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Political Rights And Reported Accounting Numbers: An International Study

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POLITICAL RIGHTS AND REPORTED ACCOUNTING NUMBERS: AN
INTERNATIONAL STUDY

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2014

POLITICAL RIGHTS AND REPORTED ACCOUNTING NUMBERS: AN
INTERNATIONAL STUDY

by

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DISSERTATION

Presented to the Faculty of the Graduate School of

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Abstract

I examine how managers' behaviors, including earnings management and conservatism, are influenced by the political environments in 38 countries. The results indicate that greater political rights are associated with better earnings quality and more conservative reporting. I find that political institutions substitute for legal institutions in terms of managers' discretionary behaviors. Specifically, a marginal increase in political rights will produce a smaller reduction in earnings management behaviors in a country with better investor protection. Similarly, a marginal increase in political rights will encourage a less improvement on accounting conservatism in a country with better investor protection.

Table of Contents

Abstract.....	iv
Table of Contents.....	v
List of Tables.....	vii
List of Figures.....	viii
Chapter 1: Introduction.....	9
Chapter 2: Literature review.....	12
2.1 Legal institutions and financial market.....	12
2.2 Importance of political institution.....	14
2.3 Joint effect of legal institutions and political institutions.....	20
Chapter 3: Earnings management.....	23
3.1 Literature about earnings management.....	23
3.2 Legal factors and earnings management.....	25
3.3 Political institutions and earnings management.....	27
3.4 Measuring earnings management.....	29
3.5 Measuring political institutions.....	31
3.6 Measuring legal institutions.....	32
3.7 Empirical models.....	33
3.8 Sample and summary statistics.....	35
3.9 Results.....	40
3.10 Robustness tests.....	42
3.11 Conclusions for earnings management section.....	58
Chapter 4: Accounting conservatism.....	59
4.1 Literature about accounting conservatism.....	60
4.2 Legal factors and conservatism.....	62
4.3 Political institutions and conservatism.....	65
4.4 Measuring accounting conservatism.....	68
4.5 Measuring legal institutions and political institutions.....	69
4.6 Empirical models.....	70
4.7 Sample and summary statistics.....	71

4.8 Results.....	75
4.9 Robustness tests	77
4.10 Conclusion for conservatism section	90
References.....	91
Vita	103

List of Tables

Table 3.1: Descriptive Statistics by Country for Earnings Management.....	36
Table 3.2: Descriptive Statistics for Earnings Management.....	38
Table 3.3: Correlation Matrix for Earnings Management	39
Table 3.4: Impact of Political and Legal Institutions on Earning Management Behaviors.....	41
Table 3.5: Impact of Political and Legal Institutions on Earning Management Behaviors - Weighted Least Squares Regression.....	43
Table 3.6: Impact of Political and Legal Institutions on Earning Management Behaviors - Alternative Measure of Political Rights.....	45
Table 3.7: Impact of Political and Legal Institutions on Earning Management Behaviors - Political Rights in Year t-1	47
Table 3.8: Impact of Political and Legal Institutions on Earning Management Behaviors - Alternative Measures of Legal Institutions.....	49
Table 3.9: Impact of Political and Legal Institutions on Earning Management Behaviors - Culture as Control Variables.....	53
Table 3.10: Impact of Political and Legal Institutions on Earning Management Behaviors - Country Mean/Median Levels	55
Table 3.11: Impact of Political and Legal Institutions on Earning Management Behaviors - Alternative Measures of Earnings Management.....	57
Table 4.1: Descriptive Statistics by Country for Conservatism.....	73
Table 4.2: Descriptive Statistics for Conservatism.....	73
Table 4.3: Correlation Matrix for Conservatism.....	74
Table 4.4: Impact of Political and Legal Institutions on Conservatism Behaviors	76
Table 4.5: Impact of Political and Legal Institutions on Conservatism Behaviors - Weighted Least Squares Regression.....	78
Table 4.6: Impact of Political and Legal Institutions on Conservatism Behaviors - Alternative Measure of Political Rights.....	80
Table 4.7: Impact of Political and Legal Institutions on Conservatism Behaviors - Political Rights in Year t-1	82
Table 4.8: Impact of Political and Legal Institutions on Conservatism Behaviors - Alternative Measure of Legal Institutions	84
Table 4.9: Impact of Political and Legal Institutions on Conservatism Behaviors - Culture as Control Variables.....	87
Table 4.10: Impact of Political and Legal Institutions on Conservatism Behaviors - Non-operating Accruals as Dependent Variables.....	89

List of Figures

Figure 3.1: Economics of Institutions.....	26
Figure 3.2: Gray's (1988) Model with Doupnik and Tsakumis's (2004) Extension.....	52

Chapter 1: Introduction

There are conflicting results in the economic, finance and law literature about which country-level factor is the most important one to determine financial and economic development. One stream of research indicates that legal origins or legal institutions can explain the variations of financial market features in different countries (e.g. La Porta et al. 1997, 1998; Demirguc-Kunt and Maksimovic, 1999). Another stream of research argues that political institutions are related to financial market development (e.g. Roe, 2006; Keefer, 2008). Recent studies have pointed out the joint effect of legal institutions and political institutions on the development of financial markets (e.g. Glaeser and Shleifer, 2002).

Qi et al. (2010) is one of the first studies to investigate the joint effect of legal institutions and political institutions on one financial market characteristic, the cost of debt for corporate bonds. They document that firms in a country with better political institutions are more likely to have lower cost of debt. By examining the interaction between political institutions and legal institutions in multivariate regressions, they find that political and legal institutions substitute for each other. However, they investigate only the cost of debt for corporate bonds. This is considered as the perceived risk of a firm, which implies points of view from creditors and investors. It is still unclear about the impact of political institutions on managers' behaviors. If political institutions have significant influence on capital market participants, such as creditors and investors, political institutions would also affect managers' behaviors.

In this dissertation, I explore how managers' behaviors, including earnings management and conservatism, are influenced by both the legal and political environments. Both conservatism and earnings management are the results of managerial discretion and driven by economic

incentives, which are affected by both the institutional and political environments. The decisions to manage earnings or report conservatively are made by managers and/or board of directors. Specifically, I study (1) the impact of both political institutions and legal institutions on managers' behaviors regarding abnormal accruals and conservatism choices; (2) whether the political institutions and legal institutions substitute, complement, or are independent from each other. The underlying premise of my analysis is that a country's legal institution and political environments, and firm-related attributes create incentives that influence the behavior of managers, investors, regulators and other market participants. Such incentives affect managers' behaviors and shape the properties of reported accounting numbers through a complex interplay of legal, market, regulatory, and political pressures, and reporting discretion exercised by managers.

My sample contains data in 38 countries from the year 2003 to 2012. The results indicate that political institutions play an important role in restricting managers' discretion by decreasing abnormal accruals and enhancing conservatism. Furthermore, following Djankov et al. (2003) and Glaeser and Shleifer (2003), I find that political institutions substitute for legal institutions in terms of managers' discretionary behaviors. Specifically, a marginal increase in political rights will produce a smaller reduction in earnings management behaviors in a country with better investor protection. Similarly, a marginal increase in political rights will encourage less improvement in accounting conservatism in a country with better investor protection. I use different measures of earnings management, conservatism, and political rights as well as investor protection. I re-run the regressions eliminating countries one at a time. Additionally, I estimate models controlling for the impact of culture. The results are robust to all these alternative specifications.

This dissertation contributes by adding the impact of political environments as an explanatory factor which can be employed to explain managers' reporting discretion across

countries. And this could create greater opportunities for investment and economic growth. Additionally, this study contributes by exploring the joint effect of political and legal institutions on manager's behaviors, which provides broad implications for governments, market participants, and policy makers about the importance of legal systems, political environments, and the relationship between legal and political institutions. A country with a restrictive political system may still improve its financial market by providing a better legal system.

Chapter 2: Literature review

Recent research documents controversial results about which factors, legal institutions or political institutions, should be the dominant factor in explaining the development of financial and economic markets. Haber, North, and Weingast (2008) are the first to define the debate as the “legal origins view” versus the “political institutions view.”

2.1 Legal institutions and financial market

In the traditional view of finance, securities are valued by cash flows related to them (Modigliani and Miller, 1958). For example, stock can bring a stream of dividends to the stockholders, while debts can generate consistent interest payments within a certain period. Jensen and Meckling (1976) view financial claims as contracts based on which stockholders or debt holders can receive cash flows. Another stream of research points out that the defining feature of securities is the rights attached to them (Hart, 1995). Shares give power to investors to change directors and force dividend payments, while debt entitles creditors to receive interest payments and repossess collateral. Investors face risk when financing a firm, thus they protect themselves through contracts and rights attached to securities to protect their investment.

However, the above two views of finance using contractual framework or intrinsic rights attached to securities may be incomplete. La Porta et al. (2000, p. 5) indicate that “the rights of the investors are protected and sometimes even specified by the legal system.” Investors should not ignore the impact of legal systems, because their rights depend on legal rules and law enforcement of the jurisdictions in which securities are issued.

There are significant variations in breadth, size, and valuation of different financial markets across countries. There are also differences in capital structure, disclosure, and managers’

behaviors at the firm level across countries. The differences in legal systems and investor protection help explain why investors finance firms differently and why financial markets are so different across countries.

Many studies try to explore these differences. For example, Shleifer and Vishny (1997) find that the agency problems between managers and investors are due to legal differences across countries. La Porta et al. (1997) use a sample of 49 countries to investigate the impact of a series of the variables on the capital markets in those countries. They study the capital markets by examining the market capitalization, the number of domestic firms, and the number of initial public offerings within a period. The independent financial determinants, which focus on the legal rules and law enforcement, are rule of law, law origin, anti-director rights, and creditor rights. The authors find that there is a statistically significant relationship between law enforcement and the valuation of both debt and equity securities. Legal origin also plays a role, in that capital markets vary in size and breadth across countries with different origins. Capital markets under the common law system are bigger than the ones under the civil law system. Most of the differences are due to differences in shareholder protection. Finally, the size and extent of a country's capital market are determined by both its legal origin and enforcement.

