Therefore, the following regression specifications are for model 4:

$$log(Listings_{i,t}) = \alpha + \delta_i + \tau_t + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Log(Population_{i,t}) + \beta_3 \cdot GDP\ growth + \beta_4 \cdot Stock\ Market\ Return_{i,t} + \beta_5 \cdot Regulatory\ Quality_{i,t} + \beta_6 \cdot Foreign\ Direct\ Investment\ Net\ Inflows_{i,t} + \beta_7 \cdot Foreign\ Direct\ Investment\ Net\ Outflows_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. δ_i and τ_t is the country and time fixed effects. Regulatory quality is included in column (2), Foreign Direct Investments Net Inflows is included in column (3), Foreign Direct Investments Net Outflows is included in column(4). The total sample period for model 2-4 is 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)			
VARIABLES	(1) Base Regression	(2) Regulatory Quality	(3) Foreign Direct Investments Net Inflows	(4) Foreign Direct Investments Net Outflows
Log(GDP)	0.475***	0.354**	0.357**	0.348**
	(0.140)	(0.142)	(0.142)	(0.153)
Log(Population)	-0.167	-0.771	-0.786	-0.779
	(0.561)	(0.526)	(0.526)	(0.582)
GDP Growth	-0.00360	-0.00312	-0.00344	-0.00195
	(0.00401)	(0.00400)	(0.00410)	(0.00403)
Stock Market Return	0.000140***	-0.000257	-0.000258	-0.000195
	(1.34e-05)	(0.000412)	(0.000436)	(0.000438)
Regulatory Quality		0.323***	0.313***	0.335***
		(0.0945)	(0.0929)	(0.0954)
FDI Net Inflows			-0.000183	0.000621
			(0.000252)	(0.000749)
FDI Net Outflows				-0.00145
				(0.000935)
Constant	-4.117	8.684	8.891	8.956
	(8.270)	(7.649)	(7.684)	(8.427)
Observations	1,796	1,263	1,257	1,183
Within R-squared	0,0722	0,091	0,09	0,0898
Country FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Sample	1975-2017	2000-2017	2000-2017	2000-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.6 Regressions Using Only Country Fixed Effects

This table shows the results if we only use country fixed effects on the following model, which include additional control variables. The table reports the coefficient estimates from the following regression specification:

$$log(Listings_{i,t}) = \alpha + \delta_i + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Tax\ Revenues\ (\%\ of\ GDP)_{i,t} + \beta_3 \cdot Stock\ Market\ Return_{i,t} + \beta_4 \cdot Stock\ Market\ Turnover\ Ratio_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. δ_i is the country fixed effects. Extra control variables are added in column(2), government effectiveness is included in column(3),Foreign Direct Investments Net Inflows is included in column(4),Foreign Direct Investments Net Outflows is included in column(5). The total sample period for model 1-2 is 1975-2019, for model 3-5 it is 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)				
VARIABLES	(1) Base Regression	(2) Extra Control Variables	(3) Government Effectiveness	(4) Foreign Direct Investments Net Inflows	(5) Foreign Direct Investments Net Outflows
Log(GDP)	0.130*	0.174	0.102	0.105	0.109
	(0.0672)	(0.128)	(0.0810)	(0.0808)	(0.0851)
Log(Population)		-0.323			
		(0.612)			
GDP Growth		0.0118**			
		(0.00494)			
Tax Revenue Percentage Of GDP	-0.00919	-0.0102	-0.00652	-0.00637	-0.00537
	(0.00726)	(0.00694)	(0.00622)	(0.00744)	(0.00659)
Stock Market Return	-0.000427	-0.000881	-0.000460	-0.000488	-0.000483
	(0.000424)	(0.000536)	(0.000426)	(0.000433)	(0.000449)
Stock Market Turnover Ratio	-0.000213	-0.000196	-0.000241	-0.000237	-0.000309
	(0.000806)	(0.000777)	(0.000920)	(0.000921)	(0.000942)
Government Effectiveness			0.324**	0.318*	0.314*
			(0.154)	(0.154)	(0.162)
FDI Net Inflows				-4.82e-05	0.000365
				(0.000635)	(0.000948)
FDI Net Outflows					-0.000800
					(0.000677)
Constant	2.302	6.556	2.593	2.517	2.402
	(1.720)	(7.465)	(2.153)	(2.151)	(2.263)
Observations	1,155	1,155	905	904	858
Within R-squared	0,0521	0,0632	0,0522	0,0528	0,0533
Country FE	YES	YES	YES	YES	YES
Year FE	NO	NO	NO	NO	NO
Sample	1975-2019	1975-2019	1975-2019	2000-2016	2000-2016

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.7 Regressions Using Only Time Fixed Effects

