

DOCTORAL THESIS

Two essays on determining corporations' long term commitment: political versus economic freedom

Zheng, Meng

Date of Award:
2020

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HONG KONG BAPTIST UNIVERSITY

Doctor of Philosophy

THESIS ACCEPTANCE

DATE: June 3, 2020

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**Two Essays on Determining Corporations' Long-term
Commitment: Political versus Economic Freedom**

ZHENG Meng

**A thesis submitted in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy**

Principal Supervisor:

Prof. TANG Gordon Y. N. (Hong Kong Baptist University)

June 2020

DECLARATION

I hereby declare that this thesis represents my own work which has been done after registration for the degree of PhD at Hong Kong Baptist University, and has not been previously included in a thesis or dissertation submitted to this or any other institution for a degree, diploma or other qualifications.

I have read the University's current research ethics guidelines and accept responsibility for the conduct of the procedures in accordance with the University's Research Ethics Committee (REC). I have attempted to identify all the risks related to this research that may arise in conducting this research, obtained the relevant ethical approval, and acknowledged my obligations and the rights of the participants.

Signature: _____

A handwritten signature in black ink, appearing to read 'Mang', written over a horizontal line.

Date: June 2020

Abstract

Freedom is universally valued and fundamentally affects social life. In this thesis, I examine how freedom affects an important dimension of business: long-term commitment (LTC). The LTC of corporations is vital for economic growth because economic development is reliant on entrepreneurs continuously investing in physical and social capital. Corporate opportunism will never lead to long-term economic growth. Specifically, this study examines the effects of political freedom (PF) and economic freedom (EF) on two LTC-related variables: investment and the commitment to maintaining a loyal shareholder base, both of which are essential topics in the business literature.

This study consists of two essays. The first essay investigates the effects of a country's political versus economic freedom on corporate investment based on a sample of 19,605 companies operating in 49 countries for the timespan covering 1995 to 2015. First-differencing (FD) regressions show that PF and EF are positively associated with corporate investment, but PF's effect is larger. I also find that the effect of EF is conditional on the development of PF but not vice versa. Further, the effect of PF does not seem to be due to concurrent changes in uncontrolled factors: major changes in PF have larger effects than minor changes, and I do not observe a reversion in the effect of PF. Lastly, I find that an improvement in PF is associated with a larger growth in investment among firms with state ownership or political connections, suggesting a larger distorting effect of low PF on these firms' investment decisions. Overall, the findings shed new light on the economic reforms designed by policymakers: economic reforms, no matter how easy they seem, may not work well without political reforms.

The second essay examines the impacts of a country's political compared with economic freedom on corporations' commitment to maintaining a loyal shareholder base. With a sample of 45 countries spanning 12 years, the FD result shows that PF and EF are positively associated with corporations' commitment to shareholder loyalty (CSL). More importantly, PF has a greater effect than EF. It is also determined that the impact of EF is dependent on the advancement of PF, but the reverse is not true. Furthermore, the impact of PF is not caused by concurrent changes in uncontrolled factors: major changes in PF are more impactful than minor changes, while a reversion in the impact of PF is not observed. Finally, I find that an enhancement to PF is correlated with a more significant increase in CSL among firms with state ownership or political connections than in firms without. This implies that low PF has a greater distorting effect on the CSL of such firms. In general, these results indicate that while it is comparatively easier for policymakers to enact economic reforms, their effectiveness may be reduced in the absence of concurrent political reforms.

ACKNOWLEDGEMENTS

I am most grateful to my principal supervisor, Prof. Gordon Y.N. Tang, for his invaluable guidance. His continuous support and immense knowledge helped me to solve many problems throughout the thesis and I wish to express my thanks for his kindness and patience.

I would like to express my sincere gratitude to Dr. Liang Shao and Dr. Jason Yi, for their insightful comments and guidance throughout different stages of this thesis. During the five years' PhD studies, Dr. Liang Shao helped me to develop my thesis and overcome many hardships. It would have been impossible for me to complete this thesis without his encouragements and supports. There are no words to express the full measure of my gratitude. I'm also very thankful to Dr. Jason Yi for his direction and advice on my research methodology.

I wish to thank all the external and internal examiners of my dissertation: Professor John Wei, Professor Bohui Zhang, Dr. Weiqiang Tan, Dr. Fang Zhang, and Professor Aristotelis Stouraitis, for their constructive comments and encouragements. I also thank all the staff members and PhD students at the Department of Finance and Decision Sciences of Hong Kong Baptist University for their assistances.

I am extremely grateful to my parents and parents-in-law for their love and sacrifices for preparing me for my future. It would have been impossible for me to commit myself into my thesis without their help in taking care of my son and the whole family. I am especially thankful to my husband, Zhang Xinghua, for his great support and patience throughout my doctoral journey. He has always supported me to do what I want to do. My thanks also go to my son Zhang Hantian. His lovely

smile and big hugs inspire me to work in a good mood. Finally, I would like to express my thanks to my colleagues at the Open University of Hong Kong for their supports and encouragements.

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Essay One: Can Economic Freedom Succeed Without Political Freedom?

1 Introduction

*Life is dear,
love is dearer.
Both can be given up
for freedom.
(Petöfi Sándor)*

There has been ongoing debate among social reformists as to the best path for a developing country in order to become developed. One option is for a poor country to initially grant more liberty to economic sectors so that enterprises can employ their comparative advantages and utilize mature technologies and business models that have proved successful in developed countries. This late-comer advantage, advocated by the "China model," can temporarily boost economic growth without the need for difficult political reforms (He et al., 2004). Opponents of this "economic reform first" roadmap believe that delaying political reform will make it prohibitively difficult and costlier in the future, eventually becoming a bottleneck in economic growth (Cai et al., 2012).

I provide insights into this debate by examining the relative importance of political freedom (PF) versus economic freedom (EF) in determining corporate investment. Studies on this issue are very limited though many other research papers have contributed to the literature of corporate investment and other factors. For example, the evidence from studies by Kusnadi et al. (2017), Polk and Sapienza (2009), Chen et al. (2007), Baker et al. (2003), Hau and Lai (2013), and Campello

and Graham (2013) suggests that stock market plays an important role in affecting corporate investment decisions. Moreover, it has been demonstrated by much international literature that capital resources are allocated more efficiently in countries with the following: more transparent information environments (Francis et al., 2009), stronger protection of investors (McLean et al., 2012; Wurgler, 2000), and more developed financial markets (Fisman and Love, 2004; Wurgler, 2000). Furthermore, Chen, Huang, Kusnadi, and Wei (2017) indicates that real investment is enhanced by the initial enforcement of insider trading laws at country level, through improving the information effectiveness of share prices, This enables managers to reach decisions by supplying them with more information, and reduces market frictions caused by agency issues and information asymmetry. Corporate investment is strongly associated with economic growth and should be an important channel through which political and economic freedom affect economic growth. More importantly, through their effects on corporate investment, I assess which of the two forms of freedom, political versus economic, is more important to economic growth and whether the effect of one is conditional on the development of the other.

Corporations operate under different levels of PF and EF. For instance, according to a report released by Freedom House in 2018, 50 countries (26%) were not politically free, 59 (30%) were partly free, and 86 (44%) were free.¹ In addition, PF in a country frequently changes, and more countries experienced a decline in their PF scores in the past 12 years than an increase. This is exemplified by data showing that in 2018, 71 nations experienced a deterioration in PF, while improvements were only observed in 35. As for EF, the Heritage Foundation reported that, in 2018, 96 countries (53%) had at least a moderate degree of EF

¹ See www.freedomhouse.org.

while 84 countries (47%) had minimal EF.² Furthermore, there were global increases in the average EF index score from 1995 to 2018. For instance, in 2018, more than 100 countries achieved levels of EF higher than they achieved in 2017.

Reduced PF is linked to lower property rights protections and freedom of speech as well as increased governmental corruption and expropriation, which leads to unfavourable investment conditions. Unsurprisingly, past studies have revealed that reduced PF is connected with increased costs for external funding (Qi, Roth, and Wald, 2010; Ben-Nasr et al., 2012) in addition to more risk aversion within corporations (Boubakri, Mansi, and Saffar, 2013; Caprio, Faccio, and McConnell, 2011). EF assesses the degree to which the appropriate resources can be acquired when making new investments and starting new enterprises and is linked with competition in the market (De Haan and Sturm, 2001; Giavazzi and Tabellini, 2005), implying that EF should encourage corporate investment. Because PF and EF are related to different determinants of corporate investment, the question as to which is more important is an empirical one. I conjecture that PF is more important than EF on the basis that the effectiveness of EF is subject to the development of PF. For instance, under low PF, where there is greater government expropriation and opaqueness, the EF granted by government may end up going to firms that have observable or unobservable ties with political powers, thus reducing the effectiveness of EF.

Using a panel sample of 166,686 firm-year observations from 19,605 firms in 49 countries between 1995 and 2015, I find that the levels of PF and EF are both positively correlated with corporate investment (level regression). Their economic significance is also similar. However, there are two major concerns with the level

² See www.heritage.org.

regression. First, EF and PF are highly correlated in this sample (the correlation is above 0.6) and it is hard to disentangle the effects of the two freedoms. Second, the effects of PF and EF may result from their correlations with uncontrolled country-level and firm-level factors that determine corporate investment.

I therefore exploit the time-varying values of PF and EF and employ first-differencing (FD) analysis to address the first concern and, partially, the second. First, although the levels of PF and EF are highly correlated, changes in these levels are not. Specifically, changes in PF (EF) in year t are not significantly correlated with those in EF (PF) between $t-1$ and $t+1$. Therefore, the concern regarding the high correlation between PF and EF is not a major one in the FD specification. Second, the FD approach can effectively ease the concern regarding the existence of time-invariant factors that are correlated with PF, EF, and corporate investment but are absent in the level regression.

The FD analysis generates some intriguing results. First, in the full sample, EF loses its statistical significance while PF has a significant effect on corporate investment. Second, when I limit the sample to countries that have experienced at least one major change in EF or PF, the coefficient of EF regains significance but has a lower economic significance than that of PF. Third, the effect of PF is higher than any other country-level controls. Thus, PF seems to be more critical than EF and other country-level institutions in determining corporate investment.

Next, I examine whether the effects of PF and EF rely on mutual development. International organizations such as the World Bank and International Monetary Fund usually require aid-receiving countries to initially have more EF in order to qualify. However, if the functionality of EF depends on the development of PF, both policymakers and international organizations need to place a balanced

emphasis on economic and political reforms. In the FD approach, the effect of EF is conditional on the development of PF but not vice versa. This evidence further demonstrates that PF is more important than EF in determining corporate investment. Thus, economic reforms alone, no matter how easy they seem, may not work well without the support of political reforms.

I then conduct several robustness tests to check the validity of the effect of freedoms on investment. Although the FD approach can effectively ease the endogeneity concern related to unobservable time-invariant factors correlated with freedoms and investment, its results are still subject to other endogeneity concerns. This is because PF and EF may evolve in line with certain concurrent changes in uncontrolled factors that also determine investment. I therefore employ two tests to ease this concern. First, I categorize the changes in PF and EF into major improvement, major deterioration, minor improvement, and minor deterioration. If corporate investment alters in response to changes in PF and EF, major changes in PF and EF should have larger effects on investment than minor changes. If unobservable factors exist that cause changes in both investment and freedoms, then the magnitude of changes in investment may not correlate with that in freedoms. It is important to note that the previous FD analysis may still show a significant relationship between freedoms and investment even if major changes and minor changes in PF have the same effects on investment. I find the effects of major changes in PF on investment to be stronger than those of minor changes, but I do not see this result for EF. The results from this test confirm that PF is more important than EF in determining investment. Second, if there are unobservable factors that change freedoms and investment at the same time, the effects of freedoms on investment may reverse over time if the effects of these unobservable

factors are not permanent. To address this concern, I examine the effects of changes in freedoms on investment in future years. Reversion of the effects of freedoms in the near future would suggest there are other factors contributing to the results of the FD analysis. However, I find that the effects of PF and EF do not reverse in future years.

Finally, I test whether the effects of changes in PF and EF on investment differ among firms with and without state ownership or political connections. Firstly, the effects of PF and EF on firms with state ownership or political connections may be smaller than those without. This is due to various operating inefficiencies associated with both state ownership and political connections. Conversely, the effects can be larger if the investment decisions taken by these firms are distorted by low PF or EF to a greater extent than those taken by purely private firms prior to any change in freedoms. I find that an improvement in PF is associated with a larger increase in investment among firms with state ownership or political connections than firms without. This suggests that PF is an alternative to privatization with regard to improving the performance of state-owned enterprises (SOEs). Again, state ownership or political connections do not moderate the effect of EF on investment.

This study first contributes to the literature on the impacts of political and economic institutions on economic growth. Previous literature only discusses the effects of different aspects of PF and EF on economic growth on a country level; it fails to examine the channels through which PF and EF may work (for example, Barro, 1996; Przeworski and Limongi, 1993; Roll and Talbott, 2003; Persson, 2003; Giavazzi and Tabellini, 2005; Gwartney, Lawson, and Holcombe, 1999; De Haan and Sturm, 2000 and 2001; Dawson, 1998; Wacziarg and Welch, 2008). In this study, I investigate the effects of the two freedoms on corporate investment, which

should be an essential channel through which PF and EF affect economic growth. Second, the effect of EF is conditional on the development of PF, which has considerable policy implications for social reformists: although economic reforms are relatively easier to implement, they may not be successful without synchronous political reforms. Finally, this study contributes to the extant literature on state ownership and political connections. The results suggest that the low efficiency problem for firms with state ownership or political connections is more severe under low PF and that improving PF can ease the problem as an alternative to privatization.

The remainder of this study is structured as follows. Section 2 introduces the hypotheses and literature review. Section 3 presents the variables and summary statistics. Section 4 reports the empirical results, Section 5 concludes this part of my thesis, and Section 6 presents limitations and future study.

2 Hypothesis Development and Literature Review

2.1 PF and corporate investment

According to Freedom House, the PF index includes the political rights of countries such as political participation and civil liberties (e.g., freedom of speech, rule of law, as well as organizational and personal rights). It measures the extent to which a country's property rights are protected, the level of state expropriation and corruption, and the degree of transparency of a country's information environment. PF affects corporate investment because it is related to the cost of capital for a corporation and its risk-taking perspective. First, low PF is associated with low protection of property rights, which increases the investment risk for firms and dampens their motivation to invest. Second, low PF is related to a high level of government expropriation and corruption. Recent literature shows that in countries

with low PF, governments are likely to affect firm operations through corruption and outright expropriation of the firm's assets. This results in an unfriendly investment environment and discourages corporate risk-taking (Boubakri, Mansi, and Saffar, 2013; Caprio, Faccio, and McConnell, 2011). Furthermore, high risks of government expropriation lead to low information transparency and high levels of insider control in corporations (Stulz, 2005). In conditions of reduced PF, there is motivation for corporate insiders to maintain concentrated stakes to ensure that corporate assets are not expropriated by the state, thus making them more risk averse. Third, there is a correlation between reduced PF and increased costs of external financing. According to Qi, Roth, and Wald (2010), reduced PF elevates the cost of debt incurred by firms due to restrictions on freedom of the media. The latter impedes the ability to acquire information, thus presenting challenges for capital budgeting. Hence, increasing the freedom of the media can facilitate the process of acquiring information for creditors and subsequently reduce debt costs. Additionally, Ben-Nasr, Boubakri, and Cosset (2012) demonstrate that enterprises within countries where the risk of government expropriation is elevated have increased costs of equity.

Hypothesis 1: PF is positively associated with corporate investment.

2.2 EF and corporate investment

According to the Heritage Foundation, the EF index comprises 12 components that can be grouped into four categories: rule of law (property rights, integrity of the government, effective functioning of the justice system); government size (government expenditure, tax burden, fiscal status); regulatory efficiency (business, labor, and monetary freedoms); and open markets (trade, investment, and financial freedoms). The first two aforementioned categories cover the accountability of

governments and PF already accounts for them to a certain degree. Thus, in this study, only the six components in the last two categories are included in the index because they are directly related to EF.

EF should motivate corporate investment because it measures the ease of acquiring the resources necessary for new investment and entering into new businesses and is associated with market competitiveness (De Haan and Sturm, 2001; Giavazzi and Tabellini, 2005). First, when the freedom of labor is increased in a country, businesses will have greater access to competent personnel. This creates more space for market competition and encourages firms to undertake new investment projects. Second, when a country offers increased freedom of business, enterprises have less exposure to entry requirements and can easily start new firms. Firms in those countries will have an edge in terms of market competitiveness and are able to exploit good investment opportunities. Third, firms in countries with greater financial freedom are more likely to acquire affordable external financing from the financial market. Koo and Shin (2004) demonstrate that financial and investment liberalization improves financially constrained Korean firms' access to external finance, leading to an increase in investment opportunities. Fourth, when the freedom of trade is increased in a country, enterprises can amalgamate the relative benefits from other countries and increase the exposure to more investment opportunities.

Hypothesis 2: EF is positively associated with corporate investment.

In sum, PF is relevant to the willingness to take risks while EF measures how hard it is to enter into new businesses and the extent to which the market is competitive. Because PF and EF are related to different determinants of corporate investment, assessing which is more important is an empirical question. However,

it is reasonable to conjecture that PF is more important than EF on the basis that the effectiveness of EF is subject to the development of PF. Under low PF, where there is a high level of government expropriation and a low level of information transparency, economic freedoms granted by the government may end up going to firms that have observable or unobservable ties with political powers, reducing the effectiveness of EF. For example, Tang, Lu, and Yu (2011) show that under low PF, private firms in China that have a bank relationship or political affiliation can gain more support in the form of bank loans than their counterparts. Moreover, against the backdrop of a trade war with the United States, the Chinese government has developed a policy to provide sufficient financial loans and cheap financing to all types of companies to boost the economy. However, small and medium-sized companies, which make up the majority of Chinese companies, have faced difficulties competing with SOEs for bank loans³.

3 Variables and Summary Statistics

This section describes the variables and data. All the firm-level data are taken from Compustat North America and Compustat Global. All firm-level variables are winsorized at the 1% level to avoid the influence of outliers.

3.1 Dependent Variables – corporate investment

To measure corporate investment, I employ *Investment* as a firm's total long-term investment ratio (the sum of R&D/Assets and Capital Exp/Assets) in year t , where R&D/Assets is 100 times the total research and development expenditure of a firm scaled by total assets in year t , and Capital Exp/Assets is 100 times the total capital expenditure of a firm scaled by total assets in year t .