La Porta et al. (1997, p. 1149) interpret their findings as follows:

“Because a good legal environment protects the potential financiers against expropriation by entrepreneurs, it raises their willingness to surrender funds in exchange for securities, and hence expands the scope of capital markets.”

Investors are more willing to pay a higher price for securities in a market with better protection. They know that their investment will not be expropriated and that more of the firm's profit will be returned as dividends. Since security prices are higher, firms are more willing to raise

funds in both equity and debt markets. As a result, the whole capital market becomes broader and more valuable.

Previous studies find that common law provides better protection to investors. Coffee (1999) and Johnson et al. (2000) study this issue by examining the judicial aspects in the law system. Since the common law system is more principle-based, judges have the right to rule on the new cases based on the precedents or the general principles if there is no specific conduct described in the statutes. Coffee (1999) points out that judges may use the “smell test” to handle the case of expropriation and determine whether this kind of conduct is unfair to the other stakeholders. La Porta et al. (2000, p. 9) point out that “the expansion of legal precedents to additional violations of fiduciary duty, and the fear of such expansion, limit the expropriation by the insiders in common law countries.”

2.2 Importance of political institution

Many researchers emphasize the important influence of a political institution on the size and development of financial markets, firms’ access to the financial market, and other firm characteristics (i.e. organizational structure and general information environment). A country’s political environment is one of the key issues considered by a company or an individual before conducting business or investing in a foreign environment. The political risks associated with a political institution may affect the business operations as well as the projections for profitability of a given investment. Political risk events include political insurrections, sociopolitical disorder, power group change, and government interference. Chua et al. (2013) indicate that foreign investments are extremely vulnerable to the change of a political environment. Therefore, a stable and favorable political institution would benefit financial markets.

2.2.1 Political institution and financial development

Using different measures of political institutions, recent research in political economy finds a relationship between financial development and political influence (e.g. Verdier 1999). Bekaert et al. (2006) point out that financial liberalization is more prevalent in countries with better political institutions, which are measured by political risks and political unrest.

Rajan and Zingales (2003) find that a country's legal origin or culture is not the only reason for cross-country differences in financial development. Due to the public availability of information and the dispersion of economic participation, a transition to democracy should facilitate financial development. More political power is given to "would-be industrialists and financiers." This leads to the enactment of free incorporation with limited liability and the emergence of stock markets. This study also points out that the strength of political forces should play a significant role in explaining both the cross-sectional and time series variations in financial development.

In addition to legal tradition and economic development, Fohlin (2000) presents evidence that political factors, such as government centralization, are strongly and negatively related to market orientation. By investigating the histories of financial development, she concludes that political forces play a significant role in shaping regulations, which in turn impact the course of financial institutions and markets.

Weber and Davis (2000) study the global stock exchanges in the late 1980s and 1990s, and find that the creation and spread of stock exchanges are related to both global factors and local factors. Global factors include prior trade and investment flows, direct investment by multinationals, and centrality in the network of trade flows. Local factors include the legacy of

colonialism, economy size and a transition to multi-party democracy, while legal tradition has no influence on the creation of stock exchanges.

Coffee (2001) reveals that research on the growth of security market should not focus on the difference between common law and civil law legal systems. One of the important hidden variables is the political system, which protects incumbents from competition and innovation. The rise of dispersed ownership is the result of a particular set of legal controls and political pressures.

How does political economy affect corporate finance in western countries, compared to legal origin? As discussed in Roe (2006), the author finds that difference in legal origin alone is never a strong factor to explain the differences in financial development. Based on the modern history of financial development, he shows that it is the interaction between political institutions and legal systems that plays an important role. He also indicates that the post-World War II financial effects are fading. Therefore, the differences in corporate finance are more local and temporal, and researchers should not ignore the impact of economic tasks, policies and political institutions.

Roe and Siegel (2011) shows that political stability is a foundational factor in explaining the variations in financial development around the world. After controlling the level of countries' economic development, instability harms financial markets independently of other explanations, such as investor protection, trade openness, legal origin, latitude and other factors that have obtained prominence in recent years. The authors find a robust channel running from structural inequality to political instability and then to financial backwardness. Their results hold up year-by-year over several decades and with different measures of financial development. In addition, by creating a new measure of instability, which takes into account long-term influence, they still find that political instability impedes financial development.

Perotti and von Thadden (2006) build a new framework that emphasizes inequality to explain the relationship between financial development and political institutions. In many developing countries, access to funding and financial services is skewed. Economic inequality leads to skewed political participation and unequal political influence. Powerful groups are able to affect the regulatory and judicial environment, which in turn impacts the allocation of finance.

There is evidence about how political institutions impact the financial sector and financial reform. By studying 17 countries over the period 1880-1997, Bordo and Rousseau (2006) document evidence of a relationship between the size of financial sector and political variables, which are proportional representation election systems, frequent elections, and infrequent revolutions. This result remains the same after controlling for the origin of a country's legal system.

Barth, Caprio, and Levine (2006) study a cross section of 65 countries in 2003 to explore the impact of constraints on federal executives, the competitiveness of elections, and government accountability on bank entry and bank regulation. They find that countries with more open, democratic institutions tend to be more permissive of bank entry and tend to create fewer regulatory restrictions on banks.

Keefer (2007) presents evidence that legal origin is an insignificant determinant of financial sector development. In contrast, the role of political institutions, such as the credibility of pre-electoral political promises and citizen information, dominates the role of legal institutions in promoting financial sector development.

2.2.2 Political institutions and access to finance

The influence of political institution on access to finance is direct in that politics have control on the distribution of finance. Supporting this argument, Faccio (2006) finds that countries

with higher level of corruption, more restriction on foreign investment and fewer constraints on political power are more likely to have more politically connected lending. She considers a firm as a firm with political connections if one of its large shareholders or top officers is a member of parliament, a minister or is closely related to a top party. The sample covers 20,000 listed firms in 47 countries.

Faccio, Masulis, and McConnell (2005) reveal that political connections affect the allocation of finance by influencing the mechanism of financial assistance. And this result explains why politically-connected firms are more likely to have a higher leverage and to be bailed out as shown in previous findings. They also find that politically-connected firms are more likely to be bailed out when the firm's home country receives financial assistance from IMF or World Bank.

Perotti and Volpin (2007) shows that it is easier to have access to finance in countries with a higher democracy score, which measures the general openness of political institutions. They also find that greater political accountability will lead to a lower entry cost to a financial market after controlling for legal origin and investor protection.

Chaney, Faccio and Parsley (2012) study the cost of debt of politically-connected firms in 19 countries for the period from 1996 to 2006. The findings indicate that the cost of debt of politically-connected firms is the same as the cost of debt of their non-connected peers, even though the politically-connected firms have lower earnings quality. To conclude, politically-connected firms have easy access to finance without worrying about improving their quality of information. They also indicate that poor information quality is only related to higher cost of debt for non-connected firms.

Additionally, using a loan-level banking data in Pakistan for the years from 1996 to 2002, Khwaja and Mian (2005) show that politically-connected firms tend to have higher borrowing

costs and have higher default rates. Bekaert, Harvey and Lundblad (2005) indicate that financial liberalization is more prevalent in countries with good political institutions.

2.2.3 Political institutions and other firms' characteristics

There are an increasing number of studies that examine the role of political institutions using firm-level data. Roe (2000) finds that firms' organizational structure is related to political factors on the country-level. In his view, in order to maintain high employment, managers have to give up opportunities for profit maximization because of social democracy pressures. In addition, social democracy pressures influence firms' behaviors by imposing additional agency costs. Public firms are more exposed to social democracy pressures than their private peers. As a result, these pressures lead to concentrated ownership, nontransparent accounting, hidden reserves, and direct supervision of management, which are employed to prevent these political pressures from expending firm's resources on other constituencies.

Finally, political institutions may affect firms' information environment. For example, Chaney, Faccio and Parsley (2012) show that politically-connected firms are more likely to have lower reporting information quality, because those firms do not need to respond to market pressures for a better information environment.

Bushman, Piotroski, and Smith (2004) provide evidence of how firms' information environment is affected by political factors. They measure firms' information environment based on the corporate reporting regime, the intensity of private information acquisition, and information dissemination. Their findings indicate that financial transparency is related to political factors. And financial transparency is higher especially in countries with low state ownership of enterprise, low state ownership of banks, and low risk of state expropriation of firms' wealth.

2.3 Joint effect of legal institutions and political institutions

In accordance with the four levels of social analysis model by Williamson (2010; see in Figure 3.2), the institutional environment, including legal and political environments, is on the second level, which is considered to jointly affect financial markets as well as firm performance and decisions. The key features of legal institutions are the definition and enforcement of property rights and of contract laws. In terms of the study in this dissertation, the legal institution is referred to as the strength of minority shareholder protections against directors' misuse of corporate assets for personal gain. In addition, a strong political environment is referred to a political system¹ that has freedom of expression, fair voting rights, independence of judiciary, and assurance of political freedom and civil liberties. There is a growing body of evidence emphasizing the joint effect of political and legal institutions on financial development and financial market.

Glaeser and Shleifer (2002) argue that the initial design of legal institutions, such as common-law and civil-law institutions, is the adaptive product of the historical and political environments. Based on their finding, both legal view and political view are just part of the story. Perotti and Volpin (2007) show evidence that access to finance is more successful in a relatively equal country with greater political accountability while controlling for legal origin and economic development.

Milhaupt and Pistor (2008) argue that legal systems do not function independently from political systems. The political institution determines the contestability of legal system, while contestability is defined as the extent to which law is subjective to "a process of creative destruction, particularly through the participation of actors across the spectrum, including private,

¹ Dahl (1976) defines a political system as a "persistent pattern of human relationship that involves, to a significant extent, control, influence, power, or authority."

social, as well as government actors as opposed to being an instrument exclusively in the hands of uncontested political authorities.” (Milhaupt and Pistor, 2008, p. 11).

Djankov et al. (2003) point out that traditional comparative economics have evolved and that researchers should not ignore political institutions, which function to secure property rights, to allocate credit, etc. They suggest that the optimal structure of efficient institutions should lead to the equilibrium in controlling for dictatorship (e.g. development of democracy) and controlling for disorder (e.g. development of investor protection). Finally, they reveal that legal institutions restrict the public sector, while political institutions influence the private sector. Therefore, researchers need to take into account both political institutions and legal institutions to measure the joint institution effect on financial development.