This table shows the results if we only use time fixed effects on the following model, which include different control variables than the main result variables. The table reports the coefficient estimates from the following regression specification:

$$log(Listings_{i,t}) = \alpha + \tau_t + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Tax\ Revenues\ (\%\ of\ GDP)_{i,t} + \beta_3 \cdot Stock\ Market\ Return_{i,t} + \beta_4 \cdot Stock\ Market\ Turnover\ Ratio_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. τ_i is the time fixed effects. Extra control variables are added in column(2), government effectiveness is included in column(3),Foreign Direct Investments Net Inflows is included in column(4),Foreign Direct Investments Net Outflows is included in column(5). The total sample period for model 1-2 is 1975-2019, for model 3-5 it is 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)				
VARIABLES	(1) Base Regression	(2) Extra Control Variables	(3) Government Effectiveness	(4) Foreign Direct Investments Net Inflows	(5) Foreign Direct Investments Net Outflows
Log(GDP)	0.642***	0.460***	0.614***	0.615***	0.627***
	(0.0765)	(0.106)	(0.0849)	(0.0860)	(0.0855)
Log(Population)		0.295***			
		(0.105)			
GDP Growth		0.0207			
		(0.0202)			
Tax Revenue Percentage Of GDP	-0.0169	0.00269	-0.0211	-0.0216	-0.0213
	(0.0153)	(0.0134)	(0.0149)	(0.0156)	(0.0155)
Stock Market Return	-1.99e-05	-0.00195	-0.00106	-0.00101	-0.000707
	(0.00156)	(0.00140)	(0.00150)	(0.00153)	(0.00146)
Stock Market Turnover Ratio	0.000573	0.000252	0.00137	0.00136	0.00112
	(0.00169)	(0.00164)	(0.00174)	(0.00175)	(0.00174)
Government Effectiveness			0.0484	0.0476	0.0616
			(0.167)	(0.168)	(0.167)
FDI Net Inflows				0.000419	0.00367**
				(0.00179)	(0.00142)
FDI Net Outflows					-0.00756**
					(0.00301)
Constant	-11.01***	-11.55***	-10.39***	-10.42***	-10.72***
	(2.131)	(2.067)	(2.313)	(2.330)	(2.321)
Observations	1,156	1,156	908	907	861
Within R-squared	0,5848	0,6257	0,5756	0,5752	0,5803
Country FE	NO	NO	NO	NO	NO
Year FE	YES	YES	YES	YES	YES
Sample	1975-2019	1975-2019	2000-2019	2000-2019	2000-2019

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.8 Hausman Test

This table shows the result of the Hausman test, where we test the null hypothesis that difference in coefficients are not systematic. If we reject our null hypothesis, we can say that the fixed effects model is appropriate to use. To run the Hausman test, we first run a fixed effects model and then a random effects model with the same variables used as in our main results. The total sample period is from 2000-2016. Data is from the World Bank's databases, WDI and WGI for government effectiveness.

Coefficients

Variables	(b) FE	(B) RE	(b-B) Difference	$\sqrt{(diag(V_b - V_B))}$Std. Err.
Log(GDP)	.3200526	.2566647	.0633879	.0234986
Log(Population)	-.7480376	.3477767	-1.095814	.1775491
GDP Growth	-.0015854	-.0010852	-.0005002	.
Stock Market Returnn	-.0004017	-.0004455	.0000438	.
Government Effectiveness	.4325053	.4626718	-.0301665	.018869
FDI Net Inflows	.0004783	.0005531	-.0000748	.
FDI Net Outflows	-.0013219	-.001495	.0001731	.
Time				
1998	.0487802	.018637	.0301432	.
2000	.1223196	.0816219	.0406976	.
2002	.0748815	.0175736	.0573079	.
2003	.0514868	-.0075861	.0590729	.
2004	.0539572	-.0014263	.0553834	.
2005	.0517417	-.0024032	.054145	.0054888
2006	.0777905	.0171083	.0606823	.0109395
2007	.0433651	-.020155	.0635201	.0155451
2008	-.0226443	-.0847222	.0620779	.0182913
2009	-.0334642	-.1160504	.0825862	.0193675
2010	-.0362723	-.1266299	.0903576	.0227651
2011	-.0621847	-.1640881	.1019035	.0260213
2012	-.101751	-.2161918	.1144408	.0281325
2013	-.1044034	-.231552	.1271486	.0305944
2014	-.1234106	-.262041	.1386304	.0325957
2015	-.0569777	-.2143602	.1573825	.0333188
2016	-.0519274	-.2221861	.1702587	.0350835

b = Consistent under H0 and HA; obtained from xtreg.

B = Inconsistent under HA, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

$Chi2(24) = (b - B)'[(V_b - V_{B)}{}^{-1}]$(b − B)

$Chi2(24) = 45{,}29$

$Prob > chi2 = 0{,}0054$

$(V_b - V_B)$ is not positive definite

D.9 Common Denominator Regression with Population as Common Term

This table shows coefficient estimates from the following regression specification:

$$log(\frac{L_{i,t}}{Pop_{i,t}}) =$$
$$\alpha + \delta_i + \tau_t + \beta_1 \cdot GDP\ growth + \beta_2 \cdot log(\frac{GDP_{i,t}}{Pop_{i,t}}) + \beta_3 \cdot Stock\ Market\ Return_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the number of listed firm for country i in year t divided by the population in the same year for the same country. δ_i and τ_t is the country and time fixed effects. Government effectiveness is included in column (2), foreign direct investments inflows is included in column (3) and foreign direct investments outflows is included in column (4). The total sample period varies as we include additional variables, with two main periods: 1975-2019 and 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings) Over Pop			
VARIABLES	(1) Base Regression	(2) Governmenet Effectiveness	(3) Foreign Direct Investmentnet Inflow	(4) Foreign Direct Investment Outflow
GDP(growth)	-0.00377	-0.00125	-0.00552	-0.00621*
	(0.00412)	(0.00305)	(0.00336)	(0.00345)
Log(GDP) Over Pop	0.463***	0.288*	0.349**	0.351**
	(0.146)	(0.150)	(0.131)	(0.154)
Stock Market Return	0.000145***	-0.000441		
	(1.30e-05)	(0.000347)		
Government Effectiveness		0.473***	0.482***	0.490***
		(0.149)	(0.138)	(0.147)
FDI Net Inflows			0.000466**	0.000875
			(0.000214)	(0.000885)
FDI Net Outflows				-0.00171
				(0.00115)
Constant	-15.55***	-14.35***	-14.91***	-14.91***
	(1.340)	(1.401)	(1.199)	(1.409)
Observations	1,796	1,263	1,593	1,375
R-squared	0.929	0.952	0.942	0.944
Country FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Sample	1975-2019	1975-2019	1971-2020	1971-2020

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.10 Common Denominator Regression with GDP as Common Term

This table shows coefficient estimates from the following regression specification:

$$log(\frac{L_{i,t}}{Pop_{i,t}}) =$$
$$\alpha + \delta_i + \tau_t + \beta_1 \cdot GDP\ growth + \beta_2 \cdot log(\frac{GDP_{i,t}}{Pop_{i,t}}) + \beta_3 \cdot Stock\ Market\ Return_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the number of listed firm for country i in year t divided by GDP in the same year for the same country. $\delta_i and \tau_t$ is the country and time fixed effects. As GDP growth is measured using GDP we are reluctant to trust the output, as this creates a common denominator problem related to the dependent variable. Government effectiveness is included in column (2), foreign direct investments inflows is included in column (3) and foreign direct investments outflows is included in column (4). The total sample period varies as we include additional variables, with two main periods: 1975-2019 and 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10% level, ** at the 5% level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings) Over GDP			
VARIABLES	(1) Base Regression	(2) Governmenet Effectiveness	(3) Foreign Direct Investmentnet Inflow	(4) Foreign Direct Investment Outflow
GDP Growth	-0.00377	-0.00125	-0.00552	-0.00621*
	(0.00412)	(0.00305)	(0.00336)	(0.00345)
Log(GDP) Over Pop	-0.537***	-0.712***	-0.651***	-0.649***
	(0.146)	(0.150)	(0.131)	(0.154)
Stock Market Return	0.000145***	-0.000441		
	(1.30e-05)	(0.000347)		
Government Effectiveness		0.473***	0.482***	0.490***
		(0.149)	(0.138)	(0.147)
FDI Net Inflows			0.000466**	0.000875
			(0.000214)	(0.000885)
FDI Net Outflows				-0.00171
				(0.00115)
Constant	-15.55***	-14.35***	-14.91***	-14.91***
	(1.340)	(1.401)	(1.199)	(1.409)
Observations	1,796	1,263	1,593	1,375
R-squared	0.909	0.937	0.922	0.925
Country FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Sample	1975-2019	1975-2019	1971-2020	1971-2020

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

D.11 Regressions Without Significant Government Effectiveness

This table reports coefficient estimates from the following regression specification:

$$log(Listings_{i,t}) = \alpha + \delta_i + \beta_1 \cdot Log(GDP) + \beta_2 \cdot Tax\ Revenues\ (\%\ of\ GDP)_{i,t} + \beta_3 \cdot Stock\ Market\ Return_{i,t} + \beta_4 \cdot Stock\ Market\ Turnover\ Ratio_{i,t} + \epsilon_{i,t}$$

where the dependent variable is the natural logarithm of the number of listed firm for country i in year t. δ_i and τ_i is the country and time fixed effects, respectively. Extra control variables are added in column(2), government effectiveness is included in column(3),Foreign Direct Investments Net Inflows is included in column(4),Foreign Direct Investments Net Outflows is included in column(5). The total sample period for model 1-2 is 1975-2019, for model 3-5 it is 2000-2016. Data is from the World Bank's databases, WDI and WGI. Statistical significance is indicated by * at the 10 % level, ** at the 5 % level and *** at the 1% level and standard errors are clustered by country and time.

	Dependent variable: Log(Listings)				
VARIABLES	(1) Base Regression	(2) Extra Control Variables	(3) Government Effectiveness	(4) Foreign Direct Investments Net Inflows	(5) Foreign Direct Investments Net Outflows
Log(GDP)	0.216	0.256	0.241**	0.242**	0.243**
	(0.132)	(0.166)	(0.112)	(0.112)	(0.111)
Log(Population)		-0.453			
		(0.684)			
GDP Growth		0.00751			
		(0.00456)			
Tax Revenue Percentage Of GDP	-0.0132**	-0.0134**	-0.00966	-0.00920	-0.00792
	(0.00650)	(0.00616)	(0.00566)	(0.00643)	(0.00569)
Stock Market Return	-0.000649	-0.000792	-0.000893	-0.000945	-0.000989
	(0.000467)	(0.000514)	(0.000582)	(0.000588)	(0.000625)
Stock Market Turnover Ratio	-0.000830	-0.000817	-0.000501	-0.000486	-0.000545
	(0.000912)	(0.000881)	(0.00104)	(0.00104)	(0.00106)
Government Effectiveness			0.280	0.277	0.276
			(0.172)	(0.172)	(0.180)
FDI Net Inflows				-0.000200	0.000373
				(0.000592)	(0.000938)
FDI Net Outflows					-0.00111
					(0.000691)
Constant	0.176	6.676	-0.923	-0.965	-1.013
	(3.436)	(9.254)	(2.952)	(2.935)	(2.918)
Observations	1,155	1,155	905	904	858
Within R-squared	0,0435	0,051	0,0651	0,0654	0,066
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
Sample	1975-2019	1975-2019	2000-2019	2000-2019	2000-2019