³ <https://www.cnbc.com/2018/11/21/china-debt-small-firms-have-difficulty-getting-loans-amid-trade-war.html>

3.2 Independent Variables – PF and EF

The main independent variables are measures of PF and EF. I follow Guedhami, Kwok, and Shao (2017) in using the index of *PF* provided by Freedom House. Freedom House reports the status of political rights and civil liberties and annually assigns two ratings to each country on a scale of 1 to 7, one for political rights and another for civil liberties. A rating of 1 indicates the highest degree of freedom and 7 the lowest. As there is a strong correlation between political rights and civil liberties in the sample (0.9), identification of the component that has greater importance can be challenging, therefore I take the average ratings of a country's political rights and civil liberties to represent the PF rating. PF is constructed by subtracting the original rating from 7 in order for higher values to denote improved PF. In the sample, the original rating of PF index ranges from 1 (highest) to 6.5 (lowest), thus the revised PF index ranges from 0.5 (lowest) to 6 (highest). I categorize the sample countries into three groups based on their PF scores: free countries ($1 \leq PF < 2$), partly free ($2 \leq PF < 4$), and not free ($PF \geq 4$). In the sample, the revised PF index determines a country's status as free ($5 < PF \leq 6$), partly free ($3 < PF \leq 5$), and not free ($PF \leq 3$)⁴. A major change in PF status is reflected in either a significant improvement or deterioration in the distinct categories. In other words, a major improvement in PF indicates that a country's status is improved from Not Free to Partly Free or from Partly Free to Free, whereas a major deterioration in PF implies that a country's status decreases from Partly Free to Not Free or from Free

⁴ Freedom House also categorizes countries into three groups based on their PF scores: free countries ($1 \leq PF \leq 2.5$), partly free ($2.5 < PF \leq 5$), and not free ($PF > 5$). Thus, the revised PF index determines a country's status as free ($4.5 \leq PF \leq 6$), partly free ($2 \leq PF < 4.5$), and not free ($PF < 2$). I adopt my own category scale because the range of the revised PF index and the numbers of firm-year observations are more evenly distributed in the sample under my scale than in the Freedom House scale. I replicated all the tests using the Freedom House category scale and found that the results are generally consistent with the existing ones.

to Partly Free. A minor change is defined as a change that lacks the intensity to be considered a major change. In an unreported test, I find that the level regression result is robust to alternatively measuring PF using a dummy variable with a value of 1 if a country has freedom and 0 if it has partial or no freedom. The distribution of incidences of major improvement and deterioration in PF across years is presented in Appendix C.

The *EF* index comes from the Heritage Foundation's measure of a country's EF status. The Heritage Foundation provides an annual index of EF that ranges from 0 to 100 based on the scores of 12 components grouped into four categories: rule of law (property rights, integrity of the government, effective functioning of the justice system); government size (government expenditure, tax burden, fiscal status); regulatory efficiency (business, labor, and monetary freedoms); and open markets (commerce, investment, and financial freedoms). To differentiate the effects of PF and EF, EF is constructed by taking the average of six factors' scores from the latter two categories as they have a direct relation to EF. Contrastingly, the former two categories cover the quality of government and are already incorporated into PF to a certain degree. The Heritage Foundation divides countries into five groups based on their EF scores: repressed countries ($EF \leq 50$), mostly unfree ($50 < EF \leq 60$), moderately free ($60 < EF \leq 70$), mostly free ($70 < EF \leq 80$), and free ($EF > 80$). In this study, the EF index has already been divided by 10 in order to match the scale of the PF index, and I combine the categories of "repressed" and "mostly unfree" to "unfree" ($EF \leq 60$) and "free" and "mostly free" to "free" ($EF > 70$) to match the three categories of the PF index. A major change in EF status reflects a significant improvement or deterioration across different categories. Specifically, a major improvement in EF indicates that a country's freedom status is improved from

Unfree to Moderately Free or from Moderately Free to Free, whereas a major deterioration in EF implies that a country's freedom status declines from Free to Moderately Free or from Moderately Free to Unfree. A minor change is defined as a change that lacks the intensity to be considered a major change. In an unreported test, it is determined that the level regression outcome is robust to the alternate measurement of EF utilising a dummy variable with a value of 1 if a country has freedom and 0 if it has moderate or no freedom. Appendix C shows how the incidence of major improvement and deterioration is distributed across the years.

In order to guarantee that no confounding factors drive the connection between EF and PF, I include numerous country-level and firm-level control variables. I control for the power of legal concerns at country level in accordance with past literature regarding international investment policy (e.g., Kwok, Shao, and Zhang, 2013; Guedhami, Kwok, and Shao, 2017). This is particularly the case with regard to creditor protection utilizing *Creditor Rights* (Djankov, McLiesh, & Shleifer, 2007) and shareholder protection using *Shareholder Rights* (Djankov et al., 2008). Additionally, I control for the development of financial market (*development of Credit Market and Stock Market*), economic development (*logarithm of US\$ GDP per capita* and *GDP growth*), international trade development (*Openness*), and government size (*Government Spending*). The stock market measures the market capitalization of listed domestic companies as a percentage of GDP, while the credit market reflects domestic credit to private sectors as a percentage of GDP. Openness measures a country's international trade volume as a percentage of GDP while government spending measures the total expenditure of central government as a percentage of GDP. All the variables are extracted from the country development indicators of the World Bank. Firms in countries with high GDP growth and a more

developed financial market are exposed to greater investment opportunities in a friendly investment environment and thus are expected to invest more.

At the firm level, I control for financial constraint and growth opportunities using eight variables: logarithm of total sales in USD millions (*Size*), total debt to total assets ratio (*Debt Ratio*), intangible assets to total assets ratio (*Asset Intangibility*), cash dividends to total assets (*Dividend Ratio*), retained earnings to common equity ratio (*Maturity*), cash and short-term investment to total assets ratio (*Cash Ratio*), net income before extraordinary items plus depreciation minus change in net working capital to total assets ratio (*Cash Flow Ratio*), and market value of equity plus book value total liabilities scaled by total assets (*Tobin's Q*). The higher the Tobin's Q, the better the firms' growth opportunities and the greater the investment they are expected to make. Firms with greater leverage and intangible assets tend to be more financially constrained and thus are expected to invest less. However, since the size of the company acts as a proxy for a deficiency of investment opportunities, as well as for lower financial constraints, the impact on corporate investment is an empirical matter. Definitions of the variables and data sources are presented in Appendix A.

3.3 Sample and Summary Statistics

I exclude firms from the financial services (SIC codes between 6000 and 6999) and utility industries (SIC codes between 4900 and 4999) from the sample because their investment behaviors are influenced by different regulatory environments. After further removing firms with abnormal values⁵ or with missing information, I obtain a sample of 166,686 firm-year observations from 49 countries between 1995 and 2015. Table 1 presents summary statistics on investment by country, which

⁵ Companies whose liabilities exceed their assets, and those with negative total assets are excluded.

shows considerable cross-country variation; for instance, investment varies between 3.210 (Venezuela) and 11.535 (Canada).

[INSERT TABLE 1 HERE]

Panel A of Table 2 shows descriptive statistics for the main variables utilized in the regression analysis. These include the mean, median, standard deviation, minimum, and maximum value for investment, PF, EF, and firm-level and country-level control variables. The mean, median and standard deviation of investment, the dependent variable, are 6.656, 4.603, and 6.725, respectively. The sample consists of countries whose PF and EF ratings range from high to low. In fact, the PF rating ranges between 0.500 and 6.000 where the mean value is 4.766 and the standard deviation is 1.760; on the other hand, the EF rating ranges between 4.712 and 8.875, where the mean is 7.135 and standard deviation is 1.141. These statistics indicate that PF and EF are heterogeneous for the countries included in the sample, and therefore affirms that cross-country analysis is suitable for this research. With regard to the attributes of the individual firms, the sample incorporates firms of various sizes that have both high and low leverage. Specifically, firm size ranges from 1.356 to 15.402 with a mean (median) of 7.688 (7.540) and standard deviation of 3.129, while firm debt ratio varies between 0.029 and 0.921, where the mean (median) is 0.478 (0.491) and the standard deviation is 0.215. In terms of country-level characteristics, the sample countries exhibit high economic development with a mean (median) Log (GDP) per capita of 9.898 (10.627).

Panel B of Table 2 presents Pearson correlation coefficients between firm-level and country-level variables. I find that PF and EF, both of which are positively and significantly associated with corporate investment, conform to the hypothesis. Moreover, both the firm-level and country-level control variables are generally

compatible with the previous expectations as shown by the results of the correlation analysis. For instance, firm leverage is negatively associated with firm investment, whereas firm growth opportunities are positively associated with it. In terms of country-level controls, the financial market – as measured by stock and credit markets – and economic development are positively associate with investment.

[INSERT TABLE 2 HERE]

To investigate the relationships among the variables and the degree of PF, Table 3 shows the variable means for both the entire sample as well as the three sub-samples including countries with no freedom, partial freedom, and freedom according to the definition of Freedom House. The sample includes a total of 108,144 firm-year observations that are classed as countries with freedom, while 24,502 and 34,040 firm-year observations are classified as countries with partial freedom and no freedom, respectively. Additionally, the average investment ratio in countries with no freedom is 5.459, whereas in countries with partial freedom and freedom, the averages are 6.213 and 7.133, respectively, indicating that enterprises in countries with high PF generally invest more.

[INSERT TABLE 3 HERE]

To examine the correlations among the variables and the degree of EF, Table 4 shows the means of the variables for both the entire sample as well as the three sub-samples including countries with no economic freedom, moderate freedom, and freedom. The sample includes a total of 103,299 firm-year observations that are classed as countries with freedom, while 29,148 and 34,239 firm-year observations are classified as countries with moderate freedom and no freedom, respectively.

Table 4 further shows that EF is positively associated with PF as well as a more developed credit market, stock market, and higher economic development (Log

(GDP) per capita), indicating that firms from economically free countries invest more.

[INSERT TABLE 4 HERE]

4 Empirical results

4.1 Main results

4.1.1 Level regression results

This section presents the effects of PF and EF on different corporate investment policies. Specifically, I test Hypotheses 1 and 2 using the following model:

$$\begin{aligned} \text{Dependent Variable}_{i,t} = & \beta_0 + \beta_1(\text{Independent Variable})_{i,t-1} + \\ & \beta_2(\text{firm level controls})_{i,t-1} + \beta_3(\text{country level controls})_{i,t-1} + \beta_4(\text{industry})_j + \\ & \beta_5(\text{year})_t + \varepsilon_{i,t} \end{aligned} \quad (1)$$

In the regression, the dependent variable (Dependent Variable_{*i,t*}) is the investment (the sum of R&D ratio and capital expenditure ratio) of firm *i* in year *t* in Table 5. The error term $\varepsilon_{i,t}$ is assumed to cluster within countries and one-year lagged firm characteristics (leverage, firm size, maturity, cash, intangible assets, dividend policy, Tobin's Q, and cash flow) are all controlled. I lag the right-hand-side variables by one year for two reasons. First, some endogeneity problems such as reverse causality and simultaneity may appear to be concerns if those variables are measured at current year. Investment may cause a contemporaneous change in those variables. Second, most of the actual investment decisions made by managers may depend on the investment opportunities in the previous year but not the current year.

The results are reported in Table 5. The coefficient of PF supports Hypothesis 1: one-year lagged *PF* has a significant and positive coefficient of 0.582 (p-value <0.001). The economic significance of this coefficient is also evident: an increase of 1 standard deviation in the PF index score (equal to 1.760, see Table 2) corresponds to an increase of 1.024 (1.760 times 0.582) in investment when holding all other variables constant. Table 5 also demonstrates that one-year lagged *EF* has a significant and positive coefficient of 0.641 (p-value <0.001) on corporate investment, which supports Hypothesis 2: EF is positively associated with corporate investment.

The coefficients on firm-level controls are generally consistent with the previous expectations: firms with low leverage, low dividend payout ratio, and higher growth opportunities tend to invest more. I also report significant results for some country-level controls. Developed economies, which are likely to be developed countries and are measured by *Log (GDP) per capita*, are less likely to make a long-term investment. By contrast, fast-growing economies, which are more likely to be developing countries and are measured by *GDP Growth*, exhibit higher corporate investment. *Stock Market* has a positive relationship with corporate investment. There are no consistently significant effects for the remaining country-level controls. In summary, the results in Table 5 show that PF and EF are both positively associated with corporate investment, and that economic significance between PF and EF is also similar.

[INSERT TABLE 5 HERE]

4.1.2 First-differencing results: importance between PF and EF

There are two major concerns with the level regression results. First, the correlation between PF and EF is strong as their within-sample correlation is 0.61.

Thus, it is hard to distinguish the effects of the two freedoms. Second, the effects of PF and EF may come from correlations with unobserved firm-level and country-level factors that determine corporate investment. Thus, I adopt first-differencing (FD) analysis to address the first concern and, partially, the second.

First, although the levels of PF and EF are highly correlated, changes in these levels are not. Appendix B reports the p-values of Pearson's correlations among changes of PF and EF in the sample countries that have experienced at least one major change in EF or PF. The result shows that changes in PF (EF) in year t are not significantly correlated with those in EF (PF) between $t-1$ and $t+1$ because all the p-values are larger than 0.1. Therefore, the concern regarding the high correlation between PF and EF is not a major one in the FD specification. Second, the FD approach can ease concerns regarding the existence of unobservable time-invariant factors that are correlated with PF, EF, and corporate investment. When taking the first difference for both sides of the level regression, I assume that the regression coefficients are constant⁶. The idea comes from the q-theory of optimal investment (Tobin, 1969), which is measured at the level. In an efficient market, stock prices, which are assessed by Tobin's Q , reflect the market information concerning a firm's marginal rate of return on capital or its investment opportunities (Kusnadi et al., 2017). This will assist investors to differentiate between good and bad investments. Although the q-theory assumes the stock market to be rational at all times, capital costs may vary over time and among different companies because of the change in investor risk aversion (Kusnadi et al., 2017). The q-theory,

⁶ I add several interaction terms to the level regression to test whether the regression coefficients are constant. The interaction terms are $\Delta PF_{t-1} \times \text{firm-level variables}$, $\Delta EF_{t-1} \times \text{firm-level variables}$, $\Delta PF_{t-1} \times \text{country-level variables}$, and $\Delta EF_{t-1} \times \text{country-level variables}$. I find that the coefficients of these interaction terms are insignificant except for the coefficients of interactions $\Delta PF_{t-1} \times Q_{t-1}$ and $\Delta EF_{t-1} \times \text{Maturity}_{t-1}$. This finding proves that most of the regression coefficients are constant.

according to such presuppositions, implies a high sensitivity of investments to investment opportunities when low capital adjustment costs exist, thereby suggesting a more effective capital allocation (Chen et al., 2017; Tobin, 1969; Wurgler, 2000; Bushman et al., 2011). Furthermore, Kusnadi and Wei (2017) find a high sensitivity of investments to share prices for companies in nations with smaller market frictions (i.e. more developed capital markets) than for companies in nations having larger market frictions (i.e. less developed capital markets). According to Wurgler (2000), market frictions caused by adverse selection, moral hazard, and information acquisition costs are interpreted as capital adjustment costs in general. Thus, under the assumption of constant regression coefficient, FD approach can be employed to run regression based on equation (2):

$$\Delta \text{Dependent Variable}_{i,t} = \beta_0 + \beta_1 * \Delta (\text{Independent Variable})_{i,t-1} + \beta_2 * \Delta (\text{firm level controls})_{i,t-1} + \beta_3 * \Delta (\text{country level controls})_{i,t-1} + \beta_4 * (\text{year})_t + \varepsilon_{i,t} \quad (2)$$

First, in the full sample, Table 6 Model 1 shows that ΔPF_{t-1} has a significant and positive coefficient of 0.181 (p-value<0.1), where the continuous variable $\Delta Investment_t$ is the dependent variable. This measures the change in investment ratios between the two years. In order to capture simultaneous changes in a nation's financial and investment environment, I control for one-year lagged changes in country-level factors. This also involves the capture of year-specific shocks which influence every sample nation by controlling for year dummies. Regarding EF, the result shows that ΔEF_{t-1} has no significant effect on $\Delta Investment_t$. In sum, EF loses its statistical significance, while PF has a significant effect on investment.

Second, in Model 2, I repeat Model 1 only for sample countries that have experienced at least one major improvement or deterioration in PF or EF in order

to ensure the validity of this FD estimator. Assuming there are uncontrolled differences between countries with and without major changes in the status of PF or EF, such as institutional environment, this test provides a longitudinal comparison between years with and without changes for the subset of countries with a major change. The effect of change in PF status on investment persists. The coefficient of change in EF also becomes significant, but its effect is much weaker than that of PF. Moreover, among all the country-level factors considered, the effect of PF is higher than any other country-level controls. Thus, PF seems to be more important than EF and other country-level institutions in determining corporate investment.

[INSERT TABLE 6 HERE]

4.1.3 First-differencing results: interactions between PF and EF

In this subsection, I construct subsamples using the FD approach to test mutual reliance between the two freedoms in determining corporate investment. I limit the sample to countries that have experienced at least one major change in EF or PF. To test whether the effect of EF relies on PF, I divide the full sample into two subsamples and compare the effects of changes in EF on investment in countries with low PF to those in countries with high PF. Model 1 and Model 2 in Table 7 report the coefficients of changes in EF in countries with a high degree of PF ($PF = 6$) and in countries with a low degree of PF ($PF < 6$), respectively. This shows that the effect of change in EF is significantly positive and stronger in the subsample of countries with high PF. The seemingly unrelated estimation test (SUEST), which compares regression coefficients across two groups, also shows that the difference between coefficients of changes in EF in Model 1 and 2 is statistically significant

(p-value = 0.0034). This indicates that the effect of EF relies on PF. To examine whether the effect of PF relies on EF when determining investment decisions, I construct subsample analyses to compare the effects of changes in PF on investment in countries with low EF status to those in countries with high EF status. Model 3 and Model 4 present the coefficients of changes in PF in countries with a high degree of EF ($EF > 6$) and low degree of EF ($EF \leq 6$), respectively. The SUEST shows that the difference between coefficients of changes in PF in Model 3 and 4 is statistically insignificant (p-value = 0.2842), indicating that the effect of PF does not rely on EF.

In sum, the effect of EF on investment is significant only when PF is high, while the effect of PF is similar irrespective of whether EF is high or low. This further shows that PF is more important than EF in determining corporate investment and suggests that economic reforms alone, no matter how easy they may seem, may not work without support from political reforms.

[INSERT TABLE 7 HERE]

4.2 Robustness tests

I conduct several robustness tests to check the validity of the effect of freedoms on investment. Although the FD approach can effectively ease the endogeneity concern that originates from the existence of unobservable time-invariant investment determinants, its results are still subject to other endogeneity concerns as there may be unobserved time-variant factors affecting investment when political and economic freedoms change. To ease this concern, I employ two tests. First, I categorize the changes in PF and EF into major improvement, major deterioration, minor improvement, and minor deterioration. I expect to find evidence that the magnitude of changes in investment is closely related to that of changes in freedom.