Qi et al. (2010) are the first to examine the joint effect of both political institutions and legal institutions on financial markets. By investigating the cost of debt for corporate bonds in 39 countries, they find that firms in a country with better political institutions, which are measured by political rights, are more likely to have lower cost of debt. According to their study, a country’s political institutions impact firms’ cost of debt for the following reasons. First, political institutions influence the validity of a given contract and overall macroeconomic stability through political stability and legal institutions. Second, political institutions are related to the possibility of expropriation. Third, political institutions are also associated with a country’s corruption level, which in turn brings additional risks for bondholders. Finally, Political institutions may affect the overall information environment. And the link between information environment and the cost of debt for corporate bonds has been well established by previous studies. By examining the interaction between political institutions and legal institutions, they conclude that political and legal institutions are substitutes in terms of the cost of debt. This means that a marginal increase

in political rights will produce greater reduction for the cost of debt in a country with weaker creditor right protection.

Given the dominant view of legal institutions on financial development and the growing body of empirical work supporting the importance of political institutions, it is interesting to study the joint effect of these two institutions on firm-level characteristics. In addition, Qi et al. (2010) only examine the impact of legal, political institutions, and their joint effect on the cost of debt for corporate bonds across the world. The joint effect of these two types of institutions on other areas, such as firms' earnings management behavior, can be investigated in accounting research.

Chapter 3: Earnings management

In this section, I examine the relationship between earnings management behaviors and political environments and whether earnings management behaviors are jointly affected by legal and political environments of the country where a firm is located. At issue is whether differences in earnings management are solely due to differences in legal environments or whether variations in political environments also play a role in mediating the impact of legal environments on earnings management. A better political environment is associated with a better information environment (Bushman et al., 2004). A strong information environment helps investors and other stakeholders monitor managers' behaviors and prevent managers from reporting opportunistically. It is interesting to explore how political environments interacts with legal environments to enforce a higher level of reporting quality.

3.1 Literature about earnings management

Earnings management is defined by Healy and Wahlen (1999, p. 368) as “when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers .” In other words, accounting is not a perfect science and allows for discretion in choosing how to report companies' financial status. Therefore, a particular earning result can be achieved by using discretionary choices.

Prior accounting research has provided evidence of earnings management (i.e. Healy, 1985; Kasznik, 1999). One means of managing earnings is to manipulate accruals. For example, managers can change their estimation about bad debt expenses and delay asset write-offs. This

allows manager to have the flexibility to borrow earnings from future periods through the acceleration of revenues or deceleration of expenses. According to Philips et al. (2003), the cost of manipulating accruals is a one-to-one earnings reduction in the future.

The second means of managing earnings is real earnings management, which refers to the manipulation of real activities, such as increasing production to reduce fixed expense per unit product and decreasing discretionary expenses (Dechow and Sloan, 1991; Roychowdhury, 2006). Managers may choose real earnings management to avoid reporting losses (Roychowdhury, 2006), to maintain positive earnings trends (Bartov et al. 2002), and to protect their wealth tied to equity compensation (Bens et al., 2002). Accrual-based earnings management and real earnings management are fundamentally different approaches to manage earnings. Accrual-based earnings management involves inter-temporal shifting of income, while real earnings management alters real activity levels that may affect future performance. Therefore, real earnings management may be more costly. For example, a company may increase net income by reducing current advertising expense, which is very likely to affect that company's future performance.

The third possible way to manipulate earnings is the misclassification of items within the income statements. The definition of classification shifting is "the deliberate misclassification of items within the income statement" (McVay, 2006, p. 501). For example, managers may shift the operating expenses to the discontinued operations section to inflate core earnings, or managers may allocate the normal legal expense as a special item in order to inflate core income. Different from the two methods discussed above, classification shifting bears less costs in that there is no future income reversals and no impact on firms' future cash flow. Therefore, earnings in the next period are equal to actual earnings, rather than earnings less the cost of earnings management in the prior period. This method greatly reduces the cost of earnings management. In addition,

classification shifting is less likely to draw auditors' or regulatory scrutiny since GAAP net income does not change. Previous research has documented the evidence and viability of using classification shifting. For example, McVay (2006) finds that managers use the classification shifting method to meet the analyst forecast earnings benchmark. In addition, Fan et al. (2009) indicate that classification shifting is more likely to occur in the fourth quarter than in interim quarters.

3.2 Legal factors and earnings management

As illustrated in Figure 3.1, legal factors or institutions have direct impact on accounting outcomes. In addition, social values can influence accounting outcomes through institutions. Previous studies show that legal factors can influence corporate governance, financial disclosure, and information asymmetry.

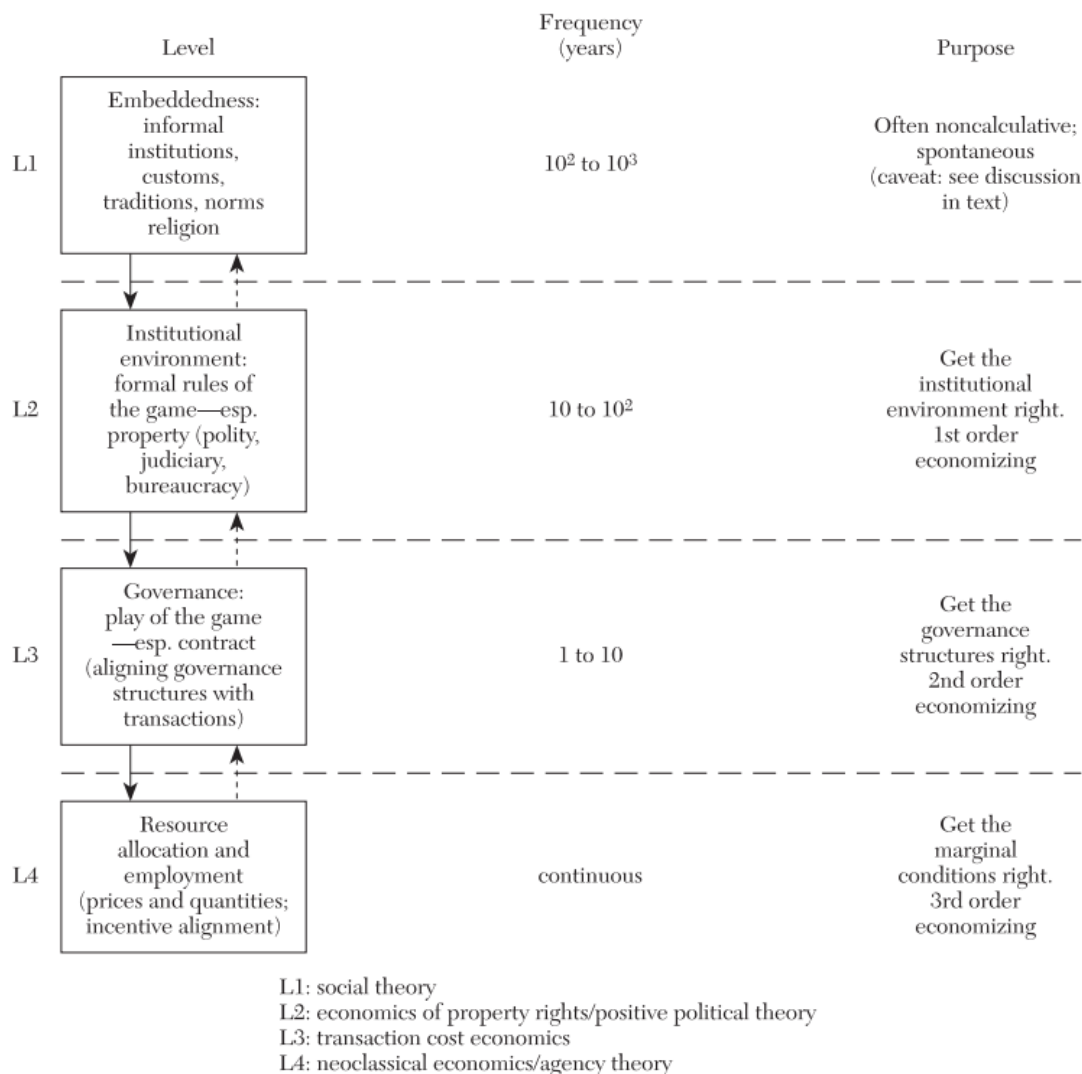


Figure 3.1: Economics of Institutions (source: Figure 1 in Williamson (2000, p. 597))

Using accounting data from 31 countries for the year from 1990 to 1999, Leuz et al. (2003) document that earnings management decrease with stronger investor protection. The results are robust after controlling for legal origin and GDP. Managers are motivated to mask the real firm performance in order to obtain private control benefits and minimize outsider interference. Legal institutions protect investors by enacting and enforcing laws that allow a firm to contract with outside investors. A number of studies indicates that investor protection restrict managers' ability to obtain private control benefits (e.g. Nenova, 2003; Dyck and Zingales, 2004).

Haw et al. (2004) show that both legal and extra-legal institutions restrict discretionary accruals across countries. They point out that a common law tradition, an efficient judicial system, and a high rate of tax compliance curb insiders' earnings management behaviors. Burgstahler and Eames (2006) document that earnings management is more prevalent in private than in public firms. As expected, they also find that earnings management is more prevalent in countries with weaker investor protection. By investigating only discretionary accruals, Han et al. (2010) find that strong investor protection will reduce the probability of discretionary accrual across 32 countries.

3.3 Political institutions and earnings management

Bushman et al. (2004) provide evidence of how firms' information environment is affected by political factors. They measure firms' information environment by the corporate reporting regime, the intensity of private information acquisition, and information dissemination. Their findings indicate that better political institutions lead to improved financial transparency.

The link between information environment and earnings management behaviors has been well established by previous studies (e.g. Trueman and Titman, 1988; Dye, 1988). Richardson (2000) finds that when information asymmetry is high, investors do not have resources or access to relevant information to monitor whether earnings are manipulated. And the findings indicate that firms with a higher level of information asymmetry are more likely to manage earnings.