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

E Country Observation Overview

This table provides an overview of which countries that are included in the overall sample and each analysis. Column (1) – countries in the overall sample before looking at any specific variable. Column (2) – countries in our main results, model 1. Column (3) – countries in our main results, model 2. Column (4) – countries in our main results, model 3. Column (5) – countries in our main results, model 4. Column (6) – countries in our main results, model 5. All countries are included in the World Bank's database.

Main sample	Model 1	Model 2	Model 3	Model 4	Model 5
Afghanistan					
Albania					
Algeria					
American Samoa					
Andorra					
Angola					
Antigua and Barbuda					
Argentina	X	X	X	X	X
Armenia					
Aruba					
Australia	X	X	X	X	X
Austria	X	X	X	X	X
Azerbaijan					
Bahamas, The					
Bahrain	X	X	X	X	X
Bangladesh	X	X	X	X	X
Barbados					
Belarus					
Belgium	X	X	X	X	X
Belize					
Benin					
Bermuda	X	X	X	X	X
Bhutan					
Bolivia					
Bosnia and Herzegovina					
Botswana	X	X	X	X	X
Brazil	X	X	X	X	X
British Virgin Islands					
Brunei Darussalam					
Bulgaria	X	X	X	X	X
Burkina Faso					
Burundi					
Cambodia					

Main sample	Model 1	Model 2	Model 3	Model 4	Model 5
Cameroon					
Canada	X	X	X	X	X
Cabo Verde					
Cayman Islands					
Central African Republic					
Chad					
Channel Islands					
Chile	X	X	X	X	X
China	X	X	X	X	X
Colombia	X	X	X	X	X
Comoros					
Congo, Dem. Rep.					
Congo, Rep.					
Costa Rica	X	X	X	X	X
Cote d'Ivoire					
Croatia	X	X	X	X	X
Cuba					
Curacao					
Cyprus	X	X	X	X	X
Czech Republic	X	X	X	X	X
Denmark	X	X	X	X	X
Djibouti					
Dominica					
Dominican Republic					
Ecuador	X	X	X	X	X
Egypt	X	X	X	X	X
El Salvador					
Equatorial Guinea					
Eritrea					
Estonia	X	X	X	X	X
Eswatini					
Ethiopia					
Faroe Islands					
Fiji					
Finland	X	X	X	X	X
France	X	X	X	X	X
French Polynesia					
Gabon					
Gambia, The					
Georgia					
Germany	X	X	X	X	X
Ghana	X	X	X	X	X
Gibraltar					
Greece	X	X	X	X	X
Greenland					

Main sample	Model 1	Model 2	Model 3	Model 4	Model 5
Grenada					
Guam					
Guatemala					
Guinea					
Guinea-Bissau					
Guyana					
Haiti					
Honduras					
Hong Kong	X	X	X	X	X
Hungary	X	X	X	X	X
Iceland	X	X	X	X	X
India	X	X	X	X	X
Indonesia	X	X	X	X	X
Iran					
Iraq					
Ireland	X	X	X	X	X
Isle of Man					
Israel	X	X	X	X	X
Italy	X	X	X	X	X
Jamaica	X	X	X	X	X
Japan	X	X	X	X	X
Jordan	X	X	X	X	X
Kazakhstan	X	X	X	X	X
Kenya	X	X	X	X	X
Kiribati					
North Korea					
South Korea	X	X	X	X	X
Kosovo					
Kuwait	X	X	X	X	X
Kyrgyz Republic		X			X
Laos					
Latvia	X	X	X	X	X
Lebanon	X	X	X	X	X
Lesotho					
Liberia					
Libya					
Liechtenstein					
Lithuania	X	X	X	X	X
Luxembourg	X	X	X	X	X
Macao					
Madagascar					
Malawi					
Malaysia	X	X	X	X	X

Main sample	Model 1	Model 2	Model 3	Model 4	Model 5
Maldives					
Mali					
Malta	X	X	X	X	X
Marshall Islands					
Mauritania					
Mauritius	X	X	X	X	X
Mexico	X	X	X	X	X
Micronesia, Fed. Sts.					
Moldova					
Monaco					
Mongolia					
Montenegro	X	X	X	X	X
Morocco	X	X	X	X	X
Mozambique					
Myanmar					
Namibia	X	X	X	X	X
Nauru					
Nepal					
Netherlands	X	X	X	X	X
New Caledonia					
New Zealand	X	X	X	X	X
Nicaragua					
Niger					
Nigeria	X	X	X	X	X
North Macedonia					
Northern Mariana Islands					
Norway	X	X	X	X	X
Oman	X	X	X	X	X
Pakistan	X	X	X	X	X
Palau					
Panama	X	X	X	X	X
Papua New Guinea					
Paraguay					
Peru	X	X	X	X	X
Philippines	X	X	X	X	X
Poland	X	X	X	X	X
Portugal	X	X	X	X	X
Puerto Rico					
Qatar	X	X	X	X	X
Romania					
Rwanda					
Samoa					