If PF and EF are the factors determining corporate investment, then major changes in freedom status should have more substantial effects than minor changes. The previous FD analysis may continue to show a significant relationship between freedoms and investment even if the effects of major changes and minor changes on investment are the same. Second, I examine the effects of freedoms on changes in future investments. If the significant effect of freedoms on investment is reversed, there may be other unobserved and temporary time-variant factors that determine investment.

4.2.1 Effect of major changes and minor changes in freedoms

In this section, I present an alternative version of the FD analysis and categorize the changes in PF and EF into major changes and minor changes. For the purpose of measuring major changes in the degree of PF, two dummy variables are employed. *PF Major Improvement* has a value of 1 when the degree of freedom within the country is enhanced from No Freedom to Partial Freedom or from Partial Freedom to Freedom in a particular year, whereas *PF Major Deterioration* has a value of 1 when the degree of freedom within the country is lowered from Partial Freedom to No Freedom or from Freedom to Partial Freedom. For the purpose of measuring major changes in the degree of EF two dummy variables are also used. *EF Major Improvement* has a value of 1 when the degree of freedom within the country is enhanced from No Freedom to Moderate Freedom or from Moderate Freedom to Freedom in a particular year, whereas *EF Major Deterioration* has a value of 1 when the degree of freedom within the country is lowered from Freedom to Moderate Freedom or from Moderate Freedom to No Freedom. A minor change is defined as a change that lacks the intensity to be categorized as a significant

change. For conciseness, this section only reports the level of significance and the coefficient for major and minor changes in PF and EF.

In Table 8, the sample is limited to countries that have experienced at least one major change in PF or EF. The following model is employed to test the impact of major and minor changes in political and economic freedoms on corporate investment:

$$\begin{aligned} \Delta \text{Dependent Variable}_{i,t} = & \beta_0 + \beta_1 * (\text{Major Improvement in Independent} \\ & \text{Variable})_{i,t-1} + \beta_2 * (\text{Major Deterioration in Independent Variable})_{i,t-1} + \beta_3 * (\text{Minor} \\ & \text{Improvement in Independent Variable})_{i,t-1} + \beta_4 * (\text{Minor Deterioration in} \\ & \text{Independent Variable})_{i,t-1} + \beta_5 * \Delta (\text{firm level controls in Table 5})_{i,t-1} + \\ & \beta_6 * \Delta (\text{country level controls in Table 5})_{i,t-1} + \beta_7 * (\text{year})_t + \varepsilon_{i,t} \end{aligned} \quad (3)$$

Model 1 of Table 8 reports the coefficients for one-year lagged *PF Major Improvement*, *PF Major Deterioration*, *EF Major Improvement*, and *EF Major Deterioration*. Only *PF Major Deterioration* has a significant effect: a major deterioration in PF is more effective in reducing investment than an improvement. There are two possible reasons *PF Major Improvement* has an insignificant effect. First, when PF has a major improvement, managers of companies in these countries may tend to wait and see whether the improvement will be reversed in the future. Second, when a country experiences a major change in PF, it would imply an increase in political uncertainty. Thus, firms may tend to reduce investment no matter whether there is a major improvement or deterioration in PF. Therefore, the positive impact on investment caused by the major improvement in PF will be cancelled out by the negative impact on investment caused by an increase in political uncertainty. On the other hand, when PF has a major deterioration, it will

definitely increase political risk and uncertainties faced by the managers. Thus, managers will reduce investment immediately in order to react to the bad news. Moreover, in Model 1, the effects of major improvement and deterioration in PF in determining investment are stronger than the effects of major changes in EF. The coefficients of major improvement and deterioration in EF on investment are all statistically insignificant.

Model 2 presents the coefficients for one-year lagged *PF Major Improvement*, *PF Major Deterioration*, *PF Minor Improvement*, and *PF Minor Deterioration*. This shows major changes in PF have larger effects on investment than minor changes. Model 3 presents the coefficients for one-year lagged *EF Major Improvement*, *EF Major Deterioration*, *EF Minor Improvement*, and *EF Minor Deterioration*. This shows there are no significant effects on investment of major and minor changes in EF.

Overall, the results from Table 8 show that PF is a more important factor in determining corporate investment than EF.

[INSERT TABLE 8 HERE]

4.2.2 Effect of freedoms on future investment

In Table 9, I examine the effects of PF and EF on future investment and assess whether there is a reversion in the effect of freedoms on investment. The sample is limited to countries that have experienced at least one major change in PF or EF. If unobservable factors exist that simultaneously change freedoms and investment, the effects of freedoms on investment may reverse over time if the effects of these unobservable factors are not permanent. For example, suppose there may be a temporary tax reduction policy implemented during the year of PF improvement. If it is this policy that boosts investment in that year, the effect of PF on future

investment may reverse when the policy is cancelled. The results show that, where the dependent variables are $\Delta\text{Investment}_{t+1}$ (Model 1) and $\Delta\text{Investment}_{t+2}$ (Model 2), the effects of changes in PF and EF are all insignificant. This suggests that the effects of PF and EF on investment do not reverse. It is therefore the effects of the two freedoms that change investment, not the effects of other temporary unobservable factors.

[INSERT TABLE 9 HERE]

4.3 Additional test

Under different levels of PF, the performance of SOEs and politically connected firms should be distinct as they are directly related to government influence. In this section, I test whether the impacts of changes in PF and EF on investment differ among firms with and without state ownership or political connections. Firstly, the effects of freedoms among firms with state ownership or political connections may be smaller than those without due to various operating inefficiencies associated with state ownership and political connection, such as easier access to credit and lower budget constraints (Faccio, Masulis, and McConnell, 2006). Conversely, the effects can be larger if the investment decisions made by these firms are distorted by low PF or EF to a larger extent than other firms prior to any change in freedoms. Under low PF, if the investment decisions of firms with state ownership or political connections are far from their optimal level, an improvement in PF will have a large effect on investment. This test has implications for the impact of any improvement in PF on the performance of SOEs and politically connected firms.

4.3.1 Subsample tests for firms with and without state ownership

The connection between state ownership and inefficiencies, as a result of asymmetrical information issues and severe agency problems, is demonstrated by

much research (e.g., Boubakri et al., 1998, 2016; Shleifer and Vishny, 1998; D'Souza and Megginson, 1999; Guedhami et al., 2009; Megginson et al., 1994; Chen et al., 2017). SOEs are ineffective in an agency theory context due to there being inadequate supervision of managers, an issue which no individual owner is motivated to take (Laffont and Tirole, 1993; Vickers and Yarrow, 1991). Moreover, SOE managers' main objective is to attain their political targets which may not coincide with value maximization or profit (Boycko et al., 1996; Shleifer and Vishny, 1997; Boubakri et al., 2005).

If low PF leads to greater (fewer) distortions in the investment decisions of firms with state ownership, a change in PF will have a larger (smaller) impact on them. For instance, low PF may result in a lower level of distortions in firms with state ownership because they have preferential access to credit and suffer less from financial constraints (Borisova et al., 2015; Borisova and Megginson, 2011; Faccio, Masulis, and McConnell, 2006; Kornai, Maskin, and Roland, 2003), especially if financing costs are a major concern for them. Thus, an improvement in PF should have a smaller impact. Conversely, firms with state ownership in countries with low PF may be subject to a greater number of distortions, which results in much lower efficiencies compared to firms without. There are three inter-related reasons for this. First, firms with state ownership usually enjoy a soft budget constraint (Borisova et al., 2015; Borisova and Megginson, 2011; Faccio, Masulis, and McConnell, 2006; Kornai, Maskin, and Roland, 2003). Thus, under low PF with high state expropriation, managers of such firms are more likely to be motivated to pursue political goals rather than the maximization of shareholder value (unlike managers of firms without state ownership). Second, low PF will lead to low transparency (Stulz, 2005). In countries with low PF, managers of firms with state ownership are

more likely to conceal the politically motivated diversion of corporate resources (e.g., Bushman et al., 2004; Chaney et al., 2011; Guedhami et al., 2009) than the managers of firms without, which implies more significant information asymmetry problems. Third, Boubakri, Cosset, and Saffar (2013) show that state ownership is negatively related to corporate risk-taking because the managerial diversion of corporate resources for private benefit prevents firms from undertaking risky projects (John, Litov and Yeung, 2008). Ben-Nasr, Boubakri, and Cosset (2012) document that state ownership leads to higher costs of equity and debt (Borisova and Megginson, 2011) due to severe information asymmetry and agency problems. Thus, under low PF, which is associated with a high risk of state expropriation and poor information transparency (Stulz, 2005), firms with state ownership are more reluctant to take risks and incur much higher external financing costs compared to firms without, resulting in lower firm valuation. Taken together, low PF is more likely to distort the investment behaviors of firms with state ownership, and thus an improvement in PF should have a larger impact on these firms.

Models 1 and 2 in Table 10 present the results of firms with and without state ownership in countries that have experienced at least one major change in PF or EF, respectively. The data on state ownership is taken from Chen et al. (2017). After merging this dataset with the original sample and limiting the sample to countries that have experienced at least one major change in EF or PF, I obtain a merged sample of 1,606 observations from 342 firms in 16 countries with positive state ownership. I further divide the merged sample into two subsamples and compare the effects of changes in PF and EF on investment among firms with positive state ownership (Model 1) to those among firms with zero state ownership (Model 2). The results show that improvement in PF is associated with a considerable increase

in investment among firms with state ownership, implying a larger distorting effect of low PF on the investment decisions made by these firms. However, the SUEST shows that the difference between coefficients of changes in PF in Model 1 and 2 is statistically insignificant ($p\text{-value} = 0.1436$). This result implies that the coefficient of change in PF is larger and significant in Model 1 than that in Model 2 though the difference is statistically insignificant. Unsurprisingly, there are no significant differences between the subsamples regarding the effect of change in EF on investment and the coefficients are insignificant in Model 1 and Model 2. The SUEST shows that the difference between the coefficients of changes in EF in Model 1 and 2 is statistically insignificant ($p\text{-value} = 0.3450$). These results highlight the importance of increasing PF and provide another reforming path for SOEs: not only can privatization improve the inefficiencies of SOEs (Megginson and Netter, 2001; Djankov and Murrell, 2002; Boubakri, Cosset, and Guedhami, 2008), improvements in PF can be an alternative to privatization in improving the financial and operating performance of SOEs.

4.3.2 Subsample tests for firms with and without political connections

Prior academic research shows that politically connected firms exhibit lower accounting performance due to severe agency and asymmetrical information problems (e.g., Faccio, 2010; Boubakri, Cosset, and Saffar, 2008). Firms with political connections suffer from agency problems because political affiliates extract political benefits at the expense of profit maximization for the benefit of other stakeholders in the firm (Qian et al., 2011). Additionally, politically connected firms are subject to more severe asymmetric information problems between investors and managers. They display lower quality reported earnings (Chaney et al., 2011) to conceal the expropriation activities of insiders and provide less

accurate earnings forecasts by analysts (Chen et al., 2010) than their non-connected counterparts.

If low PF is more likely to distort the investment decisions of firms with political connections, a change in PF will have a larger impact on these firms. However, low PF may lead to a lower level of distortions in politically connected firms because they enjoy a lower cost of borrowing (Boubakri et al., 2012) and are more likely to be bailed out by the government during times of financial distress (Faccio, 2006; Faccio, Masulis, & McConnell, 2006). Thus, an improvement in PF should have a smaller impact on these firms. Conversely, firms with political connections under low PF may be subject to more distortions, which leads to much lower profitability. There are two inter-related reasons for this. First, firms with political connectedness generally enjoy soft budget constraints (Faccio, 2006; Faccio, Masulis, & McConnell, 2006). Thus, under low PF with more state expropriation, political affiliates in those firms will be more motivated to extract political benefits at the expense of profit maximization compared with managers in politically non-connected firms. Second, under low PF with low information transparency (Stulz, 2005), politically connected firms are more likely to produce lower quality reported earnings (Chaney et al., 2011) and less accurate earnings forecasts by analysts (Chen et al., 2010) than their non-connected peers. Overall, low PF seems to distort the investment behaviors of firms with political connections more than firms without, and thus an improvement in PF should have a larger impact on these firms.

Models 3 and 4 in Table 10 present the results of firms with and without political connections in countries that have experienced at least one major change in PF or EF, respectively. The data on political connectedness is taken from Faccio (2006), where political connection is measured as a dummy variable equal to 1 for firms

that are politically connected and 0 otherwise. Faccio (2006) identifies a firm as politically connected “if at least one of its large shareholders (anyone controlling at least 10 percent of voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister, head of state or is closely related to a top politician or party.” After merging this dataset with the original sample and limiting the sample to countries that have experienced at least one major change in EF or PF, I identify 984 politically connected observations from 127 firms in 8 countries. The merged sample is divided into two subsamples to compare the effects of changes in PF and EF on investment among firms with political connections (Model 3) to those among firms with no political connections (Model 4). The results indicate that PF has a significant effect on investment in both subsamples, but its coefficient has higher economic significance in the subsample of firms with political connections. The SUEST shows that the difference between the coefficients of changes in PF in Model 3 and 4 is statistically significant (p-value = 0.0319). This suggests that improvement in PF is associated with a larger increase in investment among firms with political connections than firms without. It also implies low PF distorts the investment decisions of politically connected firms to a larger extent. Regarding EF, although the effects of change in EF on investment are significant between the subsamples, the SUEST shows that the difference between the coefficients of changes in EF in Model 3 and 4 is statistically insignificant (p-value = 0.2194), which implies that there are no significant differences between the subsamples. Overall, these results imply that improvement in PF may effectively ease the distortions and enhance the accounting performance of politically connected firms.

[INSERT TABLE 10 HERE]

5 Conclusion

In this essay, I investigate the effects of PF and EF on corporate investment policies. I find that the effects of a country's PF and EF are significant in explaining cross-country investment. Both PF and EF are positively correlated with corporate investment. I also show that the effect of a country's PF is stronger than the effect of EF in explaining investment. Moreover, among the country-level factors considered in the regression, PF has the most significant effect on corporate investment. I also examine the mutual reliance of both freedoms in boosting investment and show that the effect of EF is conditional on the development of PF but not vice versa. This suggests that while it is relatively easy for a government to make economic reforms in an effort to stimulate the economy, it may not achieve success without synchronous political reforms.

The results are robust. First, major changes in PF status have larger effects on investment than minor changes. However, I cannot find this result for EF. This shows that the magnitude of changes in investment is closely related to that of changes in freedom and confirms that PF is more important than EF in determining investment. Second, there are no reversions in the effect of PF and EF.

In additional tests, I find that improvement in PF is associated with a larger increase in investment among firms with state ownership or political connections than firms without. This suggests that PF is an alternative to privatization in improving the performance of SOEs.

Overall, this essay demonstrates that PF is more critical than EF in determining corporate investment decisions and that the interaction between two freedoms sheds light on how to design a developing country's path to reform: both policy makers and international organizations need to place a balanced emphasis on economic and

political reforms. Economic reforms, no matter how easy they may seem, may not work without political reforms.

6 Limitations and Future Study

Political and economic freedom are broad terms. The changes in political and economic freedom could be driven by many different factors, such as war, and those factors may affect investment through the direct channel of PF and EF. Although the FD approach and the robustness tests in the study can ease the endogeneity concern that stems from the existence of time-variant and time-invariant factors affecting investment when freedoms change, it is impossible to perfectly address this concern because of the complexity of those factors. To mitigate the concern of endogeneity, future research could exploit some common shocks such as 2007-2008 financial crisis that alter political and economic freedom across all sample countries as quasi-experiments to study the impacts of PF and EF. Another research area can be extended in the future. In the thesis, my tests focus on examining the effects of freedoms on investment among firms with and without state ownership or political connections. Future research may seek to understand more on the cross-sectional variation across firms. For example, if firms have a transparent information environment, market frictions arising from information acquisition costs, moral hazard, and adverse selection will be less severe in these firms. Thus, these firms are easier to access to resources from the financial market and should be subject to less effect of change in political and/or economic freedom. Firm size, the level of excess cash, and government (foreign) ownership can be the appropriate proxies for firm transparency.

APPENDIX A: Definition of Variables

Variable	Definition	Source
<i>Main independent variables</i>		
PF	The average score of the civil liberties and political rights indexes determines political freedom.	Freedom House
PF Major Improvement	If a nation's political freedom status shows improvement across the three classifications: free, partly free, and not free, PF Major Improvement is 1, otherwise it is 0.	Freedom House
PF Major Deterioration	If a nation's political freedom status shows deterioration across the three classifications: free, partly free, and not free, PF Major Deterioration is 1, otherwise it is 0.	Freedom House
EF	The average score of the indexes of labor freedom, trade freedom, business freedom, financial freedom, investment freedom, and monetary freedom determines economic freedom.	Heritage Foundation
EF Major Improvement	If a nation's economic freedom status shows improvement across the three classifications: free, moderately free, and unfree, EF Major Improvement is 1, otherwise it is 0.	Heritage Foundation
EF Major Deterioration	If a nation's economic freedom status shows deterioration across the three classifications: free, moderately free, and unfree, EF Major Deterioration is 1, otherwise it is 0.	Heritage Foundation
<i>Dependent variables</i>		
Investment	The sum of R&D Ratio and Capital Expense Ratio.	Compustat
Capital Expense Ratio	100 times capital expenditure scaled by total assets.	Compustat
R&D Ratio	100 times R&D expenditure divided by book value total assets.	Compustat
Δ R&D ratio	Change of the ratio of R&D expenses to total assets between two years.	Compustat
Δ Capital Expense ratio	Change of the ratio of capital expenditure to total assets between two years.	Compustat
Δ Investment	Change of the ratio of R&D expenses plus capital expenditure to total assets between two years.	Compustat
<i>Controls</i>		
Debt Ratio	Total liabilities scaled by total assets.	Compustat
Size	Logarithm of total assets.	Compustat
Maturity	The ratio of retained earnings to common equity.	Compustat
Cash Ratio	100 times Cash and short-term investment scaled by total assets.	Compustat

Asset Intangibility	Intangible assets scaled by total assets.	Compustat
Dividend Ratio	Cash dividends scaled by total assets.	Compustat
Tobin's Q	Market value of equity plus book value total liabilities scaled by total assets.	Compustat
Cash Flow Ratio	Net income before extraordinary items plus depreciation minus change in net working capital, scaled by total assets.	Compustat
Excess Cash Ratio	Residuals from regressing Cash Ratio by industry (defined by the first two digits of SIC codes) on intercept, Debt Ratio, Size, Maturity, Intangible Assets Ratio, Dividend Ratio, Tobin's Q, Cash Flow Ratio, and year dummies	Compustat
Shareholder Rights	Revised anti-director rights index.	Djankov et al. (2008)
Creditor Rights	Creditor protection index.	Djankov et al. (2007)
Credit Market	Domestic credit to private sectors as a percentage of GDP.	World Bank Country Development Indicators
GDP Growth	A country's GDP growth rate.	As above
Log(GDP) per capita	Logarithm of US\$ GDP per capita.	As above
Government Consumption	The total expenditure of central government to GDP ratio.	As above
Stock Market	Stock market capitalization to GDP ratio.	As above
Openness	A country's international trade volume to GDP ratio	As above
State Ownership	Percentage of shares held by the government	Firms' annual reports and offering prospectuses
Political Connection	Dummy variable equal to 1 for politically connected firms, and 0 otherwise	Faccio (2006)

APPENDIX B: P-values of sample correlations among 10 changes in PF and EF in countries with a major change.