Therefore, a better political environment is associated with a better information environment, under which firms are less likely to manage earnings. For my first research question, I examine: *whether political rights have an impact on earnings management behaviors*. In particular, I employ the following regression:

$$\begin{aligned}
& \text{Earnings Management}_{i,t} \\
& = \alpha_0 + \alpha_1 \text{Political Institutions}_{i,t} + \alpha_2 \text{Legal Institutions}_{i,t} \\
& + \alpha \text{Controls}_{i,t} \\
& + \varepsilon_{i,t}
\end{aligned} \tag{1}$$

Where i identifies a particular firm, and t denotes the time of the firm reporting earnings. The control variables include country-level and firm-level variables. The primary measure of political institutions is the political index from Freedom House, which provides an annual report of political rights and civil liberties ratings between 1972 and 2012.

The second research question is *whether political rights and legal institutions are complements, substitutes, or independent in terms of earnings management behaviors*. Qi et al. (2010) are the first to examine the joint effect of both political institutions and legal institutions on financial market. By examining the interaction between political institutions and legal institutions, they conclude that political and legal institutions are substitutes in terms of the cost of debt. This means that a marginal increase in political rights will produce greater reduction for the cost of debt in a country with weaker creditor right protection. Following Djankov et al. (2003), Glaeser and Shleifer (2003), and Qi et al. (2010), I examine the two research questions with the following model:

$$\begin{aligned}
& \text{Earnings Management}_{i,t} \\
& = \alpha_0 + \alpha_1 \text{Political Institutions}_{i,t} + \alpha_2 \text{Legal Institutions}_{i,t} \\
& + \alpha_3 (\text{Political Institutions}_{i,t} \times \text{Legal Institutions}_{i,t}) + \alpha \text{Controls}_{i,t} \\
& + \varepsilon_{i,t}
\end{aligned} \tag{2}$$

A positive (negative) α_3 in equation (2) indicates that political rights substitute (complement) for legal institutions. This means that a marginal increase in political rights will produce smaller (greater) reduction for earnings management behaviors in a country with better legal protection.

3.4 Measuring earnings management

The dependent variable in my analysis is total absolute value of abnormal accruals from Francis and Wang (2008). Previous studies document that the common modified Jones model is not appropriate for international studies (e.g. Wysocki, 2004; Meuwissen, Moers, Peek, and Vanstraelen, 2005; Francis and Wang, 2008). Some countries may have a small number of firms in a given industry or in a given year due to the limitation on data collection of the COMPUSTAT Global Industrial and Commercial file. Therefore, the predictions calculated by the modified Jones model are unreliable. As a result, following Francis and Wang (2008), I use a linear expectation model, which relies on a firm's prior data to calculate its own predicted accrual. And this method can be used even though the number of industry observations in a specific country is small. The expected accruals are based on a firm's prior year ratio of current accruals to sales, and the prior year's ratio of depreciation expense to gross property, plant, and equipment (PPE). In accordance with Francis and Wang (2008), this method also controls for the difference in accounting standards across the world, because it uses a firm's own data to calculate abnormal accruals.

Using data from COMPUSTAT Global Industrial and Commercial file, predicted accruals are calculated as in equation (3):

$$\text{Predicted Accrual} = \frac{\text{Sales}_t * (\text{CA}_{t-1} / \text{Sales}_{t-1}) - \text{PPEGT}_t * (\text{Depr}_{t-1} / \text{PPEGT}_{t-1})}{\text{Total Aseet}_{t-1}} \quad (3)$$

Where PPEGT is the total PPE (PPEGT) and Depr is the depreciation expenses, which is the difference between Depreciation and Amortization (DP) and Amortization of Intangibles (AM).

Abnormal accrual is measured as the difference between actual total accruals and predicted accrual in the same year, while total accruals are calculated by

Total accruals = (Earnings before extraordinary items (IB)

- Operating cash flows)/total assets (AT) in year t-1

Operating cash flows = Earnings before extraordinary items (as above)

- Depreciation and Amortization (DP)

- change of deferred income tax (TXDI)

- change of untaxed reserve (RVUTX)

- change in other liabilities (LO)

- minority interest (MII)

- current accruals (as defined below).

CA is the current accrual, defined as change in non-cash working capital.

CA = Δ [total current assets(ACT)

- cash and short term investments (CHE)

- treasury stock shown as current assets (TSCA)]

- Δ [total current liabilities(LCT)

- total amount of debt in current liabilities (DLC)

- proposed dividends (PRODV)]

3.5 Measuring political institutions

North (1981, p. 201) defines institutions as “a set of rules, compliance procedures, and moral and ethical behavioral norms designed to constrain the behavior of individuals in the interests of maximizing the wealth or utility of principals.” Qi et al. (2010) indicate that a good proxy for political institutions should measure investors’ ex ante views of restrictions on government performance instead of the ex post government performance. Therefore, they use a political rights index as the measure of overall political institutions. The index is from Freedom House (<http://www.freedomhouse.org>), which provides annual survey report of political rights and civil liberties ratings between 1972 and 2012. For the political rights index, each country is assigned an aggregate numerical rating based on a 7-point rating scale, where a higher number indicates stronger political rights. The surveys to measure political rights across the world include seven categories, which are drawn from the Universal Declaration of Human Rights. This aggregate index measures an individual’s ability to: (1) participate freely in the political process; (2) vote freely in legitimate elections; (3) have representatives that are accountable to them; (4) exercise freedoms of expression and belief; (5) be able to freely assemble and associate; (6) have access to an established and equitable system of rule of law; and (7) enjoy social and economic freedoms, including equal access to economic opportunities and the right to hold private property. The index is time-varying and is constructed every year from 1979 to 2012. Therefore, a higher political rating shows that “a political system that includes free and fair elections, those who are elected rule, competitive political parties or other political groupings, the opposition plays an important role and has actual power, and minority groups have reasonable self-government or can participate in the government through informal consensus” (Qi et al. 2010, p. 207).

3.6 Measuring legal institutions

Previous studies present evidence that the quality of reported earnings improve as the legal institutions, such as investor protection, become stronger. For example, Leuz et al. (2003) document that earnings management decrease with stronger investor protection. Therefore, a country with better investor protection is more likely to have lower degree of earnings management behaviors for firms within that country.

La Porta et al. (2006) develop a framework to illustrate that investor protection imposes its influence through a county's legal tradition, corporate law, and securities law. Legal tradition is the foundation for legal rights, and is classified into two groups, which are the common law and the civil law groups. Countries under the common law provide better protection to investors, and have larger financial markets and better financial infrastructure, than countries that adopted the civil law (La Porta et al., 1998). England developed the common law system through decisions of courts and similar tribunals, while France and other European countries developed civil law systems through the legislative or parliamentary process. The second level of investor protection comes from corporate law, which is established to protect minority rights and reduce the agency problems between managers and investors.

I use the aggregate investor protection index (INVPRO) from the World Bank Doing Business database, which utilizes the methodology by Djankov et al. (2008). This index measures three legal variables: (1) the extent of disclosure; (2) the extent of director liability; (3) shareholders' ability to sue officers and directors for misconduct. The average of the three variables gives an overall index for investor protection. To provide assurance that the results are not driven by using a specific measure for legal institutions, I use anti-self-dealing index (ANTI_SD) from Djankov et al. (2008) and disclosure requirement index (DISCLOSE) from La Porta et al. (2006)

as alternative measures. The anti-self-dealing index measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. The disclosure requirement index measures the extent to which there is required disclosure of information for firms issuing securities through a prospectus, including information on insiders' compensation, shareholder ownership structure, inside ownership, unusual contracts, and related-party transactions. As in La Porta et al. (2006), laws mandating disclosure benefit stock markets by reducing information asymmetry.

The disadvantage of the last two measures is that they are not time-varying measures. However, my data only cover the period from 2003 to 2012. It is short and close to the time when La Porta et al. (2006) and Djankov et al. (2008) develop these measures.

3.7 Empirical models

Following Francis and Wang (2008), I rewrite equation (1) and (2) into equation (4) and (5):

$$\begin{aligned}
 |Accrual|_{i,t} = & \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 BM_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 CFO_{i,t} + \beta_6 LEV_{i,t} \\
 & + \beta_7 GROWTH_{i,t} + \beta_8 PPE_CHANGE_{i,t} + \beta_9 LAG_LOSS_{i,t} + \beta_{10} ISSUE_{i,t} \\
 & + e_{i,t}
 \end{aligned} \tag{4}$$

$$\begin{aligned}
 |Accrual|_{i,t} = & \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} \\
 & + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} \\
 & + \beta_{11} ISSUE_{i,t} \\
 & + e_{i,t}
 \end{aligned} \tag{5}$$

Where:

$|Accrual|_{t-1}$ = absolute value of abnormal accruals, scaled by total asset in year t-1

PR = political rights index, measured by Freedom House

(<http://www.freedomhouse.org>) and ranges from 0 to 6

$INVPRO$ = measures of investor protection

$SIZE$ = the natural log of market value of equity

CFO = operating cash flows, scaled by total asset in year t-1

LEV = the total liabilities to total assets ratio

$GROWTH$ = sales growth, calculated as the change of sales in year t divided by the total sales in year t-1

PPE_CHANGE = gross property growth rate, defined as the change of gross property in year t divided by the gross property in year t-1

LAG_LOSS = dummy variable, coded as one if the firm report loss in year t-1, 0 otherwise

Firm size is controlled by $SIZE$, which measures the natural log market value of equity. There is a well-documented negative relationship between firm size and the level of accrual. CFO is included because firms with higher operating cash flows are more likely to have lower level of accruals. LEV and LAG_LOSS are controlled because they measure financial distress and bankruptcy risks. Finally, the variables $GROWTH$ and PPE_CHANGE control for firm growth. Prior research has established the link between growth and accruals.