Main sample	Model 1	Model 2	Model 3	Model 4	Model 5
Russia	X	X	X	X	X
San Marino					
Sao Tome and Principe					
Saudi Arabia	X	X	X	X	X
Senegal					
Serbia					
Seychelles					
Sierra Leone					
Singapore	X	X	X	X	X
Sint Maarten (Dutch part)					
Slovak Republic	X	X	X	X	X
Slovenia	X	X	X	X	X
Solomon Islands					
Somalia					
South Africa	X	X	X	X	X
South Sudan					
Spain	X	X	X	X	X
Sri Lanka	X	X	X	X	X
St. Kitts and Nevis					
St. Lucia					
St. Martin (French part)					
St. Vincent and the Grenadines					
Sudan					
Suriname					
Sweden	X	X	X	X	X
Switzerland	X	X	X	X	X
Syrian Arab Republic					
Tajikistan					
Tanzania					
Thailand	X	X	X	X	X
Timor-Leste					
Togo					
Tonga					
Trinidad and Tobago					
Tunisia	X	X	X	X	X
Turkey	X	X	X	X	X
Turkmenistan					
Turks and Caicos Islands					
Tuvalu					
Uganda					
Ukraine	X	X	X	X	X
United Arab Emirates	X	X	X	X	X

Main sample	Model 1	Model 2	Model 3	Model 4	Model 5
United Kingdom	X	X	X	X	X
United States	X	X	X	X	X
Uruguay	X				
Uzbekistan					
Vanuatu					
Venezuela, RB	X	X	X	X	X
Vietnam	X	X	X	X	X
Virgin Islands (US)					
West Bank and Gaza					
Yemen, Rep.					
Zambia					
Zimbabwe					

Table: E.1

.

F Variable Definitions

This table presents the long variable definition for all relevant variables included in our paper and in which sub-database we found the data. This will make it easier for future research to utilize the same data and variables as we used. See next page for the definitions.

Variable name	Long definition	Source
GDP (current US$)	GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars and all entries are in annual terms. Dollar amounts for GDP are converted from domestic currencies using single year official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.	World Bank's WDI
GDP growth (annual %)	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregated numbers are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	World Bank's WDI
Population, total	Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. The values shown are midyear estimates.	World Bank's WDI
Government effectiveness	Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank's WGI
Political stability and absence of violence/terrorism	Political stability and absence of violence/terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank's WGI
Regulatory quality	Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank's WGI

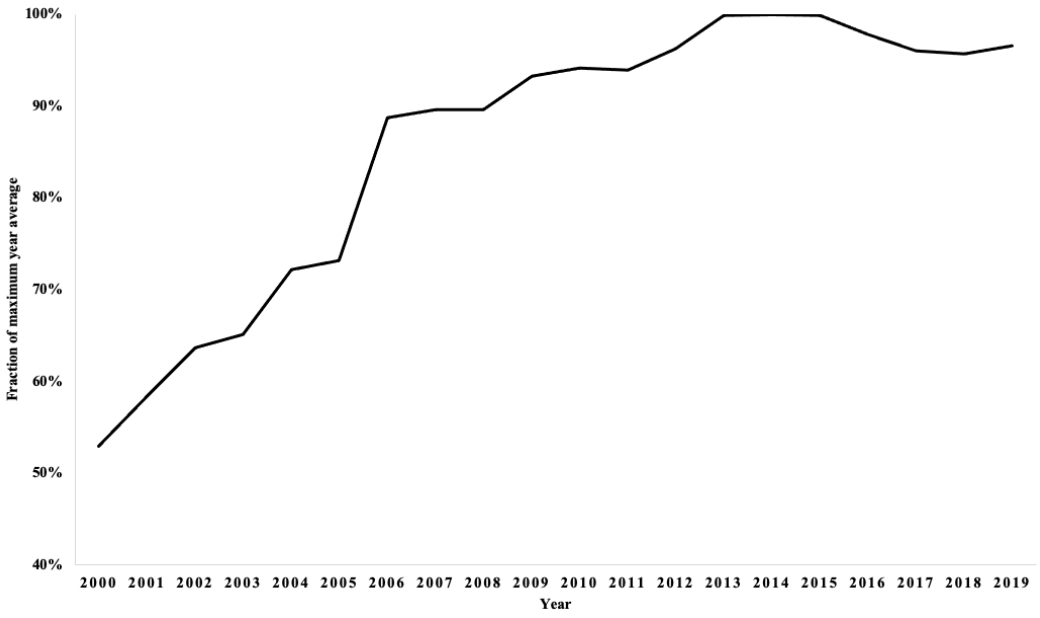
Rule of law	Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank's WGI
Voice and accountability	Voice and Accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank's WGI
Foreign direct investment, net Inflows (% of GDP)	Foreign Direct Investment are the net Inflowss of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net Inflowss (new investment Inflowss less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.	World Bank's WDI
Foreign direct investment, net Outflows (% of GDP)	Foreign Direct Investment refers to direct investment equity flows in an economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy. Ownership of 10 percent or more of the ordinary shares of voting stock is the criterion for determining the existence of a direct investment relationship. This series shows net Outflowss of investment from the reporting economy to the rest of the world, and is divided by GDP.	World Bank's WDI
Tax revenue (% of GDP)	Tax Revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue.	World Bank's WDI
Stock market return	Average annual return in a country’s main equity index over the last calendar year.	World Bank's WFD
Anti-self-dealing index	This index is a measure of legal protection of minority shareholders against expropriation by corporate insiders. Djankov, La Porta, Lopezde Silanes, and Shleifer (2008).	World Bank's WDI Rafael La Porta’s website
Market capitalization of listed domestic companies (current US$)	Market Capitalization (also known as market value) is the share price times the number of shares outstanding (including their several classes) for listed domestic companies. Investment funds, unit trusts, and companies whose only business goal is to hold shares of other listed companies are excluded. Data are end of year values.	World Bank's WDI