	ΔPF_t	ΔEF_t
ΔPF_{t-1}	0.8023	
ΔPF_{t+1}	0.8023	
ΔEF_t	0.2820	
ΔEF_{t-1}	0.1583	
ΔEF_{t+1}	0.1671	
ΔEF_{t-1}		0.4220
ΔEF_{t+1}		0.4220
ΔPF_t		0.2820
ΔPF_{t-1}		0.1671
ΔPF_{t+1}		0.1583

This table presents correlations among PF and EF within 3 years using p-values in the sample.

APPENDIX C: Distribution of occurrence of major changes in PF and EF across years

Countries with major improvements in PF

Year	Country	Change from	Change to
1995	Japan	Partly Free	Free
	Thailand	Not Free	Partly Free
	South Africa	Partly Free	Free
1996	Mexico	Not Free	Partly Free
1999	Israel	Partly Free	Free
2000	Argentina	Partly Free	Free
	Indonesia	Not Free	Partly Free
	Peru	Not Free	Partly Free
2002	Chile	Partly Free	Free
	Greece	Partly Free	Free
	Turkey	Not Free	Partly Free
2004	South Korea	Partly Free	Free
2005	Israel	Partly Free	Free

Countries with major deteriorations in PF

Year	Country	Change from	Change to
2000	Israel	Free	Partly Free
2001	Argentina	Free	Partly Free
2006	Thailand	Partly Free	Not Free
	South Africa	Free	Partly Free
2008	Bulgaria	Free	Partly Free
2011	Greece	Free	Partly Free
2013	South Korea	Free	Partly Free
2014	Hungary	Free	Partly Free

Countries with major improvements in EF

Year	Country	Change from	Change to
1995	Argentina	Moderately Free	Free
1996	Chile	Moderately Free	Free
1997	Norway	Moderately Free	Free
	South Korea	Moderately Free	Free
1998	Peru	Moderately Free	Free
2000	Mexico	Unfree	Moderately Free
	Thailand	Moderately Free	Free
2001	Philippines	Unfree	Moderately Free
2002	South Africa	Moderately Free	Free
2003	France	Moderately Free	Free
	Mexico	Moderately Free	Free
2004	Malaysia	Unfree	Moderately Free
2005	Israel	Moderately Free	Free
	Japan	Moderately Free	Free
	Pakistan	Unfree	Moderately Free
2006	Malaysia	Unfree	Moderately Free
2007	France	Moderately Free	Free

	Turkey	Unfree	Moderately Free
2008	Brazil	Unfree	Moderately Free
	Norway	Moderately Free	Free
2009	Mexico	Moderately Free	Free
	Peru	Moderately Free	Free
	South Korea	Moderately Free	Free
2010	Colombia	Moderately Free	Free
2011	Brazil	Unfree	Moderately Free
2012	Mexico	Moderately Free	Free
	Poland	Moderately Free	Free
2013	Malaysia	Moderately Free	Free
	Philippines	Unfree	Moderately Free
2014	Portugal	Moderately Free	Free

Countries with major deteriorations in EF

Year	Country	Change from	Change to
1995	Malaysia	Free	Moderately Free
1998	South Korea	Free	Moderately Free
	Philippines	Moderately Free	Unfree
1999	Indonesia	Moderately Free	Unfree
2000	Malaysia	Moderately Free	Unfree
	Norway	Free	Moderately Free
	Turkey	Moderately Free	Unfree
2001	Japan	Free	Moderately Free
	Peru	Free	Moderately Free
2002	Argentina	Free	Unfree
	Poland	Free	Moderately Free
	Thailand	Free	Moderately Free
2003	Israel	Free	Moderately Free
	South Africa	Free	Moderately Free
2004	France	Free	Moderately Free
	Mexico	Free	Moderately Free
	Philippines	Moderately Free	Unfree
	Portugal	Free	Moderately Free
2005	Malaysia	Moderately Free	Unfree
2006	Brazil	Moderately Free	Unfree
	Pakistan	Moderately Free	Unfree
2009	Brazil	Moderately Free	Unfree
2011	Mexico	Free	Moderately Free
2013	Brazil	Moderately Free	Unfree

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Table 1 Summary of corporate investment by country

Country	N	Investment
Argentina	378	6.267
Australia	8,152	9.780
Austria	461	8.534
Belgium	693	7.917
Brazil	1,132	5.391
Bulgaria	55	4.182
Canada	3,179	11.535
Chile	663	7.917
China	16,272	6.136
Colombia	117	4.159
Czech	20	4.433
Denmark	139	9.207
Finland	191	9.154
France	4,360	6.185
Germany	4,291	7.032
Greece	1,400	4.069
Hungary	79	8.633
India	10,232	7.042
Indonesia	2,428	6.177
Ireland	315	5.594
Israel	1,369	6.702
Italy	1,435	4.203
Jamaica	12	4.443
Japan	31,676	4.837
Malaysia	7,876	4.168
Mexico	959	5.118
Morocco	122	5.901
Netherlands	929	6.286
New Zealand	436	6.297
Norway	889	7.503
Pakistan	1,658	6.045
Panama	2	3.778
Peru	274	5.498
Philippines	1,128	4.868
Poland	2,085	5.369
Portugal	367	4.377
Russia	372	6.612
Singapore	4,363	4.781
Slovakia	19	8.006
South Africa	1,631	6.473
South Korea	7,976	6.019
Spain	774	4.985

Sweden	212	6.520
Switzerland	1,889	7.004
Thailand	4,382	5.599
Turkey	1,397	5.861
U.K.	4,241	7.081
U.S.	33,648	8.926
Venezuela	8	3.210
Sum/Mean	166,686	6.656

This table shows the number of country-means and firm years of investment ratio for each nation, with all the variables being defined in Appendix A.

Table 2 Descriptive Statistics and Pearson Correlation Matrix**Panel A. Summary Statistics**

<u>Variables</u>	<u>No. of Obs.</u>	<u>Mean</u>	<u>Median</u>	<u>Std</u>	<u>Min</u>	<u>Max</u>
Investment	166,686	6.656	4.603	6.725	0.022	59.256
PF	166,686	4.766	5.500	1.760	0.500	6.000
EF	166,686	7.135	7.400	1.141	4.712	8.875
Debt Ratio	166,686	0.478	0.491	0.215	0.029	0.921
Size	166,686	7.688	7.540	3.129	1.356	15.402
Maturity	166,686	-0.107	0.310	1.985	-13.982	1.423
Cash Ratio	166,686	15.803	10.822	15.900	0.076	79.296
Asset Intangibility	166,686	0.078	0.012	0.140	0.000	0.666
Dividend Ratio	166,686	0.010	0.000	0.019	0.000	0.113
Tobin's Q	166,686	1.424	1.127	0.891	0.386	5.183
Cash Flow Ratio	166,686	0.043	0.055	0.146	-0.683	0.391
Shareholder Rights	166,686	3.664	4.000	1.189	1.000	5.000
Creditor Rights	166,686	2.118	2.231	0.939	0.000	4.000
Credit Market	166,686	129.212	133.804	48.736	9.683	221.288
GDP Growth	166,686	3.407	2.780	3.527	-13.127	15.240
Log (GDP) per capita	166,686	9.898	10.627	1.202	6.704	11.425
Government Consumption	166,686	15.871	15.748	3.518	5.347	26.847
Stock Market	166,686	90.708	85.930	48.479	4.656	303.569
Openness	166,686	63.549	46.565	64.950	16.104	441.604

Panel B. Pearson Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Investment	(1) 1.00																	
PF	(2) 0.10	1.00																
EF	(3) 0.11	0.70	1.00															
Debt Ratio	(4) -0.15	0.04	-0.10	1.00														
Size	(5) -0.14	-0.07	-0.30	0.28	1.00													
Maturity	(6) -0.15	-0.08	-0.15	-0.03	0.31	1.00												
Cash Ratio	(7) 0.18	0.01	0.12	-0.42	-0.17	-0.19	1.00											
Asset Intangibility	(8) -0.06	0.23	0.26	0.05	-0.15	-0.06	-0.12	1.00										
Dividend Ratio	(9) 0.00	0.05	0.09	-0.11	-0.01	0.15	0.04	0.04	1.00									
Tobin's Q	(10) 0.25	-0.06	0.04	-0.13	-0.19	-0.13	0.27	0.09	0.19	1.00								
Cash Flow Ratio	(11) -0.04	-0.07	-0.11	0.07	0.17	0.36	-0.24	0.02	0.24	-0.03	1.00							
Shareholder Rights	(12) -0.06	0.40	0.20	0.03	0.20	0.06	-0.07	-0.10	0.11	-0.25	-0.01	1.00						
Creditor Rights	(13) -0.11	-0.13	-0.06	-0.01	0.25	0.07	-0.01	-0.22	0.07	-0.16	0.00	0.50	1.00					
Credit Market	(14) 0.05	0.30	0.53	-0.05	0.03	-0.07	0.16	0.10	-0.02	0.09	-0.07	-0.06	-0.05	1.00				
GDP Growth	(15) 0.02	-0.63	-0.54	-0.04	-0.02	0.03	-0.03	-0.14	-0.02	0.14	0.05	-0.28	0.04	-0.38	1.00			
Log (GDP) per capita	(16) 0.07	0.68	0.87	-0.04	-0.16	-0.10	0.14	0.21	0.03	0.01	-0.10	0.09	-0.05	0.65	-0.60	1.00		
Government Consumption	(17) 0.00	0.51	0.40	0.06	-0.07	-0.02	0.06	0.15	0.01	-0.04	-0.04	0.03	0.02	0.30	-0.54	0.62	1.00	
Stock Market	(18) 0.09	0.18	0.48	-0.13	-0.31	-0.07	0.07	0.12	0.10	0.12	-0.05	0.27	-0.01	0.32	0.02	0.32	-0.16	1.00
Openness	(19) -0.09	-0.34	0.04	-0.07	-0.16	0.03	-0.02	-0.07	0.06	-0.10	0.03	0.24	0.28	-0.27	0.19	-0.09	-0.32	0.41

This table shows the descriptive statistics for the important variables applied in the analysis. In the sample, 166,686 firm-year observations are made of 19,605 companies in 49 nations between 1995 and 2015, with all variables being defined in Appendix A. Summary statistics for the regression variables are reported in Panel A, whereas the Pearson correlations for the regression variables are reported in Panel B, with the bold type representing statistical significance at a level of 1%.

Table 3 Means of firm and country factors across different PF status

	Full Sample	Not Free	Partly Free	Free
N	166,686	34,040	24,502	108,144
Investment	6.656	5.459	6.213	7.133
Debt Ratio	0.478	0.443	0.513	0.481
Size	7.688	7.208	9.364	7.459
Maturity	-0.107	0.080	0.193	-0.233
Cash Ratio	15.803	16.314	10.565	16.828
Asset Intangibility	0.078	0.032	0.043	0.101
Dividend Ratio	0.010	0.009	0.008	0.010
Tobin's Q	1.424	1.529	1.224	1.436
Cash Flow Ratio	0.043	0.056	0.062	0.034
EF	7.135	6.070	5.918	7.747
Shareholder Rights	3.664	2.914	4.404	3.733
Creditor Rights	2.118	2.365	2.151	2.033
Credit Market	129.212	111.776	64.000	149.476
GDP Growth	3.407	6.976	5.331	1.847
Log (GDP) per capita	9.898	8.758	8.217	10.638
Government Consumption	15.871	12.819	12.477	17.600
Stock Market	90.708	93.687	68.382	94.829
Openness	63.549	129.161	60.566	43.572

The means of different variables along the free, partly free, and not free categories, as designated by Freedom House according to the scores of political rights and civil liberties, are shown in this table with all variables being defined in Appendix A.

Table 4 Means of firm and country factors across different EF status

	Full Sample	Unfree	Moderately Free	Free
N	166,686	34,239	29,148	103,299
Investment	6.656	6.263	5.191	7.199
Debt Ratio	0.478	0.491	0.496	0.469
Size	7.688	8.472	8.498	7.200
Maturity	-0.107	0.166	0.165	-0.274
Cash Ratio	15.803	14.091	12.708	17.243
Asset Intangibility	0.078	0.032	0.045	0.103
Dividend Ratio	0.010	0.008	0.009	0.011
Tobin's Q	1.424	1.560	1.175	1.449
Cash Flow Ratio	0.043	0.061	0.058	0.033
PF	4.766	1.879	4.501	5.647
Shareholder Rights	3.664	2.908	4.139	3.781
Creditor Rights	2.118	2.042	2.373	2.071
Credit Market	129.212	83.763	119.821	146.927
GDP Growth	3.407	7.750	2.977	2.088
Log (GDP) per capita	9.898	7.951	9.598	10.628
Government Consumption	15.871	12.194	16.017	17.048
Stock Market	90.708	58.871	81.019	103.995
Openness	63.549	57.274	81.298	60.620

The means of different variables along the free, moderately free, and unfree categories, as designated by Heritage Foundation according to the indexes of EF, are shown in this table with all variables being defined in Appendix A.

Table 5 PF, EF, and corporate investment in level regression

	Full Sample
	Investment _t
(PF) _{t-1}	0.582*** (0.14)
(EF) _{t-1}	0.641*** (0.14)
(Debt Ratio) _{t-1}	-1.603*** (0.21)
(Size) _{t-1}	0.030 (0.03)
(Maturity) _{t-1}	-0.277*** (0.08)
(Cash Ratio) _{t-1}	0.034** (0.02)
(Asset Intangibility) _{t-1}	-4.414*** (0.73)
(Dividend Ratio) _{t-1}	-16.121** (7.17)
Q _{t-1}	1.362*** (0.22)
(Cash Flow Ratio) _{t-1}	2.153** (1.02)
(Shareholder Rights) _{t-1}	-0.257 (0.17)
(Creditor Rights) _{t-1}	-0.211 (0.13)
(Credit Market) _{t-1}	-0.003 (0.00)
(GDP Growth) _{t-1}	0.099*** (0.03)
(Log(GDP) per capita) _{t-1}	-0.689*** (0.21)
(Government Consumption) _{t-1}	0.047 (0.03)
(Stock Market) _{t-1}	0.007** (0.00)
(Openness) _{t-1}	-0.002 (0.00)
N	166,686
R-square	0.217
Industry Dummies	Yes
Year Dummies	Yes

This table presents the effects of one-year lagged PF and EF on investment in level regression with firm-level and country-level controls. All the variables are defined in the Appendix A. Standard errors shown in parentheses are clustered at the country level. ***, ** and * correspond to two-tail significance levels of 1%, 5% and 10%, respectively.

Table 6 Changes in PF, EF, and corporate investment

	<u>Full Sample</u>	<u>Countries with a Major Change</u>
	(1)	(2)
	$\Delta \text{Investment}_t$	$\Delta \text{Investment}_t$
ΔPF_{t-1}	0.181* (0.10)	0.302*** (0.07)
ΔEF_{t-1}	0.011 (0.14)	0.203* (0.10)
$\Delta \text{Debt Ratio}_{t-1}$	-3.815*** (0.67)	-4.389*** (0.55)
ΔSize_{t-1}	0.276 (0.26)	-0.085 (0.27)
$\Delta \text{Maturity}_{t-1}$	0.075** (0.03)	0.009 (0.03)
$\Delta \text{Cash Ratio}_{t-1}$	0.075*** (0.01)	0.078*** (0.00)
$\Delta \text{Asset Intangibility}_{t-1}$	3.697*** (0.88)	4.770*** (1.27)
$\Delta \text{Dividend Ratio}_{t-1}$	4.013*** (1.47)	5.127*** (1.29)
ΔQ_{t-1}	0.463*** (0.04)	0.557*** (0.07)
$\Delta \text{Cash Flow Ratio}_{t-1}$	0.247 (0.24)	-0.430* (0.25)
$\Delta \text{Credit Market}_{t-1}$	-0.000 (0.00)	0.004 (0.00)
$\Delta \text{GDP Growth}_{t-1}$	0.040** (0.02)	-0.003 (0.02)
$\Delta \text{Log(GDP) per capita}_{t-1}$	-2.727** (1.07)	-0.066 (1.40)
$\Delta \text{Government Consumption}_{t-1}$	-0.072 (0.06)	-0.102 (0.09)
$\Delta \text{Stock Market}_{t-1}$	-0.001 (0.00)	-0.002 (0.00)
$\Delta \text{Openness}_{t-1}$	-0.001 (0.00)	-0.001 (0.00)
N	143,717	56,613
R-square	0.036	0.037
Year Dummies	Yes	Yes

This table indicates the ΔPF_{t-1} and ΔEF_{t-1} impacts on $\Delta \text{Investment}_t$ with standard errors shown in parentheses being clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 7 Subsample analyses of changes in PF, EF, and corporate investment in countries with a major change

	(1)	(2)	(3)	(4)
	$\Delta \text{Investment}_t$ (high PF)	$\Delta \text{Investment}_t$ (low PF)	$\Delta \text{Investment}_t$ (high EF)	$\Delta \text{Investment}_t$ (low EF)
ΔEF_{t-1}	1.359** (0.39)	0.230* (0.12)		
ΔPF_{t-1}			0.353*** (0.07)	0.302** (0.11)
Δ of Firm level Controls from Table 5	Yes	Yes	Yes	Yes
Δ of Country level Controls from Table 5	Yes	Yes	Yes	Yes
N	8,990	47,623	51,545	5,068
R-square	0.028	0.040	0.038	0.044
Year Dummies	Yes	Yes	Yes	Yes

This table indicates the ΔPF_{t-1} and ΔEF_{t-1} impacts on $\Delta \text{Investment}_t$ in various subsamples in countries with a major change. Model 1 shows the effect of ΔEF_{t-1} on $\Delta \text{Investment}_t$ in countries with high degree of PF and Model 2 shows the effect of ΔEF_{t-1} on $\Delta \text{Investment}_t$ in countries with low degree of PF. High (Low) PF refers to its index with a value equal to 6 (below 6); Model 3 shows the effect of ΔPF_{t-1} on $\Delta \text{Investment}_t$ in countries with high degree of EF and Model 4 shows the effect of ΔPF_{t-1} on $\Delta \text{Investment}_t$ in countries with low degree of EF. High (Low) EF refers to its index with a value more than 6 (equal to and below 6). Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 8 Major changes in PF, EF, and corporate investment in countries with a major change