3.8 Sample and summary statistics

The sample and financial data are obtained from the COMPUSTAT Global Industrial and Commercial file for the period 2003–2012. I exclude banks and financial institutions (SIC between 6000 and 7000). I also exclude firm-year observations with missing values for dependent and independent variable calculation. My final sample consists of 129,642 firm-year observations from 38 countries. The countries with largest representation are the U.S., Japan, and India. Table 3.1 lists means for country-level variable by countries. Countries with high political rights ratings (PR) do not necessarily have high investor protection ratings (INVPRO), while countries with better investor protection do not always have excellent political environments. Sweden, one of the countries with the highest political rights ratings, has a relatively low investor protection rating at 5.3772; Singapore has one of best investor protection environments (9.2570 at INVPRO) in 38 countries, but its political rating is merely 2.1960, the lowest one among the sample.

Table 3.1: Descriptive Statistics by Country for Earnings Management

Table 3.1 reports means for the variables used in the main regression. *PR* is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *PCI* is the political constraint index from Henisz (2000). *INVPRO* is the Strength of Investor Protection Index from the World Bank. *ANTI_SD* is the anti-self-dealing index from Djankov et al.(2008), which measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. *DISCLOSE* is the disclosure requirement index from La Porta et al. (2006). *IDV*, *UAI*, *MAS*, and *PDI* are individualism, uncertainty avoidance, masculinity, and power distance scores from Hofstede (1980). *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World BANK. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank.

Country	No.	PR	PCI	INVPRO	ANTI_SD	DISCLOSE	IDV	UAI	MAS	PDI	GDP_GROWTH	INFLATION	EQUITY/GDP
Argentina	83	5.0000	0.2413	4.7601	0.4438	0.5000	46	86	56	49	0.0886	0.0937	0.2216
Australia	7,743	6.0000	0.4144	5.7082	0.7903	0.7500	90	51	61	36	0.0302	0.0278	1.1589
Austria	455	6.0000	0.4818	5.0233	0.2094	0.2500	55	70	79	11	0.0161	0.0208	0.3111
Belgium	577	6.0000	0.7028	6.9953	0.5403	0.4167	75	94	54	65	0.0128	0.0232	0.6449
Brazil	884	5.0000	0.2256	5.3094	0.2913	0.2500	38	76	49	69	0.0329	0.0597	0.5700
Canada	6,607	6.0000	0.3545	8.6824	0.6510	0.9167	80	48	52	39	0.0183	0.0198	1.1905
Chile	151	6.0000	0.4437	6.0689	0.6250	0.5833	23	86	28	63	0.0433	0.0258	1.1573
Denmark	674	6.0000	0.3580	6.2913	0.4656	0.5833	74	23	16	18	0.0048	0.0211	0.6611
Finland	869	6.0000	0.5386	5.7176	0.4601	0.5000	63	59	26	33	0.0153	0.0178	0.8464
France	4,123	6.0000	0.5256	5.3150	0.3823	0.7500	71	86	43	68	0.0101	0.0174	0.7810
Greece	986	5.7566	0.3964	3.1837	0.2250	0.3333	35	112	57	60	-0.0132	0.0305	0.3954
India	10,297	5.0000	0.2033	5.9996	0.5490	0.9167	48	40	56	77	0.0723	0.0856	0.7778
Indonesia	574	4.7282	0.3252	5.8533	0.6830	0.5000	14	48	46	78	0.0560	0.0736	0.3501
Ireland	174	6.0000	0.4559	8.2126	0.7868	0.6667	70	35	68	28	0.0212	0.0213	0.4763
Israel	459	6.0000	0.5775	8.3008	0.7135	0.6667	54	81	47	13	0.0411	0.0250	0.8744
Italy	1,080	5.8898	0.3937	5.9963	0.3854	0.6667	76	75	70	50	-0.0026	0.0216	0.3085
Japan	25,624	6.0000	0.5261	6.9972	0.4830	0.7500	46	92	95	54	0.0085	-0.0012	0.7949
Korea, Rep.	3,686	5.9314	0.4186	5.3135	0.4609	0.7500	18	85	39	60	0.0360	0.0311	0.8712
Malaysia	6,543	2.9213	0.2962	8.6747	0.9479	0.9167	26	36	50	100	0.0507	0.0240	1.4091
Mexico	477	4.7254	0.2672	5.1342	0.1785	0.5833	30	82	69	81	0.0271	0.0429	0.3226
Netherlands	904	6.0000	0.5648	4.4045	0.2090	0.5000	80	53	14	38	0.0127	0.0174	0.8759
New Zealand	462	6.0000	0.3059	9.6435	0.9500	0.6667	79	49	58	22	0.0175	0.0271	0.4119

Nigeria	236	2.7034	0.3491	5.7055	0.5156	0.6667	30	55	60	80	0.0836	0.1125	0.2485
Norway	786	6.0000	0.5257	6.6513	0.4354	0.5833	69	50	8	31	0.0151	0.0182	0.5829
Pakistan	989	2.3448	0.1594	6.3008	0.4083	0.5833	14	70	50	55	0.0382	0.1145	0.2443
Peru	312	5.0000	0.1655	6.6615	0.4083	0.3333	16	87	42	64	0.0658	0.0285	0.5464
Philippines	674	3.8561	0.3612	4.3628	0.2372	0.8333	32	44	64	94	0.0515	0.0453	0.5960
Portugal	279	6.0000	0.3734	5.9713	0.4861	0.4167	27	104	31	63	0.0008	0.0231	0.3825
Singapore	3,311	2.1960	0.0386	9.2570	1.0000	1.0000	20	8	48	74	0.0616	0.0252	1.8714
South Africa	1,415	5.2763	0.4236	7.9699	0.8135	0.8333	65	49	63	49	0.0348	0.0570	2.0537
Spain	612	6.0000	0.3052	5.0098	0.3705	0.5000	51	86	42	57	0.0076	0.0260	0.8707
Sri Lanka	810	2.5012	0.2810	5.4357	0.4083	0.7500	35	45	10	80	0.0656	0.0913	0.2673
Sweden	2,312	6.0000	0.4327	5.3772	0.3396	0.5833	71	29	5	31	0.0204	0.0144	1.0579
Switzerland	1,121	6.0000	0.4348	3.0623	0.2667	0.6667	68	58	70	34	0.0196	0.0069	2.1877
Thailand	2,988	2.5107	0.3928	6.7875	0.8490	0.9167	20	64	34	64	0.0404	0.0309	0.7346
Turkey	628	4.0000	0.3489	5.4968	0.4260	0.5000	37	85	45	66	0.0414	0.0895	0.3316
United Kingdom	7,530	6.0000	0.3861	7.9443	0.9271	0.8333	89	35	66	35	0.0148	0.0252	1.2571
United States	32,207	6.0000	0.4018	8.2988	0.6510	1.0000	91	46	62	40	0.0193	0.0250	1.1953

Table 3.2 displays descriptive statistics of the variables used in the main regression. The average absolute value for abnormal accruals is 0.1094. Approximately 39 percent of the firms issue new equity during the sample period. There are approximately 29 percent of the firms reporting a loss in year t-1. Table 3.3 provides correlation coefficients for the variables of interest. As expected, political rights are negatively correlated with abnormal accruals (-0.0385) and are positively associated with the alternative measure of political environments (0.5398), political constraint index from Henisz (2000). However, these correlation results should be interpreted with caution, because they do not control for differences in other firm characteristics in the cross-section.

Table 3.2: Descriptive Statistics for Earnings Management

Table 3.2 displays descriptive statistics for the variables used in the main regressions:

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *CFO* is equal to operating cash flows scaled by total assets. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *PPE_CHANGE* is the gross property growth rate, defined as the change of gross property in year t divided by the gross property in year t-1. *LAG_LOSS* is a dummy variable, coded as one if the firm report loss in year t-1, 0 otherwise. *ISSUE* is a dummy variable equal to one if shareholders' equity value increases by more than ten percent from the previous period, zero otherwise.

Variables	N.	Mean	Standard deviation	25th percentile	Median	75th percentile
Accrual	129,642	0.1094	0.1435	0.0248	0.0599	0.1297
BM	129,642	0.9384	0.8730	0.3637	0.6964	1.2612
SIZE	129,642	5.6962	2.6583	4.3975	5.8364	6.6063
CFO	129,642	0.0449	0.1302	0.0136	0.0595	0.1259
LEV	129,642	0.5035	0.2616	0.3168	0.4960	0.6576
Growth	129,642	0.1627	0.5739	-0.0406	0.0646	0.2063
PPE_CHANGE	129,642	0.1217	0.3746	0.0000	0.0471	0.1480
Lag_LOSS	129,642	0.2893	0.4534	0.0000	0.0000	1.0000
ISSUE	129,642	0.3855	0.4867	0.0000	0.0000	1.0000

Table 3.3: Correlation Matrix for Earnings Management

Table 3.3 displays Pearson correlation coefficients for the variables included in the main regressions:

|Accrual| is the absolute value of discretionary accrual following Francis and Wang (2008). *PR* is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *PCI* is the political constraint index from Henisz (2000). *INVPRO* is the Strength of Investor Protection Index from the World Bank. *ANTI_SD* is the anti-self-dealing index from Djankov et al.(2008), which measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. *Disclose* is the disclosure requirement from La Porta et al. (2006). *IDV*, *UAI*, *MAS*, and *PDI* are individualism, uncertainty avoidance, masculinity, and power distance scores from Hofstede (1980). *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World BANK. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank.

Correlation coefficients shown in bold are significant at $p < 0.05$ (two-tailed test).