Control of corruption	Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	World Bank's WFD
Stock market capitalization/GDP	Aggregate stock market capitalization divided by GDP	World Bank's WFD
Stock market turnover ratio	Total annualized value of traded domestic shares divided by total market capitalization	World Bank's WFD

G Government Effectiveness Sources

Figure G: Government effectiveness sources as a percentage of maximum year average

This figure shows the annual government effectiveness sources used to construct the index as a percentage of the maximum year average amount of sources. The maximum year average of sources is calculated by first collecting data on each country's sources and then take the average of all country sources for each year. Afterwards, we use a simple maximum value formula to obtain the year with highest average amount of sources, 2015. The average value for both 2014 and 2016 are very close (over 99 %). Lastly, we divide the average sources for each year with the maximum average sources. This figure can help us show how the degree of source changes over time, which as been a source of worry for critics of the government effectiveness index. We see that although early years exhibit lower amount of sources, it newer falls below 50 % of the maximum average amount. This reduce the uncertainty related to the appropriateness of the index. The total sample consists of observations over a 19 year period from 2000-2019. Data is from the World Bank's database, WGI.



References

Black, Bernard S, og Ronald J Gilson (1998). Venture Capital and the Structure of Capital Markets: Banks versus Stock. *Journal of Financial Economics,* 47(3), 243–77. https://doi.org/10.1016/S0304-405X(97)00045-7

Bonaime, A., Gulen, H., & Ion, M. (2018). Does policy uncertainty affect mergers and acquisitions? *Journal of Financial Economics*, 129(3), 531–558. https://doi.org/10.1016/j.jfineco.2018.05.007

Brau, J. C., & Fawcett, S. E. (2006). Initial Public Offerings: An Analysis of Theory and Practice. *The Journal of Finance*, 61(1), 399–436. https://doi.org/10.1111/j.1540-6261.2006.00840.x

Caglio, C., Hanley, K. W., & Marietta-Westberg, J. (2016). Going public abroad. *Journal of Corporate Finance*, 41, 103–122. https://doi.org/10.1016/j.jcorpfin.2016.07.004

Celikyurt, U., Sevilir, M., & Shivdasani, A. (2010). Going public to acquire? The acquisition motive in IPOs. *Journal of Financial Economics*, 96(3), 345–363. https://doi.org/10.1016/j.jfineco.2010.03.003

Ciccotello, C. S. (2014). The State of the Public Corporation: Not So Much an Eclipse as an Evolution. *Journal of Applied Corporate Finance*, 26(4), 8–21. https://doi.org/10.1111/jacf.12088

Cornaggia, J., & Li, J. Y. (2019). The value of access to finance: Evidence from M&As. *Journal of Financial Economics*, 131(1), 232–250. https://doi.org/10.1016/j.jfineco.2018.09.003

Dambra, M., Field, L. C., & Gustafson, M. T. (2015). The JOBS Act and IPO volume: Evidence that disclosure costs affect the IPO decision. *Journal of Financial Economics*, 116(1), 121–143. https://doi.org/10.1016/j.jfineco.2014.11.012

Dessaint, O., Golubov, A., & Volpin, P. (2017). Employment protection and takeovers. *Journal of Financial Economics*, 125(2), 369–388. https://doi.org/10.1016/j.jfineco.2017.05.005

Doidge, C. (2018). Eclipse of the Public Corporation or Eclipse of the Public Markets? *Journal of Applied Corporate Finance*, 30(1), 8-16. https://onlinelibrary.wiley.com/doi/abs/10.1111/jacf.12272

Doidge, C., Karolyi, G. A., & Stulz, R. M. (2013). The U.S. left behind? Financial globalization and the rise of IPOs outside the U.S. *Journal of Financial Economics*, 110(3), 546–573. https://doi.org/10.1016/j.jfineco.2013.08.008

Doidge, C., Karolyi, G. A., & Stulz, R. M. (2017). The U.S. listing gap. *Journal of Financial Economics*, 123(3), 464–487. https://doi.org/10.1016/j.jfineco.2016.12.002