	(1)	(2)	(3)
	$\Delta \text{Investment}_t$	$\Delta \text{Investment}_t$	$\Delta \text{Investment}_t$
PF Major Improvement _{t-1}	0.195 (0.25)	0.205 (0.26)	
PF Major Deterioration _{t-1}	-0.682*** (0.10)	-0.688*** (0.09)	
EF Major improvement _{t-1}	0.023 (0.09)		-0.219 (0.59)
EF Major Deterioration _{t-1}	-0.200 (0.16)		-0.418 (0.60)
PF Minor Improvement _{t-1}		-0.086 (0.07)	
PF Minor Deterioration _{t-1}		-0.440* (0.25)	
EF Minor improvement _{t-1}			-0.204 (0.62)
EF Minor Deterioration _{t-1}			-0.361 (0.62)
Δ of Firm level Controls of Table 5	Yes	Yes	Yes
Δ of Country level Controls of Table 5	Yes	Yes	Yes
N	56,613	56,613	56,613
R-square	0.037	0.037	0.037
Year Dummies	Yes	Yes	Yes

This table shows how major and minor changes in PF and EF affect investment changes in countries with a major change. Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 9 Changes in PF, EF, and future investment in countries with a major change

	(1)	(2)
	$\Delta\text{Investment}_{t+1}$	$\Delta\text{Investment}_{t+2}$
ΔPF_{t-1}	0.207 (0.17)	-0.054 (0.06)
ΔEF_{t-1}	-0.038 (0.23)	0.096 (0.14)
Δ of Firm level Controls from Table 5	Yes	Yes
Δ of Country level Controls from Table 5	Yes	Yes
N	49,381	46,275
R-square	0.016	0.012
Year Dummies	Yes	Yes

This table presents the one-year lagged effects of changes in PF status and EF status on change in future investment in countries with a major change. Model 1 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on $\Delta\text{Investment}_{t+1}$ and Model 2 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on $\Delta\text{Investment}_{t+2}$. Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 10 Changes in PF and EF among firms with and without state ownership or political connections in countries with a major change

	(1)	(2)	(3)	(4)
	$\Delta\text{Investment}_t$ (with state ownership)	$\Delta\text{Investment}_t$ (no state ownership)	$\Delta\text{Investment}_t$ (with political connections)	$\Delta\text{Investment}_t$ (no political connections)
ΔPF_{t-1}	0.665*** (0.13)	0.323 (0.30)	0.641** (0.21)	0.293*** (0.07)
ΔEF_{t-1}	-0.285 (0.41)	0.076 (0.17)	0.521* (0.26)	0.208* (0.10)
Δ of Firm level Controls from Table 5	Yes	Yes	Yes	Yes
Δ of Country level Controls from Table 5	Yes	Yes	Yes	Yes
N	1,606	5,805	984	55,629
R-square	0.065	0.045	0.060	0.036
Year Dummies	Yes	Yes	Yes	Yes

This table presents the one-year lagged effect of changes in PF status and EF status on change in investment in various subsamples in countries with a major change. Model 1 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on $\Delta\text{Investment}_t$ among firms with state ownership larger than zero and Model 2 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on $\Delta\text{Investment}_t$ among firms with zero state ownership. Model 3 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on $\Delta\text{Investment}_t$ among firms with political connections and Model 4 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on $\Delta\text{Investment}_t$ among firms with no political connections. Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Essay Two: Freedom and the Commitment to Shareholder Loyalty

1 Introduction

The degree of economic freedom (EF) and political freedom (PF) prevalent within different organisations can vary. For example, based on data published by Freedom House for 2018, 50 countries (26%) had no political freedom, 59 (30%) had partial freedom, whereas 86 (44%) had complete freedom⁷. Additionally, the degree of PF within a country can fluctuate regularly, and a greater number of countries observed a decrease instead of growth in the PF ratings within the previous 12 years. This is exemplified by data showing that in 2018, 71 countries experienced a decline in PF, while improvements were only observed in 35. With regard to EF, as stated by the Heritage Foundation, the level of EF was at least moderate in 96 countries in 2018 (53%), whereas it was minimal in 84 other countries.⁸ Furthermore, a study published by the Heritage Foundation revealed that on a worldwide basis, average EF index scores increased between 1995 and 2018. For example, according to 2018 data, in excess of 100 countries recorded increased EF scores compared to the previous year. Level of freedom is not only relevant to the quality of social life, it can also determine why and how people do business (e.g., Friedman, 1962; Stulz, 2005). This paper examines how freedom is associated with long-term commitment (LTC) by firms (as opposed to opportunism) by disentangling the effects of PF and EF on the commitment of firms to maintaining a loyal shareholder base.

⁷ See www.freedomhouse.org.

⁸ See www.heritage.org.

The LTC of firms is crucial for economic growth because economic development depends on entrepreneurs continuously investing in physical and social capital. Commitment to shareholder loyalty (CSL) measures firms' commitment to maintaining a loyal shareholder base. I choose CSL as a proxy for firms' LTC because building a loyal shareholder base is essential if firms are to have a long-term orientation. Corporate opportunism will never lead to a loyal shareholder base and will therefore never result in stable long-term economic growth.

To measure CSL, I employ the "Shareholder Loyalty" index from the Thomson Reuters ASSET4 database. This documents two aspects of a firm's commitment to building shareholder loyalty. One is the extent to which a firm provides its shareholders with a good and sustainable financial return, and the other is how faithfully a firm communicates accounting information to its shareholders. Admittedly, there is some overlap between "Shareholder Loyalty" and the existing corporate governance ratings that measure financial transparency. However, whereas existing governance ratings primarily measure what a firm does to protect minority shareholders, "Shareholder Loyalty" uniquely focuses on the effectiveness (outcomes) of a firm's CSL.

This study is valuable for the following three reasons. First, the LTC of firms to business is likely to be a major link between freedom and economic growth. If firms take an opportunistic approach and rarely build a loyal shareholder base, their activities are unlikely to lead to stable economic growth. The existing literature merely observes a general correlation between freedom (both PF and EF) and economic growth at country-level (for example, Barro, 1996; Przeworski and Limongi, 1993; Roll and Talbott, 2003; Persson, 2003; Giavazzi and Tabellini,

2005; Gwartney, Lawson, and Holcombe, 1999; De Haan and Sturm, 2000 and 2001; Dawson, 1998; Wacziarg and Welch, 2008); little attention has been paid to the channels through which these two freedoms may work. At firm-level, the finance literature offers limited piecemeal evidence for the effect of PF on the cost of external financing (Qi, Roth, and Wald, 2010; Ben-Nasr et al., 2012), corporate risk-taking (Boubakri, Mansi, and Saffar, 2013; Caprio, Faccio, and McConnell, 2011) and corporate governance (Stulz, 2005). This study fills this gap by investigating the impacts of both freedoms on corporations' CSL, which is an essential dimension of the LTC of firms and thus a possible connection between freedoms and economic growth.

Second, this study not only addresses the question of “whether or not the two freedoms affect CSL”, it also examines the relative importance of PF and EF. Since the 2008 financial crisis, the superior economic performance of China has ignited a debate regarding the correct roadmap for a country's development. The “China Model” suggests that the economy can grow faster if a country has sufficient economic freedoms with a centralized government (lower PF) (He et al., 2004). This roadmap can avoid costly political reforms while encouraging the economic sector to grow quickly. Is this “late-comer advantage” valid? This study provides a partial answer by showing which freedom is more critical to CSL.

Third, I also examine the mutual reliance of the two freedoms in boosting CSL. Developed countries that already have a democratic system tend to place a strong emphasis on economic liberty. Against this backdrop, global institutions like the International Monetary Fund and World Bank generally demand that states receiving aid should increase their level of EF prior to qualifying. Nevertheless, if EF functionality is dependent on the advancement of PF, it is necessary for both

lawmakers and global institutions to focus on political and economic reforms in equal measure.

Two major empirical obstacles can emerge when testing the impacts of freedoms on CSL. Firstly, PF and EF are strongly correlated as they have a within-sample correlation of 0.61. Hence, it is difficult to differentiate the impacts of these freedoms using a level regression. Secondly, firms operating in free and less free countries may differ in their uncontrolled fundamentals that happen to correlate with CSL.

This study exploits the time-fluctuating values of EF and PF and adopts the first-differencing (FD) method to deal with the first problem and to partially address the second. Firstly, while there is a strong correlation between the levels of PF and EF, the same is not true for changes that occur in such freedoms. In other words, changes that occur in PF (EF) in year t have no significant correlation with changes in EF (PF) that occur between $t-1$ and $t+1$. Hence, the fact that PF and EF are highly correlated does not represent a major concern in terms of the FD specification. Secondly, when utilising the FD approach, any concerns regarding the presence of time-invariant factors that have a correlation with PF, EF and CSL but are not considered for the level regression can be alleviated.

The results generated from the FD analysis are impressive. In both full sample and the subsample of countries that have experienced at least one major change in PF or EF, PF has a significant effect on CSL, and its coefficient has a higher economic significance than that of EF. However, EF does not show significant effect. Therefore, PF seems to be more important than EF in determining CSL. Increased PF is linked to higher freedom of expression as well as decreased government corruption and expropriation, which leads to a favorable investment

condition and motivates the controller of the firm to build a loyal shareholder base. Unsurprisingly, past studies have revealed that increased EF will lead firms to enter into new businesses easily and is linked with high competition in the market (De Haan and Sturm, 2001; Giavazzi and Tabellini, 2005). The controller of the corporation will therefore be encouraged to focus on maintaining loyalty among shareholders as if this is lacking, it is possible that shareholders will change their allegiance. Although PF and EF are associated with distinct determinants of CSL, PF has greater significance compared to EF due to the fact that the level to which EF is effective is reliant on the advancement of PF. This is because in situations involving reduced PF where expropriation by the government and opaqueness are prevalent, economic freedoms afforded by the government could ultimately be given to businesses that have clear or hidden connections with political authorities, thus reducing the effectiveness of EF.

Subsequently, I investigate whether the impacts of PF and EF are dependent on their mutual advancement. By using the FD approach, I find that although the impact of EF is dependent on the advancement of PF, the reverse does not hold. This result additionally indicates that PF is more critical than EF in boosting CSL and implies that when economic reforms are applied in isolation, regardless of the apparent ease, they may not function effectively if not complemented by political reforms.

I then conduct various robustness tests to assess the validity of the impacts of freedoms on CSL. While FD can effectively alleviate the endogeneity concern regarding unobservable time-invariant factors that have a correlation with freedoms and CSL, its outcomes can still be affected by other endogeneity concerns as PF and EF may develop with certain specific concurrent changes in uncontrolled

factors that additionally determine CSL. Two different tests are conducted to alleviate this concern. First, I decompose the changes in PF and EF into major improvement, major deterioration, minor improvement, and minor deterioration. If there is a causality running from freedoms to CSL, the impacts of major changes should be greater compared to minor changes. If hidden factors lead to changes in both freedoms and CSL, then the magnitude of changes in CSL may not correlate with that in freedoms. The previous FD analysis can still reveal that freedoms and CSL are significantly correlated, even in the case that major and minor changes in PF have identical impacts on CSL. I find that the impacts of major changes in PF on CSL are greater compared to minor changes, but the same outcome is not observed for EF. The findings of this test affirm that PF does have an effect on CSL, and PF has greater importance than EF in terms of sustaining loyalty among shareholders. Second, the impacts freedoms have on CSL could be reversed over time if there are concurrent and temporary hidden factors that also cause changes in freedoms and CSL. To deal with this issue, I examine the impacts of changes of freedoms on CSL in future years. In the situation that the impacts of freedoms on CSL are reversed in the immediate future, this would indicate that other factors are present that generate the outcomes of the FD analysis. Nevertheless, it is concluded that the effect of PF in upcoming years is not in fact reversed.

Finally, I investigate whether the impacts of changes in PF and EF on CSL vary in terms of firms with and without state ownership or political connections. On the one hand, fluctuations in PF and EF could have lesser effects on firms with state ownership or political connections compared to others due to operational ineffectiveness linked to state ownership and political affiliation. On the other hand, the impacts of freedoms on firms with state ownership or political affiliations could

be more extensive compared with completely private businesses when reduced PF or EF distorts their CSL to a greater degree prior to any change in freedoms. I find that enhancements to PF are correlated with more substantial growth in CSL in companies with state ownership or political affiliations compared with others. This finding implies that PF is a different option to privatisation for making improvements to the effectiveness of state-owned enterprises (SOEs). Moreover, there is no evidence that state ownership or political connections moderate the impact of EF on CSL.

In conclusion, this study makes various contributions to the literature. First, past studies have merely discussed the impacts of varied aspects of PF and EF on national economic growth while neglecting the channels via which PF and EF could function. In this study, I investigate the impacts of two types of freedoms on CSL, which should be an important channel that facilitates the impact of PF and EF on economic growth. Second, I find that the impact of EF is dependent on the advancement of PF, which offers significant policy ramifications for those making social reforms: while it is comparatively easy to implement economic reforms, their success may be limited in the absence of concurrent political reforms. Lastly, this paper contributes to the existing literature on state ownership and political connections. The findings indicate that the low efficiency problem to firms with state ownership or political connections is more severe when PF is reduced and in order to resolve this problem, increasing PF is a different option to privatisation.

The remainder of this study is structured as follows. Section 2 introduces the hypotheses and literature review. Section 3 presents the sample, variables, and descriptive statistics. Section 4 reports the empirical results, Section 5 concludes this part of my thesis, and Section 6 presents limitations and future study.

2 Hypothesis Development and Literature Review

2.1 PF and CSL

The commitment to maintain a loyal shareholder base is crucial for economic growth because economic development relies on corporations continuously investing in physical and social capital. Corporate opportunism will jeopardize long-term economic development. CSL measures management commitment and effectiveness towards generating a high and sustainable return on investments and transparent long-term communications with shareholders. As stated by Freedom House, PF incorporates the political rights and civil liberties within a country. Specifically, political rights cover the categories of political engagement, government functioning and the electoral system, whereas civil liberties incorporate freedom of speech, rule of law, as well as organizational and personal rights. PF assesses the extent to which individuals' property rights are safeguarded, the degree of state expropriation and accountability and how transparent the state is regarding providing information.

The controller of a firm is more likely to be committed to building a loyal shareholder base when investment prospects are good. High PF is related to high protection of property rights and low government corruption and expropriation. This creates a healthy investment environment and increases investment opportunities. The controller of the corporation will then be motivated to maintain a loyal shareholder base by providing sufficient financial return to shareholders, as measured by ROE, return on invested capital, and dividend payout ratio. At the same time, firms under high PF are more likely to sustain future growth by, for example, funding sufficient pension and granting stock options to employees, and by maintaining an adequate level of liquidity and a high credit rating. Additionally,

under high PF the controllers of corporations should strive to conduct faithful and transparent communications with their shareholders. For example, they should avoid major trust-breaking incidents such as earnings restatements, accounting controversies, and insider dealings (Dechow, Sloan, and Sweeney, 1996; Dechow, Richardson, and Tuna, 2003; Aharony, Lin, and Loeb, 1993; Richardson et. al, 2002; Watts and Zimmerman, 1990).

Hypothesis 1: PF is positively associated with CSL.

2.2 EF and CSL

As suggested by the Heritage Foundation, the EF index incorporates 12 elements that can be categorised into four different groups: rule of law (property rights, integrity of the government, judicial effectiveness); government size (government spending, tax burden, fiscal health); regulatory efficiency (business, labor, and monetary freedoms); and open markets (trade, investment, and financial freedoms). The first two groups cover the accountability of governments and PF already accounts for them to a certain degree. Hence, for the purpose of this study, only the six elements listed in the latter two groups will be included.

EF assesses the ease of acquiring the required resources and starting a new enterprise, as well as the level of competition in the market (De Haan and Sturm, 2001; Giavazzi and Tabellini, 2005). It should have a positive association with CSL for the reasons listed below: First, firms in countries with higher labor freedom will find it easier to recruit talented employees, which will facilitate suitable conditions for competitiveness in the market. The controller of the corporation will therefore be motivated to maintain CSL in order to prevent its shareholders from switching to other firms. Second, firms in countries with higher freedom of business are exposed to fewer entry requirements and thus find it easier to enter into new

businesses. Hence, they will have an advantage with regard to their ability to compete in the market. There is an increased likelihood that corporate executives will be prompted to develop a base of loyal shareholders. Third, liberalisations of finance and investment enhance the capability of enterprises to obtain more cost-effective finance from financial markets (Koo and Shin, 2004). Hence, the market in which they operate will be characterised by greater levels of competition as rivals will also have the same access to low-cost financing. This elevated competition in the market will motivate executives to develop a sustainable CSL. Fourth, firms in countries with higher freedom of trade can integrate relative advantages accrued from other countries and are exposed to a larger set of investment opportunities. This enhances the potential for a competitive market and motivates firms to be more long-term oriented in their approach.

Hypothesis 2: EF is positively associated with CSL.

Overall, PF is relevant to investment prospects, while EF measures how hard it is to enter into new businesses and the extent to which the market is competitive. Since PF and EF are related to different determinants of CSL, which is more important is an empirical question. However, I would conjecture that PF is more critical than EF because the effectiveness of EF is subject to the development of PF. Under low PF, where there is a high level of government expropriation and an unfriendly investment environment, economic freedoms granted by the government may end up benefiting firms that have bonds with political powers, leading to a lower effectiveness of EF. For example, Tang, Lu, and Yu (2011) show that under low PF, private firms in China with a bank relationship or political affiliation can receive more bank loans than firms without. Additionally, in the event of economic downturn or financial distress, Faccio et al. (2006) find that politically connected

firms and SOEs are more likely to enjoy the implicit government guarantees and to be bailed out by the government as compared to purely private firms.

3 Variables and Summary Statistics

This section describes the variables and data. Financial information that is needed for constructing firm-level control variables is available in Compustat North America and Compustat Global. Those variables are winsorized at the 1% level to avoid the influence of extreme values.

3.1 Dependent Variables – CSL

The commitment to build a loyal shareholder base can be derived from Thomson Reuters ASSET4 database, which supplies relevant, objective, and systematic environmental, social, governance, as well as economic data for more than 6,500 listed firms according to 250 important performance indicators beginning at the fiscal year 2002. Furthermore, Thomson Reuters obtains information annually from public sources, including companies' reports. Such information is subsequently converted into consistent and comparable units in order to facilitate quantitative analysis, during which specialist analysts gather 900 evaluation points per company. Thomson Reuters ASSET4 requires each data-point question to undergo procedure control and multi-step verification. This involves a set of automated quality rules, data entry checks and historical comparisons which guarantee that the quality, timeliness and precision is of a good standard. In order to calculate over 250 important performance indicators, these 900 data points were applied to an equally weighted structure. Moreover, these are arranged into 18 classifications in the scores of the following four pillars: corporate governance, economic performance, environmental performance and social performance. A z-score rating is given to the companies for each year, which is in the scope of 0 to

100 for each pillar, thereby evaluating their performance in comparison with other firms. Specifically, ASSET4 evaluates firms' economic commitment in three categories: client loyalty, corporate performance, and CSL. Within each category, ASSET4 analysts identify specific line items. For example, "Is the company in the process of a material earnings restatement?" is used to construct the CSL category of the economic performance score. In total, 44 items capture the economic performance category; 18 of which capture the CSL category and 14 the client loyalty category.