	<i> Accrual </i>	<i>PR</i>	<i>PCI</i>	<i>INVPRO</i>	<i>ANTI_SD</i>	<i>DISCLOSE</i>	<i>GDP_GROWTH</i>	<i>INFLATION</i>	<i>EQUITY/GDP</i>	<i>IDV</i>	<i>UAI</i>	<i>MAS</i>	<i>PDI</i>
<i> Accrual </i>	1.0000												
<i>PR</i>	-0.0385	1.0000											
<i>PCI</i>	-0.0989	0.5398	1.0000										
<i>INVPRO</i>	0.0170	-0.1248	-0.1591	1.0000									
<i>ANTI_SD</i>	0.0886	-0.3873	-0.3505	0.6688	1.0000								
<i>DISCLOSE</i>	0.0448	-0.1402	-0.2860	0.7112	0.5957	1.0000							
<i>GDP_GROWTH</i>	0.0697	-0.4107	-0.4230	-0.0340	0.1948	0.1652	1.0000						
<i>INFLATION</i>	0.0987	-0.3235	-0.5616	-0.1678	0.0556	0.0970	0.4870	1.0000					
<i>EQUITY/GDP</i>	0.0584	-0.1054	-0.1740	0.4603	0.5568	0.4991	0.2321	-0.1436	1.0000				
<i>IDV</i>	0.0792	0.6218	0.1906	0.2652	0.1369	0.3058	-0.2596	-0.1170	0.2530	1.0000			
<i>UAI</i>	-0.1485	0.3318	0.5924	-0.4160	-0.6162	-0.5222	-0.3303	-0.3709	-0.4957	-0.3383	1.0000		
<i>MAS</i>	-0.1159	0.3311	0.3600	0.1392	-0.1058	0.0292	-0.2613	-0.3892	-0.0843	-0.0053	0.5223	1.0000	
<i>PDI</i>	-0.0301	-0.6898	-0.3689	-0.0733	0.0898	0.0822	0.3963	0.3061	-0.0703	-0.7463	0.0235	-0.0762	1.0000

3.9 Results

Table 3.4 presents the results of the regressions of abnormal accruals on political and legal variables, firm characteristics as well as country control variables. Column 1 presents the basic specification with political rights, investor protection ratings, and firm characteristics. Column 2 adds the interaction between political rights and investor protection ratings to the basic regressions. Leuz et al. (2003) find that country variables explain differences in earnings management across countries; hence in column 3 and 4, following Chaney et al. (2011), I include three country-level variables to control for GDP growth, inflation and equity market capitalization.

The results in column 1 and 3 show that greater political rights are associated with smaller abnormal accruals. This implies that political rights play an important role in providing better reporting earnings quality in a country. The magnitude of the coefficient is economically large, and indicates that an increase of political rights ratings by one is associated with a 10% (7%)² decrease in the dependent variable. Consistent with Han et al. (2010), better investor protection leads to improved earnings quality.

² 10%=-0.0113/0.1094 and 7% = -0.0078/0.1094, while 0.1094 is the mean of dependent variable |Accrual|.

Table 3.4: Impact of Political and Legal Institutions on Earning Management Behaviors

Table 3.4 displays the results of regressions based on the following model:

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *CFO* is equal to operating cash flows scaled by total assets. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *PPE_CHANGE* is the gross property growth rate, defined as the change of gross property in year *t* divided by the gross property in year *t-1*. *LAG_LOSS* is the dummy variable, coded as one if the firm report loss in year *t-1*, 0 otherwise. *ISSUE* is a dummy variable equal to one if shareholders' equity value increases by more than ten percent from the previous period, zero otherwise. *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World BANK. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Accrual			
	(1)	(2)	(3)	(4)
PR	-0.0113 [-33.22]***	-0.0273 [-15.06]***	-0.0078 [-19.75]***	-0.0125 [-5.88]***
INVPRO	-0.0038 [-13.89]***	-0.0152 [-11.64]***	-0.0017 [-5.73]***	-0.0052 [-3.29]***
PR*INVPRO		0.0021 [8.94]***		0.0006 [2.23]**
BM	-0.0077 [-17.7]***	-0.0074 [-16.97]***	-0.0076 [-17.39]***	-0.0075 [-17.06]***
SIZE	-0.0038 [-49.89]***	-0.0039 [-50.92]***	-0.0040 [-47.94]***	-0.0040 [-47.61]***
CFO	-0.0901 [-26.74]***	-0.0899 [-26.71]***	-0.0892 [-26.46]***	-0.0892 [-26.44]***
LEV	0.0648 [32.13]***	0.0646 [32.04]***	0.0635 [31.27]***	0.0636 [31.28]***
GROWTH	0.0734 [58.14]***	0.0734 [58.11]***	0.0727 [57.40]***	0.0727 [57.4]***
PPE_CHANGE	0.0268 [15.49]***	0.0267 [15.42]***	0.0258 [14.89]***	0.0258 [14.89]***
LAG_LOSS	0.0260 [25.61]***	0.0257 [25.29]***	0.0263 [25.93]***	0.0262 [25.83]***
ISSUE	0.0103 [12.63]***	0.0101 [12.27]***	0.0086 [10.38]***	0.0086 [10.35]***
GDP_GROWTH			0.1989 [9.93]***	0.2054 [10.12]***
INFLATION			0.1769 [10.20]***	0.1591 [8.38]***
EQUITY/GDP			-0.0090 [-7.96]***	-0.0079 [-6.53]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.5131	0.5135	0.5150	0.5150
N.	129,642	129,642	129,642	129,642

Columns 2 and 4 provide information about the interaction between political rights and investor protection. The results are consistent in both columns and indicate that the estimated coefficient on the interaction is positive and significant. Consistent with Qi et al. (2010), the findings in this dissertation also suggests the substitution between political rights (i.e. control for dictatorship) and investor protection (i.e. control for disorder). That means that a marginal increase in political rights will produce smaller reduction for earnings management behaviors in a country with better investor protection.

The estimated coefficients on the other control variables are consistent with previous studies. Larger firms and firms with more operating cash flows are less likely to manage earnings. The variable for leverage (LEV) is positively related to the dependent variable, because a higher debt to asset ratio indicates a higher possibility of debt covenant violation and this motivates managers to manage earnings upward. Additionally, firms with a loss in the prior year (LAG_LOSS) and an incentive to issue new equity (ISSUE) are more likely to increase reported earnings through earnings management.

3.10 Robustness tests

3.10.1 Weighted least squares regression

In order to address the issue that the dependent variables are estimated with a sample of uneven country representation, I estimate with Weighed Least Squares (WLS) regressions. The weight is inversely proportion to the number of observations in each country. This is expected to reduce the bias by assigning lower weights to countries with more observations. All WLS results are consistent with the OLS results. As in column 1 and 3 of Table 3.5, political rights matter in controlling earnings discretion. Columns 2 and 4 of Table 3.5 show that political rights substitute for investor protection in terms of restricting earnings management behaviors.

Table 3.5: Impact of Political and Legal Institutions on Earning Management Behaviors - Weighted Least Squares Regression

Table 3.5 displays the results of weighted least squares regressions based on the following model (the weight is inversely proportional to the number of observations per country):

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *CFO* is equal to operating cash flows scaled by total asset. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *PPE_CHANGE* is the gross property growth rate, defined as the change of gross property in year t divided by the gross property in year t-1. *LAG_LOSS* is the dummy variable, coded as one if the firm report loss in year t-1, 0 otherwise. *ISSUE* is a dummy variable equal to one if shareholders' equity value increases by more than ten percent from the previous period, zero otherwise. *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World BANK. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Accrual			
	(1)	(2)	(3)	(4)
PR	-0.0123 [-19.15]***	-0.0329 [-11.71]***	-0.0071 [-10.43]***	-0.0187 [-5.84]***
INVPRO	-0.0003 [-0.56]	-0.0161 [-8.26]***	0.0004 [0.80]	-0.0085 [-3.68]***
PR*INVPRO		0.0030 [8.39]***		0.0016 [3.98]***
BM	-0.0089 [-9.72]***	-0.0086 [-9.45]***	-0.0091 [-9.98]***	-0.0088 [-9.68]***
SIZE	-0.0011 [-6.52]***	-0.0015 [-8.09]***	-0.0022 [-11.30]***	-0.0024 [-11.69]***
CFO	-0.0964 [-11.69]***	-0.0961 [-11.71]***	-0.0951 [-11.75]***	-0.0948 [-11.73]***
LEV	0.0503 [12.05]***	0.0497 [11.92]***	0.0492 [11.70]***	0.0499 [11.84]***
GROWTH	0.0748 [29.45]***	0.0746 [29.43]***	0.0728 [28.68]***	0.0727 [28.69]***
PPE_CHANGE	0.0326 [9.41]***	0.0322 [9.34]***	0.0320 [9.38]***	0.0319 [9.36]***
LAG_LOSS	0.0256 [11.84]***	0.0251 [11.60]***	0.0258 [11.94]***	0.0256 [11.84]***
ISSUE	0.0079 [4.53]***	0.0074 [4.25]***	0.0062 [3.58]***	0.0061 [3.48]***
GDP_GROWTH			0.2934 [7.13]***	0.2929 [7.14]***
INFLATION			0.2547 [8.03]***	0.2249 [6.72]***
EQUITY/GDP			-0.0065 [-4.43]***	-0.0037 [-2.39]**
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.5014	0.5029	0.5051	0.5053
N.	129,642	129,642	129,642	129,642

3.10.2 Exclusion of individual countries

To alleviate the concern that the results are driven by any specific country, I recursively repeat the main regression in Table 3.4, deleting a different country each time. I create 38 samples, each of 37 countries and find virtually no change in the results. The coefficients of political rights are negative and significant, while the interaction is still positive and significant.

3.10.3 Alternative measure of political rights

In Table 3.6, I present the results using Henisz's political constraint index as an alternative measure of political rights. As Henisz (2000) summarized, this index measures the constraints on policy change, and the basic component of this measure is "government's ability to credibly commit not to interfere with private property rights." Henisz derives a measure to capture institutional constraints on the choice of future policies from policy-makers as well as the institutional constraints on the number of independent institutions with veto power over policy change. As Qi et al. (2010) point out, Henisz's political constraint index is also a good proxy for political institutions, because it measures investors' ex ante views of restrictions. As in Table 3.6, the results and inferences do not change with Henisz's political constraint index. While political rights are strongly and negatively associated with earnings quality, the interaction term indicate political and legal institutions are substitutes.