Eckbo, B. E., & Lithell, M. (2021). Merger-Driven Listing Dynamics [Working Paper] Tuck School of Business at Dartmouth. https://doi.org/10.2139/ssrn.3547581

The Economic Times (2010).Emerging markets see an IPO glut. https://economictimes.indiatimes.com/markets/ipos/fpos/emerging-markets-see-an-ipo-glut/articleshow/6084232.cms

Engel, E., Hayes, R. M., & Wang, X. (2007). The Sarbanes–Oxley Act and firms' going-private decisions. *Journal of Accounting and Economics*, 44(1), 116–145. https://doi.org/10.1016/j.jacceco.2006.07.002

Erns & Young (2009). Global IPO Trends report 2009. https://capitalaberto.com.br/wp-content/uploads/2012/06/Global_IPO_trends_report_2009.pdf

Erns & Young (2011). Global IPO Trends. https://mb.cision.com/Public/MigratedWpy/85934/9095255/85d6eddeeeb3ca0a.pdf

Erns & Young (2013). Global IPO Trends.https://www.shinnihon.or.jp/about-us/news-releases/2013/pdf/2013-12-12-EY-Global-IPO-Trends-E.pdf.

Erns & Young (2018). Global IPO Trends Q4 2018.https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/growth/ey-global-IPO-trends-Q4-2018.pdf

Ewens, M., & Farre-Mensa, J. (2020). The Deregulation of the Private Equity Markets and the Decline in IPOs. The Review of Financial Studies, 33(12), 5463–5509. https://doi.org/10.1093/rfs/hhaa053

International Monetary Fund (2001). How Beneficial Is Foreign Direct Investment for Developing Countries?. https://www.imf.org/external/pubs/ft/fandd/2001/06/loungani.htm.

Gao, X., Ritter, J. R., & Zhu, Z. (2013). Where Have All the IPOs Gone? *Journal of Financial and Quantitative Analysis*, 48(6), 1663–1692. https://doi.org/10.1017/S0022109014000015

Garcia-Sanchez, I. M., Cuadrado-Ballesteros, B., & Frias-Aceituno, J. (2013). Determinants of Government Effectiveness. *International Journal of Public Administration*, 36(8), 567–577. https://doi.org/10.1080/01900692.2013.772630

Gani, A. (2007). Governance and foreign direct investment links: Evidence from panel data estimations. Applied Economics Letters, 14(10), 753–756. https://doi.org/10.1080/13504850600592598

Grullon, G., Larkin, Y., & Michaely, R. (2018). Are U.S. Industries Becoming More Concentrated? (SSRN Scholarly Paper ID 2612047). Social Science Research Network. https://doi.org/10.2139/ssrn.2612047

Grullon, G., Larkin, Y., & Michaely, R. (2019). Are US Industries Becoming More Concentrated? *Review of Finance*, 23(4), 697–743. https://doi.org/10.1093/rof/rfz007

Gisselquist, R. M., & Resnick, D. (2014). Aiding Government Effectiveness in Developing Countries. Public Administration and Development, 34(3), 141–148. https://doi.org/10.1002/pad.1694

Harford, J. (2005). What drives merger waves? *Journal of Financial Economics*, 77(3), 529–560. https://doi.org/10.1016/j.jfineco.2004.05.004

Harford, J., Schonlau, R., & Stanfield, J. (2019). Trade Relationships, Indirect Economic Links, and Mergers. Management Science, 65(7), 3085–3110. https://doi.org/10.1287/mnsc.2017.2938

Henderson, B. J., Jegadeesh, N., & Weisbach, M. S. (2006). World markets for raising new capital. *Journal of Financial Economics*, 82(1), 63–101. https://doi.org/10.1016/j.jfineco.2005.08.004

Hur, J., Parinduri, R. A., & Riyanto, Y. E. (2011). Cross-Border M&a Inflows and Quality of Country Governance: Developing Versus Developed Countries. Pacific Economic Review, 16(5), 638–655. https://doi.org/10.1111/j.1468-0106.2011.00568.x

Iuliia, K. (2017). Privatization Through IPO as a Tool of Attracting FDI: The Case of Ukraine. Journal of Political Science and International Relations, 1(1), 12. https://doi.org/10.11648/j.jpsir.20180101.12

Iliev, P. (2010). The Effect of SOX Section 404: Costs, Earnings Quality, and Stock Prices. The Journal of Finance, 65(3), 1163–1196. https://www.jstor.org/stable/25656324?seq=1#metadata_info_tab_contents

Jens Kengelbach, Georg Keienburg, Jeff Gell, Jesper Nielsen, Maximilian Bader, Dominik Degen, and Sönke Sievers(2019). Downturns Are a Better Time for Deal Hunting.(2019 Mergers & Acquisitions (M&A) Report) BCG. https://www.bcg.com/publications/2019/mergers-and-acquisitions-report-shows-downturns-are-a-better-time-for-deal-hunting.