The management commitment and effectiveness of a company regarding the creation of good and sustainable investment returns is specifically assessed by the CSL category. This creates sustainable returns by a transparent and loyal long-term communications strategy with its shareholders, thereby showing a firm's capability of sustaining a faithful shareholder base. The 18 items used to construct the CSL category are earnings restatement, profit warnings, insider dealings controversies, auditor independence, accounting controversies, accounting compliance, ROE, return on invested capital, cash flow growth, liquidity, Fitch credit rating, debt to equity, long-term debt, retained earnings, dividend payout ratio, stock option dilution, pension underfunding, and non-audit to audit fees ratio. The first 6 items reflect how faithfully a firm communicates with its shareholders about accounting information (the first aspect of CSL) while the remaining 12 items reflect the extent to which a firm provides a good and sustainable financial return to its shareholders (the other aspect of CSL). Each item receives a z-score ranging from 0 to 100. In this study, the CSL score in year t has already been divided by 100 in order to match the scale of other firm-level control variables. The key CSL items and detailed explanations of these are presented in Appendix A.

3.2 Independent Variables – PF and EF

The primary independent variables are measures of PF and EF. Following Guedhami, Kwok, and Shao (2017), this study uses the PF index developed by Freedom House. Freedom House publishes reports on the level of political rights and civil liberties and rates every country based on these measures on scales ranging from 1 to 7 on a yearly basis. A country scoring 1 has the maximum level of freedom, whereas a score of 7 means it has the lowest. As there is a strong correlation between political rights and civil liberties in the sample (0.9), identification of the component that has greater importance can be challenging; therefore, the PF rating is calculated based on the average of a country's political rights and civil liberties ratings. PF is constructed by subtracting the original rating from 7 in order for higher values to denote improved PF. In the sample, the range of the original rating of the PF index is between 1 (highest) and 6.5 (lowest); hence, the new range of the modified PF index is from 0.5 (lowest) to 6 (highest). I categorize countries in the sample into three groups based on their PF ratings: free countries ($1 \leq \text{PF} < 2$), partly free ($2 \leq \text{PF} < 4$), and not free ($\text{PF} \geq 4$). For the sample, the modified PF index indicates that a country has freedom ($5 < \text{PF} \leq 6$), partial freedom ($3 < \text{PF} \leq 5$), and no freedom ($\text{PF} \leq 3$)⁹. A major change in PF status is reflected in either a significant improvement or deterioration across different categories. Specifically, a major improvement in PF indicates that a country's status is improved from No Freedom to Partial Freedom or from Partial Freedom to Freedom, whereas a major

⁹ Freedom House also categorizes countries into three groups based on their PF scores: free countries ($1 \leq \text{PF} \leq 2.5$), partly free ($2.5 < \text{PF} \leq 5$), and not free ($\text{PF} > 5$). Thus, the revised PF index determines a country's status as free ($4.5 \leq \text{PF} \leq 6$), partly free ($2 \leq \text{PF} < 4.5$), and not free ($\text{PF} < 2$). I adopt my own category scale because the range of the modified PF index and the numbers of firm-year observations are more evenly distributed in the sample under my scale compared to the Freedom House scale. I replicated all the tests using the Freedom House category scale and found that some results are not consistent with the existing ones with unexplained reasons.

deterioration in PF implies that a country's status decreases from Partial Freedom to No Freedom or from Freedom to Partial Freedom. A minor change is defined as a change that lacks the intensity to be considered a significant change. In a test not reported here, I find that the level regression outcome is robust to the alternate measurement of PF utilising a dummy variable with a value of 1 if a country is free and 0 if it has partial or no freedom. Appendix C shows how the incidence of major improvement and deterioration in PF is distributed across the years.

The EF index is sourced from the Heritage Foundation and is used for measuring the level of economic freedom within a country. The Heritage Foundation publishes a yearly index showing the EF of a country based on a scale of 0-100, which is calculated using 12 different elements categorised into four groups: rule of law (property rights, integrity of the government, effective functioning of the justice system); government size (government expenditure, tax burden, fiscal health); regulatory efficiency (business, labor, and monetary freedoms); and open markets (trade, investment, and financial freedoms). Each of the 12 elements is equally weighted. To differentiate the effects of PF and EF, I construct the overall EF score by taking the average of the six elements' scores from the latter two groups as they have a direct relation to EF. Contrastingly, the former two groups cover the quality of government and are already incorporated into PF to a certain degree. The Heritage Foundation groups countries into five categories according to their scores for EF: repressed countries ($EF \leq 50$), mostly unfree ($50 < EF \leq 60$), moderately free ($60 < EF \leq 70$), mostly free ($70 < EF \leq 80$), and free countries ($EF > 80$). In this study, the EF index has already been divided by 10 to correspond to the PF index scale, and I combine the categories of "repressed" and "mostly unfree" to "unfree" ($EF \leq 60$) and "free" and "mostly free" to "free"

(EF>70) in order to correspond with the PF index categories. A major change in EF status is reflected in either a significant improvement or deterioration across distinct categories. In other words, a major improvement in EF indicates that a country's status is improved from No Freedom to Moderate Freedom or from Moderate Freedom to Freedom, whereas a major deterioration in EF implies that a country's status decreases from Freedom to Moderate Freedom or from Moderate Freedom to No Freedom. A minor change is defined as a change that lacks the intensity to be considered a major change. In an unreported test, I find that the level regression result is robust to the alternate measurement of EF using a dummy variable with a value of 1 if a country is free and 0 if it is moderately free or unfree. Appendix C shows how the incidence of major improvement and deterioration in EF is distributed across the years.

Several firm-level and country-level control variables are included in the analysis to ensure that the relation between PF, EF, and CSL is not driven by any unobservable factors. Following previous literature on international corporate social responsibility studies (e.g., Ioannou and Serafeim, 2012; Liang and Renneboog, 2017; Dyck et al., 2019), I employ four measures to control for country-level institutions and economic development. First, I employ *Shareholder Rights* (Djankov et al., 2008), which measures the extent to which the legal institutions protect minority shareholders against corporate management opportunism. Second, to capture the level of a country's economic development, I adopt *logarithm of US\$ GDP per capita* and *GDP growth* from the country development indicators of the World Bank. Third, I control for stock market development (*Stock Market*), which measures the market capitalization of listed domestic companies as a percentage of GDP. Firms in countries with higher GDP

growth and a more mature stock market have exposure to a better investment environment and thus are expected to build an enduring and loyal shareholder base.

At the firm level, I control for the logarithm of total sales in USD millions (*Size*), total debt to total assets ratio (*Debt Ratio*), net income before extraordinary items to total assets ratio (*ROA*), cash and short-term investment to total assets ratio (*Cash Ratio*), research and development expenses to total sales ratio (*R&D*), sales growth from year t-1 to year t (*Sales Growth*), market value of equity plus book value total liabilities scaled by total assets (*Tobin's Q*), *CSR* score, and *Corporate Governance* score. The higher the Tobin's Q, the better the firms' growth opportunities and the stronger the CSL they are expected to maintain. Firms with more debt tend to be more financially constrained, which might dampen their expected investment prospects and result in a weak CSL. I construct a firm's CSR score as the average of its environmental and social score. These variables are extracted from the Thomson Reuters ASSET4 database. CSR score and Corporate Governance score are expected to be highly correlated with CSL. Firms with large size are more visible and will face more pressures from their shareholders (Brammer et al. 2009). Therefore, they are expected to be motivated to build a loyal shareholder base. Detailed definitions of the variables and data sources are provided in Appendix A.

3.3 Sample and Summary Statistics

Because the behaviors of financial firms (SIC codes between 6000 and 6999) and utility firms (SIC codes between 4900 and 4999) are heavily influenced by a country's regulatory environment, I exclude these firms from the sample. After further removing firms with abnormal values¹⁰ or with missing financial information and matching the Compustat sample with Thomson Reuters ASSET4

¹⁰ Companies whose liabilities exceed their assets, and those with negative total assets are excluded.

database, I obtain a final sample of 14,524 firm-year observations from 2,174 firms spanning 45 countries over the 2004-2015 period. Table 1 presents descriptive statistics on CSL by country, which shows considerable cross-country variation: CSL varies between 0.138 (Peru) and 0.873 (Panama).

[INSERT TABLE 1 HERE]

Panel A of Table 2 shows descriptive statistics for the main variables utilized in the regression analysis. The mean, median and standard deviation of CSL, the dependent variable, are 0.571, 0.581, and 0.289, respectively, while there are similarities in terms of the mean scores of CSL, CSR, and corporate governance. The sample consists of countries whose PF and EF ratings range from high to low. In fact, the PF rating ranges between 0.500 and 6.000 where the mean (median) value is 5.608 (6.000) and the standard deviation is 0.935; on the other hand, the EF rating ranges between 4.928 and 8.875, where the mean (median) is 7.779 (8.088) and the standard deviation is 0.794. This data shows that there is no homogeneity in terms of PF and EF for the countries included in the sample and therefore affirms that cross-country analysis is suitable for this study. With regard to the attributes of the individual firms, the sample incorporates firms of various sizes that have both high and low leverage. Precisely, firm size ranges between 5.310 and 12.079 with a mean (median) equals to 8.720 (8.647) and a standard deviation equals to 1.356, whereas firm leverage varies between 0.093 and 0.924, where the mean (median) is 0.533 (0.543) and the standard deviation is 0.186. The firms included in the sample seem to exhibit a certain level of profitability, as the mean (median) ROA is 0.135 (0.124). With regard to the country-level characteristics, the countries in the sample are highly developed economically, with a mean (median) Log(GDP) per capita of 10.521 (10.743).

The Pearson correlation coefficients between country-level and firm-level variables are shown in Table 2 (Panel B). I find that EF and PF, both of which are positively associated with CSL, conform to the hypothesis. Moreover, both the county-level and firm-level variables are generally compatible with the expectations as shown by the outcomes of the correlation analysis. For instance, company size and company growth opportunities are positively associated with CSL, whereas leverage is negatively associated with it. Additionally, a high correlation exists between CSL, CSR, and corporate governance. Furthermore, economic development and the financial market have a positive link with CSL concerning country-level controls.

[INSERT TABLE 2 HERE]

Table 3 shows the variable means for both the entire sample as well as the three subsamples across politically not free, partly free, and free statuses according to the Freedom House in order to investigate the relationships among the variables and the degree of PF. The sample includes a total of 12,178 firm-year observations that are classed as countries with complete freedom, while 1,114 and 692 firm-year observations are classified as countries with partly freedom and no freedom, respectively. Additionally, the average CSL in countries with no freedom is 0.533, whereas in countries with partly freedom and complete freedom, the averages are 0.562 and 0.574, respectively, indicating that enterprises in countries with increased PF generally have more loyalty among their shareholders. Furthermore, Table 3 shows that low PF is correlated with a reduced R&D ratio, more rapid economic expansion, and increased growth in sales.

[INSERT TABLE 3 HERE]

Table 4 shows the variable means for both the entire sample as well as the three subsamples across economically unfree, moderately free, and free statuses according to the Heritage Foundation in order to investigate the relationships among the variables and the degree of EF. Within the sample, 12,856 firm-year observations are classed as countries with complete freedom, while 978 and 690 firm-year observations are classed as countries with moderate freedom and no freedom, respectively. Additionally, the average CSL in countries with no freedom is 0.533, whereas in countries with moderate and complete freedom, the averages are 0.546 and 0.575, respectively. This finding indicates that in countries with increased EF, enterprises generally develop more loyalty among shareholders.

Table 4 additionally indicates that increased levels of EF are correlated with increased levels of PF, implying that there is a strong association between the types of freedom. Furthermore, increased EF is related to greater economic development (Log(GDP) per capita), increased R&D ratio, improved corporate governance, reduced GDP growth, and reduced sales growth ratio.

[INSERT TABLE 4 HERE]

4 Empirical results

4.1 Main results

4.1.1 First-differencing results: importance between PF and EF

There are two reasons I employ the first-differencing (FD) analysis. First, PF and EF are strongly correlated as they have a within-sample correlation of 0.61. Thus, it is hard to disengage the effects of these freedoms using a level regression. However, the changes in PF and EF are not correlated with each other. I adopt Pearson's correlations to test for the correlation between changes of PF and EF within 3 years. Appendix B demonstrates the p-values of Pearson's correlations

among changes in PF and EF in the sample countries that have experienced at least one major change in EF or PF. The result shows that changes in PF (EF) in year t are not significantly correlated with those in EF (PF) between $t-1$ and $t+1$ as all the p -values are larger than 0.1. Therefore, the fact that PF and EF are significantly correlated does not represent a major concern in terms of the FD specification. Second, in a level regression, the effects of PF and EF may stem from their correlations with unobserved firm-level and country-level factors that determine CSL. The FD approach can ease the concern regarding the existence of unobservable time-invariant factors that are correlated with PF, EF, and CSL. When taking the first difference for both sides of the level regression, I assume that the regression coefficients are constant¹¹. The idea comes from the q -theory of optimal investment (Tobin, 1969), which is measured at the level. Under this assumption, I employ the FD approach to run the regression based on equation (1) as below:

$$\begin{aligned} \Delta \text{Dependent Variable}_{i,t} = & \beta_0 + \beta_1 * \Delta (\text{Independent Variable})_{i,t-1} + \beta_2 * \Delta \\ & (\text{firm level controls})_{i,t-1} + \beta_3 * \Delta (\text{country level controls})_{i,t-1} + \beta_4 * (\text{year})_t + \varepsilon_{i,t} \end{aligned} \quad (1)$$

First, in the full sample, Table 5 Model 1 shows that ΔPF_{t-1} has a significant and positive coefficient of 0.057 ($p\text{-value} < 0.1$), where the continuous variable ΔCSL_t is the dependent variable. This measures the change in commitment to shareholder loyalties between the two years. Regarding EF, the result shows that ΔEF_{t-1} has no significant effect on ΔCSL_t . The error term $\varepsilon_{i,t}$ is assumed to

¹¹ I add several interaction terms to the level regression to test whether the regression coefficients are constant. The interaction terms are $\Delta PF_{t-1} \times \text{firm-level variables}$, $\Delta EF_{t-1} \times \text{firm-level variables}$, $\Delta PF_{t-1} \times \text{country-level variables}$, and $\Delta EF_{t-1} \times \text{country-level variables}$. I find that the coefficients of these interaction terms are insignificant except for the coefficients of interactions $\Delta PF_{t-1} \times CSR_{t-1}$, $\Delta PF_{t-1} \times \text{Corporate Governance}_{t-1}$, and $\Delta EF_{t-1} \times \text{Cash Ratio}_{t-1}$. This finding proves that most of the regression coefficients are constant.

cluster within countries. I control for changes in country-level factors to capture concurrent changes in a country's economic development and financial environment as well as year dummies to capture year-specific shocks to all sample countries. Developing countries, which generally have fast-growing economies and are measured by *GDP Growth*, have more investment opportunities and therefore, managers are more likely to be encouraged to build a loyal shareholder base. I lag the right-hand-side variables by one year because some endogeneity problems such as reverse causality and simultaneity may appear to be concerns if those variables are measured at current year. Change in CSL may cause a contemporaneous change in those variables. Taken together, the results in Table 5 Model 1 show that changes in PF and EF are positively associated with changes in CSL but only PF has a significant effect. Thus, PF plays a more important role than EF in determining CSL.

In Model 2, I repeat Model 1 only for sample countries that have experienced at least one major improvement or deterioration in PF or EF in order to ensure the validity of the FD estimator. Assuming there are uncontrolled differences between countries with and without major changes in the status of PF or EF, such as institutional environment, this test provides a longitudinal comparison between years with and without changes for the subset of countries with a major change. In Model 2, I find that ΔPF_{t-1} has a significant and positive coefficient of 0.125 (p-value <0.001). The economic impact of this coefficient is also significant: an increase in the PF index score by one standard deviation from the mean (equal to 0.935, see Table 2) implies an increase of 0.117 (0.935 times 0.125) in change in CSL, when holding all other variables constant. However, EF does not show significant effects in Model 2. Therefore, PF is positively related to CSL and its coefficient has a higher economic significance than that of EF. Moreover, among

all the country-level factors considered in the regression, the effect of PF is larger than other country-level controls in Model 2, including economic growth, Log(GDP) per capita, and stock market development. Thus, PF seems to be more important than EF and other country-level institutions in building CSL. Furthermore, consistent with the previous expectation, firms with more ROA tend to have a strong commitment to maintaining shareholder loyalty in Model 2.

[INSERT TABLE 5 HERE]

4.1.2 First-differencing results: interactions between PF and EF

In this subsection, I construct subsample analyses using the FD approach to examine whether PF (EF)'s effect is dependent on the development of EF (PF). I limit the sample to countries that have experienced at least one major change in EF or PF. In order to test whether the effect of EF relies on PF, I divide the full sample into two subsamples and compare the effects of changes in EF on CSL in countries with low PF to those in countries with high PF. Table 6 Model 1 and Model 2 report the coefficients of changes in EF in countries with a high degree of PF ($PF = 6$) and in countries with a low degree of PF ($PF < 6$), respectively. I find that the effect of changes in EF is significantly positive and stronger when there is a high level of PF. The seemingly unrelated estimation test (SUEST), which compares regression coefficients across two groups, also shows that the difference between coefficients of changes in EF in Model 1 and 2 demonstrates a statistically significant result ($p\text{-value} = 0.0315$). This indicates that the effect of EF relies on PF. In order to examine whether the effect of PF relies on EF in building CSL, I construct subsample analyses to compare the effects of changes in PF on CSL in countries with low EF status to those in countries with high EF status. Model 3 and Model 4 report the coefficients of changes in PF in countries with a high degree of EF ($EF > 7$) and in

countries with a low degree of EF ($EF \leq 7$), respectively. The SUEST shows that the difference between coefficients of changes in PF in Model 3 and 4 is statistically insignificant ($p\text{-value} = 0.7222$), indicating that the effect of PF does not rely on EF.

In a nutshell, the effect of EF on CSL is conditional on the development of PF but not vice versa. This further shows that PF is more important than EF in building CSL and implies that maintaining a loyal shareholder base may not be successful if states only conduct economic reforms without the support of political reforms.