Table 3.6: Impact of Political and Legal Institutions on Earning Management Behaviors - Alternative Measure of Political Rights

Table 3.6 displays the results of regressions based on the following model:

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

PCI is the political constraint index from Henisz (2000). *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *CFO* is equal to operating cash flows scaled by total assets. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *PPE_CHANGE* is the gross property growth rate, defined as the change of gross property in year *t* divided by the gross property in year *t-1*. *LAG_LOSS* is a dummy variable, coded as one if the firm report loss in year *t-1*, 0 otherwise. *ISSUE* is a dummy variable equal to one if shareholders' equity value increases by more than ten percent from the previous period, zero otherwise. *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World Bank. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the Market capitalization over GDP ratio from the World Bank. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Accrual			
	(1)	(2)	(3)	(4)
PCI	-0.0161 [-2.78]***	-0.1466 [-6.62]***	-0.0160 [-2.71]***	-0.1490 [-8.85]***
INVPRO	0.0008 [0.55]	-0.0093 [-6.20]***	0.0009 [0.59]	-0.0097 [-9.55]***
PCI*INVPRO		0.0233 [6.71]***		0.0237 [10.06]***
BM	-0.0172 [-34.09]***	-0.0120 [-12.58]***	-0.0173 [-34.10]***	-0.0108 [-23.25]***
SIZE	-0.0133 [-59.35]***	-0.0029 [-13.30]***	-0.0134 [-59.39]***	-0.0062 [-49.43]***
CFO	-0.0719 [-20.72]***	-0.0945 [-11.45]***	-0.0717 [-20.62]***	-0.0870 [-25.77]***
LEV	0.0582 [28.86]***	0.0466 [11.17]***	0.0583 [28.83]***	0.0609 [30.23]***
GROWTH	0.0731 [58.22]***	0.0750 [29.55]***	0.0731 [58.10]***	0.0729 [57.67]***
PPE_CHANGE	0.0262 [15.25]***	0.0330 [9.56]***	0.0262 [15.23]***	0.0261 [15.10]***
LAG_LOSS	0.0170 [17.03]***	0.0246 [11.35]***	0.0169 [16.94]***	0.0251 [24.79]***
ISSUE	0.0103 [12.66]***	0.0084 [4.80]***	0.0104 [12.66]***	0.0094 [11.39]***
GDP_GROWTH			-0.0627 [-2.54]**	0.1300 [5.91]***
INFLATION			0.0488 [1.65]	0.2369 [10.98]***
EQUITY/GDP			-0.0037 [-1.50]	-0.0066 [-5.42]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.527	0.5029	0.5271	0.5181
N.	129,642	129,642	129,642	129,642

3.10.4 Political rights in prior years

I study the impact of political rights in the current year on earnings management behaviors. One of the concerns with the findings is that the political environments in current year may not influence financial markets and other related activities in the same year. Unlike legal institutions, the impact from political environments could be a longer process. Therefore, I run the main regression using political rights in year $t-1$, $t-2$ and $t-3$ respectively. I only report the results with political rights in year $t-1$ in Table 3.7 for space considerations. Similar to the findings in Table 3.7, the results in the other two tables confirm that political rights matter in controlling earnings discretion and that political rights substitute for investor protection in terms of restricting earnings management behaviors.

Table 3.7: Impact of Political and Legal Institutions on Earning Management Behaviors - Political Rights in Year t-1

Table 3.7 displays the results of regressions based on the following model:

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *CFO* is equal to operating cash flows scaled by total assets. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *PPE_CHANGE* is the gross property growth rate, defined as the change of gross property in year t divided by the gross property in year t-1. *LAG_LOSS* is the dummy variable, coded as one if the firm report loss in year t-1, 0 otherwise. *ISSUE* is a dummy variable equal to one if shareholders' equity value increases by more than ten percent from the previous period, zero otherwise. *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World BANK. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank.). *IDV*, *UAI*, *MAS*, and *PDI* are individualism, uncertainty avoidance, masculinity, and power distance scores from Hofstede (1980). *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Accrual			
	(1)	(2)	(3)	(4)
PR	-0.0111 [-33.30]***	-0.0297 [-16.14]***	-0.0077 [-19.86]***	-0.0144 [-6.67]***
INVPRO	-0.0040 [-14.29]***	-0.0171 [-12.92]***	-0.0018 [-5.91]***	-0.0067 [-4.19]***
PR*INVPRO		0.0024 [10.20]***		0.0009 [3.11]***
BM	-0.0077 [-17.74]***	-0.0074 [-16.94]***	-0.0076 [-17.44]***	-0.0075 [-17.04]***
SIZE	-0.0038 [-50.08]***	-0.0040 [-51.36]***	-0.0040 [-48.13]***	-0.0040 [-47.80]***
CFO	-0.0900 [-26.72]***	-0.0899 [-26.69]***	-0.0892 [-26.45]***	-0.0891 [-26.43]***
LEV	0.0648 [32.10]***	0.0645 [31.99]***	0.0634 [31.25]***	0.0636 [31.28]***
GROWTH	0.0734 [58.14]***	0.0734 [58.09]***	0.0727 [57.40]***	0.0727 [57.40]***
PPE_CHANGE	0.0268 [15.50]***	0.0267 [15.42]***	0.0259 [14.90]***	0.0259 [14.91]***
LAG_LOSS	0.0260 [25.61]***	0.0256 [25.25]***	0.0263 [25.92]***	0.0262 [25.79]***
ISSUE	0.0103 [12.63]***	0.0100 [12.19]***	0.0086 [10.38]***	0.0086 [10.35]***
GDP_GROWTH			0.2007 10.04	0.2083 [10.32]***
INFLATION			0.1751 [10.08]***	0.1498 [7.86]***
EQUITY/GDP			-0.0093 [-8.20]***	-0.0078 [-6.49]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.5132	0.5136	0.5150	0.5150
N.	129,642	129,642	129,642	129,642

3.10.5 Alternative measures of legal institutions

In the main regression, I use the Strength of Investor Protection Index from the World Bank. To provide assurance that the results are not driven by using a specific measure for legal institutions, I use anti-self-dealing index (ANTI_SD) from Djankov et al. (2008) and disclosure requirement index (DISCLOSE) from La Porta et al. (2006) as alternative measures. The anti-self-dealing index measures the strength of minority shareholder protection against self-dealing transactions benefiting controlling shareholder. The disclosure requirement index measures the extent to which there is required disclosure of information for firms issuing securities through a prospectus, including information on insiders' compensation, shareholder ownership structure, inside ownership, unusual contracts, and related-party transactions. As in La Porta et al. (2006), laws mandating disclosure benefit stock markets by reducing information asymmetry. One caveat is that these two measures are not time-varying and are the average ratings for each country. However, my data only cover the period from 2003 to 2012. It is short and close to the time when La Porta et al. (2006) and Djankov et al. (2008) develop these measures. Thus, it should not change

Panel A in table 3.8 presents the results for anti-self-dealing index, while panel B displays the results for disclosure requirement index. The results confirm the initial findings in Table 3.4.

Table 3.8: Impact of Political and Legal Institutions on Earning Management Behaviors - Alternative Measures of Legal Institutions

Table 3.8 displays the results of regressions based on the following models:

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t-1} + \beta_2 ANTI_SD_{i,t} + \beta_3 PR_{i,t-1} * ANTI_SD_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t-1} + \beta_2 DISCLOSE_{i,t} + \beta_3 PR_{i,t-1} * DISCLOSE_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *ANTI_SD* is the anti-self-dealing index from Djankov et al. (2008), which measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. *DISCLOSE* is the disclosure requirement index from La Porta et al. (2006). *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *CFO* is equal to operating cash flows scaled by total assets. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *PPE_CHANGE* is the gross property growth rate, defined as the change of gross property in year *t* divided by the gross property in year *t-1*. *LAG_LOSS* is the dummy variable, coded as one if the firm report loss in year *t-1*, 0 otherwise. *ISSUE* is a dummy variable equal to one if shareholders' equity value increases by more than ten percent from the previous period, zero otherwise. *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World Bank. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *IDV*, *UAI*, *MAS*, and *PDI* are individualism, uncertainty avoidance, masculinity, and power distance scores from Hofstede (1980). *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

Panel A ANTI SD		Accrual			
	(1)	(2)	(3)	(4)	
PR	-0.0113 [-30.03]***	-0.0291 [-21.84]***	-0.0072 [-17.12]***	-0.0131 [-7.81]***	
ANTI_SD	-0.0114 [-5.11]***	-0.1315 [-14.62]***	0.0021 [0.83]	-0.0376 [-3.33]***	
PR*ANTI_SD		0.0229 [13.99]***		0.0072 [3.61]***	
BM	-0.0072 [-16.60]***	-0.0068 [-15.77]***	-0.0074 [-17.02]***	-0.0073 [-16.66]***	
SIZE	-0.0037 [-46.59]***	-0.0038 [-47.28]***	-0.0039 [-46.62]***	-0.0040 [-46.63]***	
CFO	-0.0899 [-26.68]***	-0.0896 [-26.61]***	-0.0890 [-26.39]***	-0.0889 [-26.36]***	
LEV	0.0656 [32.46]***	0.0653 [32.36]***	0.0638 [31.42]***	0.0640 [31.47]***	
GROWTH	0.0736 [58.26]***	0.0733 [58.01]***	0.0727 [57.38]***	0.0727 [57.36]***	
PPE_CHANGE	0.0271 [15.66]***	0.0267 [15.38]***	0.0259 [14.91]***	0.0259 [14.90]***	
LAG_LOSS	0.0258 [25.43]***	0.0255 [25.19]***	0.0262 [25.83]***	0.0261 [25.72]***	
ISSUE	0.0107 [13.03]***	0.0097 [11.86]***	0.0086 [10.44]***	0.0086 [10.33]***	
GDP_GROWTH			0.2119 [10.58]***	0.2201 [10.91]***	
INFLATION			0.1857 [10.78]***	0.1474 [7.32]***	
EQUITY/GDP			-0.0124 [-10.32]***	-0.0111 [-8.99]***	
Fixed year	YES	YES	YES	YES	
Fixed industry	YES	YES	YES	YES	
R square	0.5125	0.5134	0.5149	0.5149	
N.	129,642	129,642	129,642	129,642	