Jiao, H., Koo, C. K., & Cui, Y. (2015). Legal environment, government effectiveness and firms' innovation in China: Examining the moderating influence of government ownership. Technological Forecasting and Social Change, 96, 15–24. https://doi.org/10.1016/j.techfore.2015.01.008

Kahle, K. M., & Stulz, R. M. (2017). Is the US Public Corporation in Trouble? *Journal of Economic Perspectives*, 31(3), 67–88. https://doi.org/10.1257/jep.31.3.67

Kristin Ficery, Arthur Bert, Andy Tinlin & Mirko Dier (2020). Mergers & Acquisitions Brochure Title in a Downturn. Accenture. https://www.criticaleye.com/inspiring/insights-servfile.cfm?id=840

Lattanzio, G., Megginson, W. L., & Sanati, A. (2019). Listing gaps, merger waves, and the privatization of American equity finance. Working Paper. (SSRN Scholarly Paper ID 3329555). Social Science Research Network. https://doi.org/10.2139/ssrn.3329555

Lowry, M. (2003). Why does IPO volume fluctuate so much? *Journal of Financial Economics*, 67(1), 3–40. https://doi.org/10.1016/S0304-405X(02)00230-1

Loughran, T., & Ritter, J. R. (1995). The New Issues Puzzle. *The Journal of Finance*, 50(1), 23–51. https://doi.org/10.1111/j.1540-6261.1995.tb05166.x

Mulherin, J. H., Netter, J. M., & Poulsen, A. B. (2017). Chapter 5 - The Evidence on Mergers and Acquisitions: A Historical and Modern Report. The Handbook of the Economics of Corporate Governance (Vol. 1, pp. 235–290). North-Holland. https://doi.org/10.1016/bs.hecg.2017.11.006

Nizam, I., & Hassan, Z. (2018). The impact of good governance of foreign direct investment inflows: a study on the south Asia region. https://doi.org/10.24924/ijabm/2018.04/v6.iss1.66.79

The New York Times (2011, Feb.13).Wall Street's Dead End. https://www.nytimes.com/2011/02/14/opinion/14Salmon.html.

Rachel Blum (2011). IPO Timing Determinants. Dr. thesis, Duke university. https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/3556/BlumThesis.pdf?sequence=1.

Rosett, J. G., & Smith, R. L. (2014). Are Public Equity Markets Declining in Importance? Journal of Applied Finance, Vol. 24, No. 1, pgs. 6-13. https://papers.ssrn.com/abstract=2473548

Rosenberg, Nathan(2006). «Innovation and Economic Growth». Innovation and Growth in Tourism, 43–52. https://doi.org/10.1787/9789264025028-4-en.

Ritter, J. R. (2003). Chapter 5—Investment Banking and Securities Issuance. In G. M. Constantinides, M. Harris, & R. M. Stulz (Eds.), Handbook of the Economics of Finance (Vol. 1, pp. 255–306). Elsevier. https://doi.org/10.1016/S1574-0102(03)01009-4

Ritter, J. R. (2012a). Re-Energizing the IPO Market. SSRN Electronic Journal, 35(1), 74–110. https://doi.org/10.2139/ssrn.2172332

Sabir, S., Rafique, A., & Abbas, K. (2019). Institutions and FDI: Evidence from developed and developing countries. *Financial Innovation*, 5(1), 8. https://doi.org/10.1186/s40854-019-0123-7

Şaşmaz, M. Ü., & Sağdiç, E. N. (2020). The effect of government effectiveness and rule of law on economic growth: the case of European union transition economies. Dokuz Eylül Üniversitesi İşletme Fakültesi Dergisi, 21(1), 203–217. https://doi.org/10.24889/ifede.729490

Stulz, R. M. (2005). The Limits of Financial Globalization. *The Journal of Finance*, 60(4), 1595–1638. https://doi.org/10.1111/j.1540-6261.2005.00775.x

Stulz, R. M. (2009). Securities Laws, Disclosure, and National Capital Markets in the Age of Financial Globalization. *Journal of Accounting Research*, 47(2), 349–390.

Stulz, R. M. (2020). Public versus Private Equity. In Working Paper Series (No. 2019–27; Working Paper Series). Ohio State University, Charles A. Dice Center for Research in Financial Economics. https://ideas.repec.org/p/ecl/ohidic/2019-27.html

Vasić, A. (2020). The Importance of Initial Public Offering for Capital Market Development in Developing Countries. *Economic Themes*, 58, 97–115. https://doi.org/10.2478/ethemes-2020-0006

David Weild & Edward Kim (2010). Market structure is causing the IPO crisis. *Capital Market Series*. https://www.sec.gov/comments/265-26/265-26-19.pdf

Williams, A., & Siddique, A. (2008). The use (and abuse) of governance indicators in economics: A review. *Economics of Governance*, 9(2), 131–175. https://doi.org/10.1007/s10101-006-0025-9

Yao, Y. (2014). Comparison of mergers and acquisitions among developed and developing countries and explanatory factors for the differences. [Masters thesis, Erasmus University Rotterdam]. ://www.semanticscholar.org/paper/Comparison-of-mergers-and-acquisitions-among-and-Yao/18826940249bb89735990056897d54ec0b9afb26

Zhang, I. X. (2007). Economic consequences of the Sarbanes–Oxley Act of 2002. *Journal of Accounting and Economics*, 44(1), 74–115. https://doi.org/10.1016/j.jacceco.2007.02.002