[INSERT TABLE 6 HERE]

4.2 Robustness tests

In this section, I conduct various tests of robustness to assess the validity of the effects of freedoms on CSL. Although the FD approach can effectively alleviate the endogeneity concern that originates from the existence of unobservable time-invariant CSL determinants, its outcomes can still be affected by other endogeneity issues because the effects of two freedoms on CSL may due to concurrent unobserved changes in other factors that affect PF, EF, and CSL. Two different tests are conducted to alleviate this concern. First, I decompose the changes in PF and EF into major improvement, major deterioration, minor improvement, and minor deterioration. I expect to find evidence that the magnitude of changes in CSL is closely related to that of changes in freedom. If there is a causality running from freedoms to CSL, the impacts of major changes should be greater compared to minor changes. The previous FD analysis can still reveal a significant relationship between freedoms and CSL, even if major and minor changes in PF have identical impacts on CSL. Second, I examine the impacts of changes in PF and EF on changes

in future CSL. If the significant effect of PF on CSL is reversed, there may be other unobserved determinants of CSL that are temporary and time-variant.

4.2.1 Effect of major changes and minor changes in freedoms

A different version of the FD analysis is provided while the alterations in PF and EF are decomposed into major and minor changes. For the purpose of measuring major changes in the degree of PF, two dummy variables are employed. *PF Major Improvement* has a value of 1 when the degree of freedom within a country enhances from Not Free to Partly Free or from Partly Free to Free in a particular year, whereas *PF Major Deterioration* has a value of 1 when the degree of freedom within a country declines from Partly Free to Not Free or from Free to Partly Free. For the purpose of measuring major changes in the degree of EF, two dummy variables are also used. *EF Major Improvement* has a value of 1 when the degree of freedom within a country enhances from Unfree to Moderately Free or from Moderately Free to Free in a particular year, whereas *EF Major Deterioration* has a value of 1 when the degree of freedom within a country declines from Free to Moderately Free or from Moderately Free to Unfree. A minor change is a change that is not intensive enough to be categorized as a major change. For conciseness, only the coefficient and level of significance for major and minor changes in PF and EF are reported in this section.

In Table 7, the sample is limited to countries that have experienced at least one major change in PF or EF. I use the following model to test the effects of major and minor changes in political and economic freedoms on CSL:

$$\Delta \text{Dependent Variable}_{i,t} = \beta_0 + \beta_1 * (\text{Major Improvement in Independent Variable})_{i,t-1} + \beta_2 * (\text{Major Deterioration in Independent Variable})_{i,t-1} + \beta_3 * (\text{Minor Improvement in Independent Variable})_{i,t-1} + \beta_4 * (\text{Minor Deterioration in Independent Variable})_{i,t-1}$$

$$\text{Independent Variable})_{i,t-1} + \beta_5 * \Delta (\text{firm level controls in Table 5})_{i,t-1} + \beta_6 * \Delta (\text{country level controls in Table 5})_{i,t-1} + \beta_7 * (\text{year})_t + \varepsilon_{i,t} \quad (2)$$

Model 1 of Table 7 reports the coefficients for one-year lagged *PF Major Improvement*, *PF Major Deterioration*, *EF Major Improvement* and *EF Major Deterioration*. I find that a major improvement in PF is more effective at changing CSL than a deterioration. The possible reason is that when PF has a major improvement, managers of a company would conduct more faithful communication with their shareholders and keep a long-term relationship with them, especially under high PF with healthy investment environment. Moreover, the effects of major changes in PF are much more significant than the effects of major changes in EF. However, the coefficients of major improvement and deterioration in EF on CSL changes are all statistically insignificant.

Model 2 shows the coefficients for one-year lagged *PF Major Improvement*, *PF Major Deterioration*, *PF Minor Improvement* and *PF Minor Deterioration*. I find that major changes in PF on CSL are more impactful than minor changes. Model 3 reports the coefficients for one-year lagged *EF Major Improvement*, *EF Major Deterioration*, *EF Minor Improvement* and *EF Minor Deterioration*. This shows that there are no significant effects on CSL of major and minor changes in EF.

Taken together, the results from Table 7 support that PF is a more effective factor at changing CSL than EF.

[INSERT TABLE 7 HERE]

4.2.2 Effect of freedoms on future CSL

Table 8 examines the impacts of changes in PF and EF on CSL in years in the future, and also verifies whether the impacts of freedoms on CSL are reversed. Only

those countries that have experienced at least a major change in PF or EF are included. Where unobservable and time-variant factors exist that alter freedoms and CSL, the impact could be reversed at some point if the impacts of the unobservable factors are only temporary. For instance, a temporary tax subsidy policy could be implemented at a time when PF is improved. In the event that the uncontrolled tax policy is responsible for boosting CSL at that time, then the impact of PF on future levels of CSL will be reversed when the policy is ended. The findings indicate that the impacts of changes in EF and PF are all not significant, with the dependent variables being ΔCSL_{t+1} (Model 1) and ΔCSL_{t+2} (Model 2). This implies that impact of PF on CSL is not reversed in upcoming years. Hence, it can be deduced that it is the impact of PF that alters CSL rather than the impacts of other non-permanent unobservable factors.

[INSERT TABLE 8 HERE]

4.3 Additional test

The performance of SOEs and politically connected firms should be different in countries with different levels of PF. In this section, I test whether the effects of changes in PF and EF on CSL differ among firms with and without state ownership or political connections. From one perspective, the effects of freedoms among firms with state ownership or political connections may be smaller than those without due to various operating inefficiencies associated with state ownership and political connection, such as easier access to credit and lower budget constraints (Faccio, Masulis, and McConnell, 2006). From another perspective, the effects of freedoms on firms with state ownership or political affiliations could be more extensive compared with other firms when reduced PF or EF distorts their CSL to a greater degree prior to the changes in freedoms occurring. This test provides implications

for the impact of any improvement in PF on the performance of SOEs and politically connected firms.

4.3.1 Subsample tests for firms with and without state ownership

A large body of research documents that state ownership hinders improvements in inefficiencies because of serious agency and asymmetrical information problems (e.g., Boubakri et al., 1998, 2016; D'Souza and Megginson, 1999; Guedhami et al., 2009; Megginson et al., 1994; Chen et al., 2017; Shleifer and Vishny, 1998). In an agency theory setting, SOE inefficiencies are a natural outcome of the separation of ownership (public) and control (politicians), no individual owner has a strong incentive to engage in active monitoring (Laffont and Tirole, 1993; Vickers and Yarrow, 1991). Additionally, managers of SOEs are not subjected to the pressures from stock and labor market. Instead, their objectives are to serve the interests of politicians (Boycko et al., 1996; Shleifer and Vishny, 1997; Boubakri et al., 2005) but not maximize shareholder wealth.

Where reduced PF has greater (fewer) distortions on the CSL of firms with state ownership, they will be more (less) affected by alterations in PF. Reduced PF could assert a lesser degree of distortions on companies with state ownership as the government could offer flexibility in terms of their budget restrictions through the provision of privileged access to credit as well as different kinds of support (Borisova et al., 2015; Borisova and Megginson, 2011; Faccio, Masulis, and McConnell, 2006; Kornai, Maskin, and Roland, 2003), particularly where the cost of such financing is a particular concern. Hence, they should be less impacted by enhancements to PF. Conversely, firms with state ownership in countries with a reduced level of PF could experience greater distortions, thus reducing the level of efficiency in comparison to those that are not. Thus, the improvement in PF should

have a larger impact on them. The second argument can be explained by three interconnected factors. First, firms with state ownership generally benefit from soft budget constraints (Borisova et al., 2015; Borisova and Megginson, 2011; Faccio, Masulis, and McConnell, 2006; Kornai, Maskin, and Roland, 2003). Therefore, in conditions of reduced PF with increased expropriation by the state, company executives will have increased motivation to follow their political interests at the cost of profit maximisation in comparison to executives of firms without state ownership. Second, reduced PF negatively impacts transparency (Stulz, 2005). Hence, there is an increased likelihood that when a country has low PF, managers of firms with state ownership will conceal the politically driven diversion of corporate resources acquired from the manipulation of financial statements for personal gain (e.g., Bushman et al., 2004; Chaney et al., 2011; Guedhami et al., 2009) compared with managers of firms with no state ownership, thus implying increased levels of information asymmetry. Third, Boubakri, Cosset, and Saffar (2013) show that there is a negative association between state ownership and corporations' willingness to take risks as the diversion of corporate resources by managers for personal gain constraints the ability of firms from engaging in risky projects (John, Litov and Yeung, 2008). Ben-Nasr, Boubakri, and Cosset (2012) document that state ownership increases the cost of equity and debt (Borisova and Megginson, 2011) as a result of significant problems of information asymmetry and agency. Therefore, in conditions of reduced PF, which is connected with increased expropriation by the state and a lack of information transparency (Stulz, 2005), firms with state ownership are less willing to engage in risky behaviour and are subjected to significantly higher external financing costs in comparison to firms without, causing the investment conditions to deteriorate and devaluations of firms.

In summary, reduced PF appears to assert greater distortion to the investment environment and CSL of SOEs than purely private firms, while they should be more impacted by enhancements to PF.

Models 1 and 2 in Table 9 present the results of firms with and without state ownership in countries that have experienced at least one major change in PF or EF, respectively. The data on state ownership is taken from Chen et al. (2017). After merging this dataset with the original sample and limiting the sample to countries that have experienced at least one major change in EF or PF, I obtain a merged sample of 485 observations from 76 firms with positive state ownership. I further divide the merged sample into two subsamples and compare the impacts of changes in PF and EF on CSL among firms with positive state ownership (Model 1) to those among firms with no state ownership (Model 2). The results show that an improvement in PF is related to a more substantial growth in CSL among firms with state ownership compared with firms without, implying that low PF to a larger extent distorts CSL of these firms. However, the SUEST shows that the difference between coefficients of changes in PF in Model 1 and 2 is statistically insignificant ($p\text{-value} = 0.3280$). This result implies that the coefficient of change in PF is larger in Model 1 than that in Model 2 though the difference is statistically insignificant. Not surprisingly, the effect of change in EF on CSL does not show significant differences between the subsamples and the coefficients are insignificant in Model 1 and Model 2. The SUEST shows that the difference between the coefficients of changes in EF in Model 1 and 2 is statistically insignificant ($p\text{-value} = 0.1096$). These findings highlight the importance of developing PF and provide another reforming path for SOEs: not only can privatization improve the financial and operating performance of SOEs (Megginson and Netter, 2001; Djankov and

Murrell, 2002; Boubakri, Cosset, and Guedhami, 2008), an enhancement in PF is a different option to privatisation for making improvements to the effectiveness of SOEs, creating a good investment prospect and boosting the CSL of SOEs.

4.3.2 Subsample tests for firms with and without political connections

Past studies have documented that firms with political connections exhibit poorer quality accounting performance compared with those that have no connections as a result of serious problems of agency and information asymmetry (e.g. Faccio, 2010; Boubakri, Cosset, and Saffar, 2008). Firms that are politically connected are found to experience agency issues as those with political affiliations extract political gain at the cost of maximizing wealth for the benefit of other stakeholders linked to the firm, which incentivizes them to seek rents and expropriate firm resources via tunneling and self-dealing (Qian et al., 2011). Additionally, firms with political connections are found to experience issues of information asymmetry among managers and investors. They report lower quality of reported earnings (Chaney et al., 2011) to hide the expropriation acts of corporate insiders and have a less accurate earnings predictions of analyst (Chen et al., 2010) compared to firms without connections.

Where reduced PF has greater (lesser) distortion on the CSL of firms that are politically connected, a change in PF will have a larger (smaller) impact on them. On the one hand, reduced PF could lead to a lesser degree of distortion in firms with political connections as they can benefit from reduced borrowing costs (Boubakri et al., 2012) and a privileged access to credit, particularly during periods of financial crisis (Faccio, 2006; Faccio, Masulis, & McConnell, 2006). Hence, they should be less impacted by enhancements to PF. Conversely, in conditions of reduced PF, politically connected firms could experience more distortions, which significantly

reduces their ability to generate profit in comparison to firms that are not due to two interconnected factors. First, politically connected firms normally benefit from flexible budgeting conditions (Faccio, 2006; Faccio, Masulis, & McConnell, 2006). Hence, when PF is lower with increased expropriation by the state, those with political affiliations within the firms will have greater motivation to glean political benefits at the cost of maximising wealth in comparison to managers in firms with no political connections. Second, in countries of reduced PF that are connected with poor transparency of information (Stulz, 2005), there is an increased likelihood that firms with political connections will produce much lower quality reported earnings (Chaney et al., 2011) and less precise earnings forecasts by analyst (Chen et al., 2010) compared with firms with no connections. Taken together, it appears that low PF leads to greater distortion of the investment outlook and CSL of firms with political connections than those with none, meaning that they should be impacted more by enhancements to PF.

Models 3 and 4 in Table 9 exhibit the results of firms with and without political connections in countries that have experienced at least one major change in PF or EF, respectively. I obtain the data on the political connected firms from Faccio (2006). Political connection is a dummy variable equal to 1 for firms that are politically connected, and 0 otherwise. Faccio (2006) identifies a firm as politically connected “if at least one of its large shareholders (anyone controlling at least 10 percent of voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister, head of state or is closely related to a top politician or party.” After merging this dataset with the original sample and limiting the sample to countries that have experienced at least one major change in EF or PF, I identify 75 politically connected observations in 5

countries. After dividing the merged sample into two subsamples, I compare the effects of changes in PF and EF on CSL among firms with political connections (Model 3) to those among firms with zero political connections (Model 4). The results demonstrate that PF has significant effect on CSL in both subsamples, but its coefficient has higher economic significance in the subsample of firms with political connections. The SUEST shows that the difference between the coefficients of PF in Model 3 and 4 exhibits a statistically significant result with p-value equals to 0.0767. This implies that the effect of changes in PF on CSL is significantly stronger among political connected firms than political non-connected firms. Regarding EF, the SUEST shows that the difference between the coefficients of changes in EF in Model 3 and 4 is statistically insignificant (p-value = 0.3311), implying that there are no significant differences between the subsamples and the coefficients are insignificant. Overall, these results suggest that improvement in PF is associated with a larger increase in CSL among firms with political connections than firms without, implying that low PF distorts CSL of politically connected firms to a greater extent. Thus, enhancements in PF may effectively ease the distortions in CSL of politically connected firms by providing them a friendly and transparent investment environment.

[INSERT TABLE 9 HERE]

5 Conclusion

In this study, I investigate the effects of PF and EF on CSL. I find that in the FD regressions, the effect of a country's PF is positive and significant in determining CSL and this effect is more significant than the effect of EF in maintaining a long-term loyal shareholder base. Moreover, among the country-level factors considered in the regression, PF has the most significant effect on CSL. I

also examine the mutual reliance of both freedoms in boosting CSL and find that EF relies on the development of PF to take effect, but not vice versa. This implies that both policymakers and international organizations need to place a balanced view on the economic and political reforms.

The results are robust. First, major changes in PF status have larger effects on CSL than minor changes. However, EF does not show this result. This test proves that the magnitude of changes in CSL is closely related to that of changes in freedom, and that PF is a more critical factor than EF in building CSL. Second, there is no reversion in the effect of PF.

In additional tests, I find that an improvement in PF is associated with a larger increase in CSL among firms with state ownership or political connections than firms without. This result suggests that firms with state ownership or political connections have more severe inefficiency problem under low PF and improving PF can be an alternative to privatization in easing the low-efficiency problem.

In summary, this essay suggests that PF is more important than EF in maintaining CSL, which is a major link between freedoms and economic growth. The interaction between two freedoms indicates that even though it is relatively easier for a government to increase a country's EF compared to PF in order to boost the economy, the government may not be successful without synchronous political reforms.

6 Limitations and Future Study

Political and economic freedom are broad terms. Many different factors may influence the changes in PF and EF and at the same time, affect CSL. The FD approach and the robustness tests in the study can alleviate the endogeneity concern that comes from the firm-level and country-level factors that determine CSL when

freedoms change. However, it is not possible to entirely address this concern because of the complexity of the background of those factors. Future research may seek to exploit some common shocks that change PF and EF across all sample countries as quasi-experiments in order to mitigate the endogeneity issue. In addition, it would be interesting to examine more on the cross-sectional variation across firms. For example, some firms may have certain advantages even in less free countries. These firms are easier to obtain necessary resources from the financial market and should be subject to less impact of change in political and/or economic freedom. Firm size, the level of excess cash, and government (foreign) ownership can be the appropriate proxies for the certain advantages. Furthermore, future study could examine the impact of political versus economic freedom on commitment to maintaining loyal client base, which is one of the categories of economic performance pillar according to Thomson Reuters ASSET4.

APPENDIX A: Definition of Variables

Shareholder Loyalty Key Metrics from Thomson Reuters ASSET4

Earnings restatement	Is the company in the process of a material earnings restatement?
Profit warnings	Has the company issued a profit warning during the year?
Insider dealings controversies	Is the company under the spotlight of the media because of a controversy linked to insider dealings and other share price manipulations?
Auditor independence	Does the company report on the number of years after which it rotates its statutory auditor?
Accounting controversies	Is the company under the spotlight of the media because of a controversy linked to aggressive or non-transparent accounting issues?
ROE	Net income / equity
Return on invested capital	Net income / invested capital
Cash flow growth	Operating cash flow (or unlevered free cash flow (UFCF)) growth (three-year annual growth)
Liquidity	Total Current Assets / Total Current Liabilities
Fitch credit rating	The company's credit rating as provided by Fitch (AAA (24 points); AA+ (23 points); AA (22 points); AA- (21 points); A+ (20 points); A (19 points); A- (18 points); BBB+ (17 points); BBB (16 points); BBB- (15 points); BB+ (14 points); BB (13 points); BB- (12 points); B+ (11 points); B (10 points); B- (9 points); CCC+ (8 points); CCC (7 points); CCC- (6 points); CC+ (5 points); CC (4 points); CC- (3 points); C (2 points); D (1 points); DD (1 points); DDD (1 points))
Debt to equity	Net debt / equity
Long-term debt	Long-term debt / equity
Retained earnings	Retained earnings / equity
Dividend payout ratio	Cash dividends/net sales
Stock option dilution	Percentage difference between basic EPS and diluted EPS
Pension underfunding	Total pension underfunding divided by sales.
Non-audit to audit fees ratio	All non-audit fees divided by the audit and audit-related fees paid to the group auditor
Accounting compliance	All real or estimated penalties, fines from lost court cases, settlements or cases not yet settled regarding controversies linked to aggressive or non-transparent accounting in US dollars

Firm-level and Country-level Variables used in the analysis

Variable	Definition	Source
<i>Main independent variables</i>		
PF	The average score of the civil liberties and political rights indexes determines political freedom.	Freedom House
PF Major Improvement	If a nation's political freedom status shows improvement across the three classifications: free, partly free, and not free, PF Major Improvement is 1, otherwise it is 0.	Freedom House
PF Major Deterioration	If a nation's political freedom status shows deterioration across the three classifications: free, partly free, and not free, PF Major Deterioration is 1, otherwise it is 0.	Freedom House
EF	The average score of the indexes of labor freedom, trade freedom, business freedom, financial freedom, investment freedom, and monetary freedom determines economic freedom.	Heritage Foundation
EF Major Improvement	If a nation's economic freedom status shows improvement across the three classifications: free, moderately free, and unfree, EF Major Improvement is 1, otherwise it is 0.	Heritage Foundation
EF Major Deterioration	If a nation's economic freedom status shows deterioration across the three classifications: free, moderately free, and unfree, EF Major Deterioration is 1, otherwise it is 0.	Heritage Foundation
<i>Dependent variables</i>		
Shareholder Loyalty (CSL)	Shareholder loyalty score is obtained from Thomson Reuters ASSET4 and measures a company's management commitment and effectiveness towards generating a high return on investments.	Thomson Reuters ASSET4
Δ CSL	Change of shareholder loyalty score between two years.	Thomson Reuters ASSET4
<i>Controls</i>		
Debt Ratio	Total liabilities scaled by total assets.	Compustat
Size	Logarithm of total assets in millions (in 2010 U.S. dollars).	Compustat
Cash Ratio	Cash and short-term investment scaled by total assets.	Compustat
Tobin's Q	Market value of equity plus book value total liabilities scaled by total assets.	Compustat
R&D Ratio	Ratio of R&D expense to net sales	Compustat
ROA	Ratio of net income before extraordinary items to total assets	Compustat
Sales Growth	Change in net sales from year t-1 to year t	Compustat
CSR	CSR score (z-score) is the average of environmental performance score and social performance score, it ranges from 0 to 100 and measure the E&S performance relative to all other companies in a given year.	Thomson Reuters ASSET4

Corporate Governance	Corporate Governance score (z-score) ranges from 0 to 100 and measure the corporate governance performance relative to all other companies in a given year.	Thomson Reuters ASSET4
Excess Cash Ratio	Residuals from regressing Cash Ratio by industry (defined by the first two digits of SIC codes) on intercept, Debt Ratio, Size, Maturity, Intangible Assets Ratio, Dividend Ratio, Tobin's Q, Cash Flow Ratio, and year dummies	Compustat
Shareholder Rights	Revised anti-director rights index.	Djankov et al. (2008)
GDP Growth	A country's GDP growth rate.	World Bank Country Development Indicators
Log(GDP) per capita	Logarithm of US\$ GDP per capita.	As above
Stock Market	Stock market capitalization to GDP ratio.	As above
State Ownership	Percentage of shares held by the government	Firms' annual reports and offering prospectuses
Political Connection	Dummy variable equal to 1 for politically connected firms, and 0 otherwise	Faccio (2006)

APPENDIX B: P-values of sample correlations among 10 changes in PF and EF in countries with a major change.

	ΔPF_t	ΔEF_t
ΔPF_{t-1}	0.0014	
ΔPF_{t+1}	0.0014	
ΔEF_t	0.7984	
ΔEF_{t-1}	0.6471	
ΔEF_{t+1}	0.8025	
ΔEF_{t-1}		0.9676
ΔEF_{t+1}		0.9676
ΔPF_t		0.7984
ΔPF_{t-1}		0.8025
ΔPF_{t+1}		0.6471

This table presents correlations among PF and EF within three years using p-values in the sample.

Appendix C: Distribution of occurrence of major changes in PF and EF across years

Countries with major improvements in PF

Year	Country	Change from	Change to
2004	South Korea	Partly Free	Free
2005	Israel	Partly Free	Free

Countries with major deteriorations in PF

Year	Country	Change from	Change to
2011	Greece	Free	Partly Free
2013	South Korea	Free	Partly Free
	Panama	Free	Partly Free
2014	Hungary	Free	Partly Free

Countries with major improvements in EF

Year	Country	Change from	Change to
2005	Israel	Moderately Free	Free
	Japan	Moderately Free	Free
2007	France	Moderately Free	Free
2008	Norway	Moderately Free	Free
2009	Mexico	Moderately Free	Free
	South Korea	Moderately Free	Free
2010	Colombia	Moderately Free	Free
	Egypt	Unfree	Moderately Free
2011	Brazil	Unfree	Moderately Free
2012	Mexico	Moderately Free	Free
	Poland	Moderately Free	Free
	Sri Lanka	Unfree	Moderately Free
2013	Malaysia	Moderately Free	Free
	Philippines	Unfree	Moderately Free
2014	Portugal	Moderately Free	Free

Countries with major deteriorations in EF

Year	Country	Change from	Change to
2004	France	Free	Moderately Free
	Mexico	Free	Moderately Free
	Portugal	Free	Moderately Free
2009	Brazil	Moderately Free	Unfree
2011	Mexico	Free	Moderately Free
	Egypt	Moderately Free	Unfree
2013	Brazil	Moderately Free	Unfree
	Sri Lanka	Moderately Free	Unfree

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Table 1: Summary of corporations' CSL by country

Country	N	CSL
Australia	875	0.723
Austria	93	0.624
Belgium	136	0.679
Brazil	119	0.526
Canada	718	0.649
Chile	47	0.546
China	165	0.369
Colombia	18	0.848
Denmark	19	0.527
Egypt	14	0.227
Finland	24	0.717
France	625	0.657
Germany	525	0.550
Greece	97	0.250
Hungary	14	0.652
India	223	0.664
Indonesia	91	0.471
Ireland	70	0.524
Israel	58	0.434
Italy	138	0.563
Japan	2,977	0.407
Luxembourg	46	0.613
Malaysia	124	0.474
Mexico	95	0.392
Morocco	4	0.187
Netherlands	219	0.695
New Zealand	66	0.703
Norway	139	0.650
Panama	5	0.873
Peru	3	0.138
Philippines	40	0.643
Poland	37	0.334
Portugal	58	0.365
Russia	111	0.565
Singapore	195	0.657
South Africa	257	0.650
South Korea	352	0.388
Spain	227	0.502
Sri Lanka	4	0.554
Sweden	16	0.547
Switzerland	325	0.623
Thailand	75	0.691
Turkey	81	0.678
U.K.	607	0.408
U.S.	4,392	0.664
Sum/Mean	14,524	0.571

This table shows the number of country-means and firm years of corporations' CSL for each nation, with all the variables being defined in Appendix A.

Table 2: Descriptive Statistics and Pearson Correlation Matrix**Panel A. Summary Statistics**

<u>Variables</u>	<u>No. of Obs.</u>	<u>Mean</u>	<u>Median</u>	<u>Std</u>	<u>Min</u>	<u>Max</u>
CSL	14,524	0.571	0.581	0.289	0.008	0.989
PF	14,524	5.608	6.000	0.935	0.500	6.000
EF	14,524	7.779	8.088	0.794	4.928	8.875
Debt Ratio	14,524	0.533	0.543	0.186	0.093	0.924
ROA	14,524	0.135	0.124	0.084	-0.099	0.441
Size	14,524	8.720	8.647	1.356	5.310	12.079
Cash Ratio	14,524	0.134	0.101	0.118	0.001	0.574
Tobin's Q	14,524	1.861	1.410	1.503	0.635	11.182
R&D ratio	14,524	0.026	0.001	0.053	0.000	0.304
Sales Growth ratio	14,524	0.064	0.058	0.185	-0.616	0.742
CSR	14,524	0.556	0.599	0.298	0.063	0.983
Corporate Governance	14,524	0.504	0.563	0.314	0.012	0.981
Log (GDP) per capita	14,524	10.521	10.743	0.693	7.054	11.626
Shareholder Rights	14,524	3.726	3.500	0.856	1.000	5.000
GDP Growth	14,524	1.849	2.006	2.490	-9.132	15.240
Stock Market	14,524	99.949	95.917	46.349	10.358	326.359

Panel B. Pearson Correlation Matrix

Variables		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
CSL	(1)	1.00															
PF	(2)	0.11	1.00														
EF	(3)	0.17	0.62	1.00													
Debt Ratio	(4)	-0.13	0.05	-0.02	1.00												
ROA	(5)	0.20	0.02	0.04	-0.15	1.00											
Size	(6)	0.08	-0.02	-0.13	0.33	-0.12	1.00										
Cash Ratio	(7)	-0.02	-0.06	-0.03	-0.38	0.08	-0.21	1.00									
Tobin's Q	(8)	0.10	-0.13	-0.10	-0.16	0.49	-0.22	0.24	1.00								
R&D ratio	(9)	0.01	0.11	0.10	-0.21	-0.06	-0.02	0.41	0.12	1.00							
Sales Growth ratio	(10)	0.05	-0.03	0.02	-0.06	0.22	-0.05	0.04	0.14	0.00	1.00						
CSR	(11)	0.18	0.08	-0.12	0.21	0.00	0.52	-0.12	-0.09	0.07	-0.11	1.00					
Corporate Governance	(12)	0.38	0.28	0.46	0.09	0.17	0.09	-0.09	0.07	0.04	0.04	0.20	1.00				
Log (GDP) per capita	(13)	0.06	0.66	0.78	0.01	-0.06	0.01	-0.01	-0.19	0.14	-0.05	-0.02	0.22	1.00			
Shareholder Rights	(14)	-0.19	-0.05	-0.14	-0.10	-0.09	-0.11	-0.01	-0.04	-0.08	-0.01	0.06	-0.38	-0.17	1.00		
GDP Growth	(15)	0.06	-0.38	-0.19	-0.05	0.10	-0.06	0.02	0.15	-0.07	0.27	-0.09	0.04	-0.37	-0.01	1.00	
Stock Market	(16)	0.16	0.06	0.37	-0.06	0.10	-0.12	0.03	0.10	0.03	0.07	-0.08	0.36	0.14	0.02	0.21	1.00

This table shows the descriptive statistics for the important variables applied in the analysis. In the sample, 14,524 firm-year observations are made of 2,174 companies in 45 nations between 2004 and 2015, with all variables being defined in Appendix A. Summary statistics for the regression variables are reported in Panel A, whereas the Pearson correlations for the regression variables are reported in Panel B, with the bold type representing statistical significance at a level of 1%.

Table 3: Means of firm and country factors across different PF status

	Full Sample	Not Free	Partly Free	Free
N	14,524	692	1,114	12,718
CSL	0.571	0.533	0.562	0.574
Debt Ratio	0.533	0.499	0.513	0.536
ROA	0.135	0.131	0.151	0.133
Size	8.720	8.767	8.453	8.740
Cash Ratio	0.134	0.160	0.135	0.133
Tobin's Q	1.861	2.618	2.491	1.764
R&D ratio	0.026	0.005	0.007	0.029
Sales Growth ratio	0.064	0.092	0.084	0.061
CSR	0.556	0.429	0.603	0.559
Corporate Governance	0.504	0.375	0.346	0.525
EF	7.779	6.657	6.307	7.969
Shareholder Rights	3.726	3.714	4.358	3.672
GDP Growth	1.849	5.488	3.882	1.473
Log (GDP) per capita	10.521	9.398	8.780	10.734
Stock Market	99.949	122.900	101.728	98.545

The means of different variables along the free, partly free, and not free categories, as designated by Freedom House according to the scores of political rights and civil liberties, are shown in this table with all variables being defined in Appendix A.

Table 4: Means of firm and country factors across different EF status

	Full Sample	Unfree	Moderately Free	Free
N	14,524	690	978	12,856
CSL	0.571	0.533	0.546	0.575
Debt Ratio	0.533	0.506	0.554	0.532
ROA	0.135	0.158	0.148	0.133
Size	8.720	8.816	8.530	8.729
Cash Ratio	0.134	0.155	0.129	0.134
Tobin's Q	1.861	3.337	2.122	1.762
R&D ratio	0.026	0.007	0.007	0.029
Sales Growth ratio	0.064	0.108	0.081	0.060
CSR	0.556	0.503	0.622	0.554
Corporate Governance	0.504	0.289	0.439	0.521
PF	5.608	2.983	4.807	5.810
Shareholder Rights	3.726	3.680	3.906	3.715
GDP Growth	1.849	5.862	2.601	1.576
Log (GDP) per capita	10.521	8.261	9.559	10.715
Stock Market	99.949	54.242	114.157	101.322

The means of different variables along the free, moderately free, and unfree categories, as designated by Heritage Foundation according to the indexes of EF, are shown in this table with all variables being defined in Appendix A.

Table 5: Changes in PF, EF, and CSL

	<u>Full Sample</u>	<u>Countries with a Major Change</u>
	(1)	(2)
	ΔCSL_t	ΔCSL_t
ΔPF_{t-1}	0.057* (0.03)	0.125*** (0.03)
ΔEF_{t-1}	0.027 (0.02)	0.036 (0.05)
$\Delta\text{Debt Ratio}_{t-1}$	0.205*** (0.07)	-0.017 (0.32)
ΔROA_{t-1}	-0.064 (0.18)	0.942** (0.33)
ΔSize_{t-1}	-0.046** (0.02)	0.045 (0.03)
$\Delta\text{Cash Ratio}_{t-1}$	-0.022 (0.04)	0.117 (0.11)
ΔQ_{t-1}	0.003 (0.01)	0.004 (0.01)
$\Delta\text{R\&D ratio}_{t-1}$	-0.128 (0.21)	-0.414*** (0.13)
$\Delta\text{Sales Growth}_{t-1}$	0.021 (0.01)	0.039 (0.03)
ΔCSR_{t-1}	-0.031** (0.02)	-0.002 (0.05)
$\Delta\text{Corporate Governance}_{t-1}$	-0.013 (0.02)	-0.036 (0.05)
$\Delta\text{Log(GDP) per capita}_{t-1}$	0.248* (0.14)	0.105 (0.48)
$\Delta\text{GDP Growth}_{t-1}$	0.003* (0.00)	0.002 (0.00)
$\Delta\text{Stock Market}_{t-1}$	-0.000 (0.00)	-0.001 (0.00)
N	12,332	3,540
R-square	0.012	0.074
Year Dummies	Yes	Yes

This table indicates the ΔPF_{t-1} and ΔEF_{t-1} impacts on ΔCSL_t with standard errors shown in parentheses being clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 6: Subsample analyses of changes in PF, EF, and CSL in countries with a major change

	(1) ΔCSL_t (high PF)	(2) ΔCSL_t (low PF)	(3) ΔCSL_t (high EF)	(4) ΔCSL_t (low EF)
ΔEF_{t-1}	0.178* (0.07)	-0.033 (0.08)		
ΔPF_{t-1}			0.135*** (0.03)	0.102 (0.09)
Δ of Firm level Controls from Table 5	Yes	Yes	Yes	Yes
Δ of Country level Controls from Table 5	Yes	Yes	Yes	Yes
N	1,292	2,248	3,207	333
R-square	0.046	0.116	0.098	0.072
Year Dummies	Yes	Yes	Yes	Yes

This table presents the ΔPF_{t-1} and ΔEF_{t-1} impacts on ΔCSL_t in various subsamples in countries with a major change. Model 1 shows the effect of ΔEF_{t-1} on ΔCSL_t in countries with high degree of PF and Model 2 shows the effect of ΔEF_{t-1} on ΔCSL_t in countries with low degree of PF. High (Low) PF refers to its index with a value equal to 6 (below 6); Model 3 shows the ΔPF_{t-1} on ΔCSL_t in countries with high degree of EF and Model 4 shows the ΔPF_{t-1} on ΔCSL_t in countries with low degree of EF. High (Low) EF refers to its index with a value more than 7 (equal to and below 7). Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 7: Major changes in PF, EF, and CSL in countries with a major change

	(1)	(2)	(3)
	ΔCSL_t	ΔCSL_t	ΔCSL_t
PF Major Improvement _{t-1}	0.204*** (0.06)	0.216*** (0.07)	
PF Major Deterioration _{t-1}	-0.056*** (0.01)	-0.044*** (0.01)	
EF Major improvement _{t-1}	0.018 (0.04)		0.045 (0.06)
EF Major Deterioration _{t-1}	-0.006 (0.02)		0.029 (0.04)
PF Minor Improvement _{t-1}		0.068** (0.03)	
PF Minor Deterioration _{t-1}		-0.077 (0.06)	
EF Minor improvement _{t-1}			0.024 (0.02)
EF Minor Deterioration _{t-1}			0.022 (0.02)
Δ of Firm level Controls of Table 5	Yes	Yes	Yes
Δ of Country level Controls of Table 5	Yes	Yes	Yes
N	3,540	3,540	3,540
R-square	0.071	0.073	0.069
Year Dummies	Yes	Yes	Yes

This table shows how major and minor changes in PF and EF affect CSL changes in countries with a major change. Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 8: Changes in PF, EF, and future CSL in countries with a major change

	(1)	(2)
	ΔCSL_{t+1}	ΔCSL_{t+2}
ΔPF_{t-1}	0.028 (0.04)	0.126 (0.09)
ΔEF_{t-1}	-0.015 (0.05)	-0.003 (0.02)
Δ of Firm level Controls from Table 5	Yes	Yes
Δ of Country level Controls from Table 5	Yes	Yes
N	2,948	2,378
R-square	0.050	0.040
Year Dummies	Yes	Yes

This table presents the one-year lagged effects of changes in PF status and EF status on change in future CSL in various subsamples in countries with a major change. Model 1 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on ΔCSL_{t+1} and Model 2 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on ΔCSL_{t+2} . Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

Table 9: Changes in PF and EF among firms with and without state ownership or political connections in countries with a major change

	(1)	(2)	(3)	(4)
	ΔCSL_t (with state ownership)	ΔCSL_t (no state ownership)	ΔCSL_t (with political connections)	ΔCSL_t (no political connections)
ΔPF_{t-1}	0.156** (0.05)	0.101** (0.02)	0.239** (0.07)	0.126*** (0.04)
ΔEF_{t-1}	0.113 (0.08)	0.01 (0.04)	0.135 (0.12)	0.037 (0.05)
Δ of Firm level Controls from Table 5	Yes	Yes	Yes	Yes
Δ of Country level Controls from Table 5	Yes	Yes	Yes	Yes
N	485	3,055	75	3,465
R-square	0.027	0.096	-0.019	0.074
Year Dummies	Yes	Yes	Yes	Yes

This table presents the one-year lagged effect of changes in PF status and EF status on change in CSL in various subsamples in countries with a major change. Model 1 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on ΔCSL_t among firms with state ownership larger than zero and Model 2 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on ΔCSL_t among firms with zero state ownership. Model 3 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on ΔCSL_t among firms with political connections and Model 4 shows the effects of ΔPF_{t-1} and ΔEF_{t-1} on ΔCSL_t among firms without political connections. Standard errors shown in parentheses are clustered at the country level. All the variables are defined in the Appendix A, with *, **, and *** representing 10%, 5%, and 1% two-tail significance levels respectively.

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June 2020