Panel B DISCLOSE

	Accrual			
	(1)	(2)	(3)	(4)
PR	-0.0109 [-31.76]***	-0.0293 [-12.26]***	-0.0074 [-19.06]***	-0.0122 [-4.60]***
DISCLOSE	-0.0139 [-6.34]***	-0.1316 [-8.57]***	-0.0094 [-3.72]***	-0.0403 [-2.35]**
PR*DISCLOSE		0.0209 [7.82]***		0.0054 [1.82]*
BM	-0.0073 [-16.81]***	-0.0071 [-16.28]***	-0.0075 [-17.20]***	-0.0074 [-17.00]***
SIZE	-0.0036 [-47.76]***	-0.0037 [-48.48]***	-0.0039 [-47.02]***	-0.0039 [-46.88]***
CFO	-0.0902 [-26.74]***	-0.0901 [-26.72]***	-0.0894 [-26.48]***	-0.0893 [-26.46]***
LEV	0.0657 [32.63]***	0.0655 [32.53]***	0.0635 [31.29]***	0.0636 [31.30]***
GROWTH	0.0736 [58.22]***	0.0735 [58.17]***	0.0727 [57.39]***	0.0727 [57.39]***
PPE_CHANGE	0.0271 [15.66]***	0.0270 [15.60]***	0.0259 [14.91]***	0.0259 [14.92]***
LAG_LOSS	0.0259 [25.55]***	0.0256 [25.26]***	0.0264 [25.97]***	0.0263 [25.88]***
ISSUE	0.0108 [13.16]***	0.0104 [12.73]***	0.0086 [10.44]***	0.0086 [10.41]***
GDP_GROWTH			0.2136 [10.65]***	0.2230 [10.78]***
INFLATION			0.1939 [11.19]***	0.1785 [9.46]***
EQUITY/GDP			-0.0095 [-8.00]***	-0.0090 [-7.53]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.5126	0.5129	0.5149	0.5149
N.	129,642	129,642	129,642	129,642

3.10.6 Culture and earnings management

Many studies examine the role of culture on accounting practices as well as accounting choices (Doupnik and Tsakumis, 2004; Gray, 1988; Jaggi and Low, 2000). Hope (2003) finds that cultural factors are important in explaining disclosure behaviors across countries. Hofstede (1980) defines four dimensions of culture: power distance, individualism, masculinity, and uncertainty

avoidance. Gray's model (1988) expands Hofstede's model by including the accounting subsystem and accounting values. Gray (1988) introduces four accounting values: Professionalism, Uniformity, Conservatism, and Secrecy.

Recent studies find that only uncertainty avoidance and individualism are significantly related to earnings discretion after controlling investor protection and other legal institutional factors (Doupnik, 2008). In a society with a high individualism score, people are expected to stand up for themselves and are motivated to put on personal achievement and rights. In terms of reporting earnings, managers in such a society are expected to report the most optimistic number within the restrictions of legal factors because managers should have higher flexibility of professionalism and uniformity. In a society with high uncertainty avoidance, people are more willing to minimize the occurrence of unknown. In such a society, while accountants are required to obey rules and be less professional, managers are less likely to report optimistically.

Gray's model with the Doupnik and Tsakumis' (2004; see Figure 3.2) extension indicates that accounting outcomes are the product of social values and institutional factors. I modify this model and include the political system as one of the institutional factors. Based on this model, accounting outcomes, including earnings management, are influenced by both institutional and societal factors. Therefore, in order to isolate the impact of legal and political institutions as well as their interaction, I add cultural values as control variables in the regression. The results presented in table 3.9 indicate that the inclusion of cultural variables does not eliminate the impact of political and legal variables. Consistent with the findings in Han et al. (2010), the individualism dimension of national culture is positively associated with abnormal accruals, while the uncertainty avoidance dimension of national culture is negatively associated with abnormal accruals.

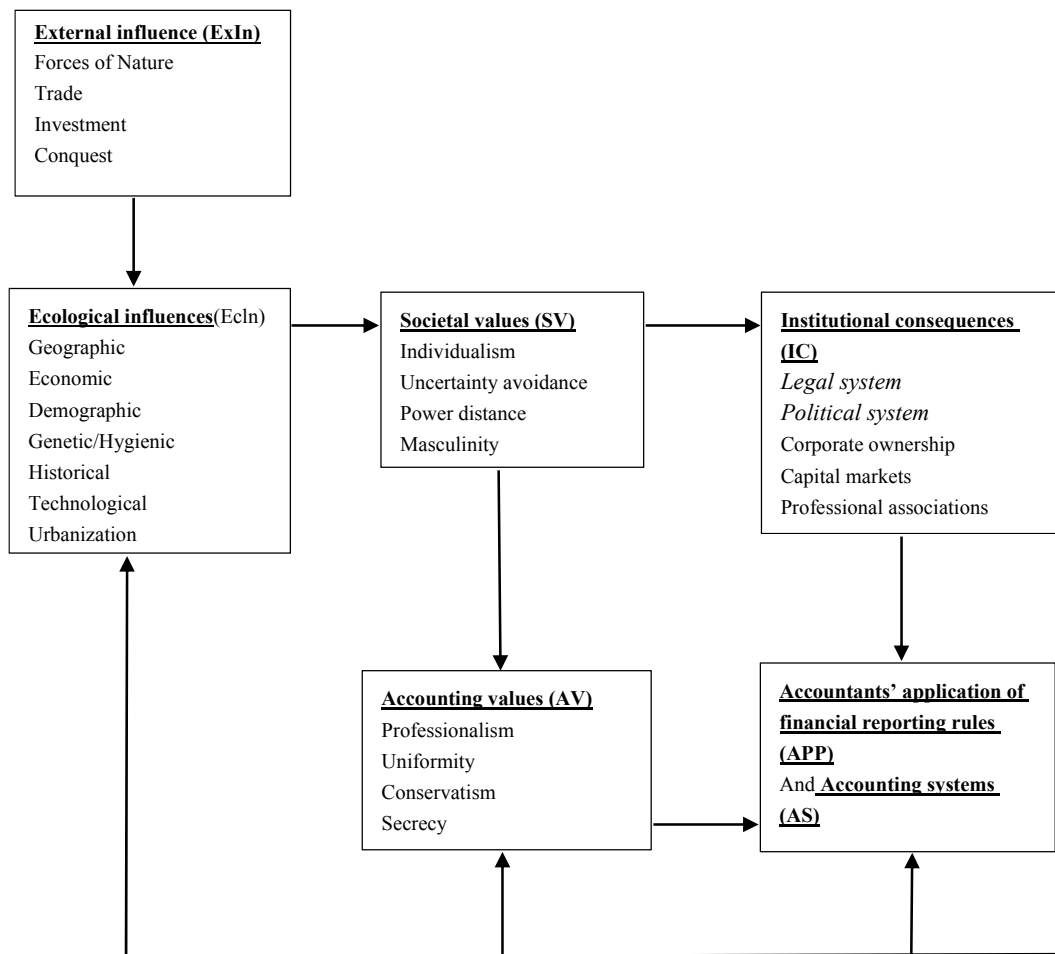


Figure 3.2: Gray's (1988) Model with Doupnik and Tsakumis's (2004) Extension

Table 3.9: Impact of Political and Legal Institutions on Earning Management Behaviors - Culture as Control Variables

Table 3.9 displays the results of regressions based on the following model:

$$|Accrual|_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 BM_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CFO_{i,t} + \beta_7 LEV_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 PPE_CHANGE_{i,t} + \beta_{10} LAG_LOSS_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *CFO* is equal to operating cash flows scaled by total assets. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *PPE_CHANGE* is the gross property growth rate, defined as the change of gross property in year *t* divided by the gross property in year *t-1*. *LAG_LOSS* is the dummy variable, coded as one if the firm report loss in year *t-1*, 0 otherwise. *ISSUE* is a dummy variable equal to one if shareholders' equity value increases by more than ten percent from the previous period, zero otherwise. *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World BANK. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *IDV*, *UAI*, *MAS*, and *PDI* are individualism, uncertainty avoidance, masculinity, and power distance scores from Hofstede (1980). *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Accrual	
	(1)	(2)
PR	-0.0021 [-1.96]**	-0.0296 [-8.91]***
INVPRO	0.0001 [0.16]	-0.0233 [-8.60]***
PR*INVPRO		0.0043 [8.75]***
BM	-0.0108 [-11.31]***	-0.0112 [-11.70]***
SIZE	-0.0030 [-13.55]***	-0.0039 [-15.11]***
CFO	-0.0946 [-11.69]***	-0.0937 [-11.6]***
LEV	0.0476 [11.31]***	0.0481 [11.42]***
GROWTH	0.0730 [28.81]***	0.0729 [28.90]***
PPE_CHANGE	0.0324 [9.49]***	0.0322 [9.49]***
LAG_LOSS	0.0253 [11.69]***	0.0244 [11.31]***
ISSUE	0.0064 [3.70]***	0.0061 [3.53]***
GDP_GROWTH	0.2450 [5.78]***	0.2150 [5.13]***
INFLATION	0.2836 [8.95]***	0.2229 [6.61]***
EQUITY/GDP	-0.0073 [-4.52]***	0.0002 [0.11]
IND	0.0005 [7.54]***	0.0008 [10.07]***
UA	-0.0003 [-5.14]***	-0.0004 [-6.87]***
MAS	0.0000 [0.43]	0.0000 [0.16]
PD	-0.0001 [-1.42]	-0.0001 [-1.06]

Fixed year	YES	YES
Fixed industry	YES	YES
R square	0.5031	0.5075
N.	129,642	129,642

3.10.7 Regression at country level

To run the regression at country level, I convert all the firm level variables except dummy variables into country level variables by taking the mean/median of firm level variables in each country and each year. Then I regress the mean/median abnormal accruals on the mean/median firm characteristics as well as country variables. Table 3.10 presents the results of regressions at country level and shows that a country with better political rights is associated with lower mean/median discretionary accruals. Additionally, the interaction is positive and significant, indicating that political rights substitute for investor protection in terms of providing better earnings quality.

Table 3.10: Impact of Political and Legal Institutions on Earning Management Behaviors - Country Mean/Median Levels

Table 3.10 displays the results of regressions using mean/median for firm-level variables by country and year

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *SIZE* is equal to the natural log of market value of equity. *CFO* is operating cash flows scaled by total assets. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *GDP_GROWTH* is the annual percentage growth rate of GDP at market prices based on constant local currency from the World Bank. *INFLATION* is the rate of price change in the economy as a whole from the World Bank. *EQUITY/GDP* is the Market capitalization over GDP ratio from the World Bank.). *IDV*, *UAI*, *MAS*, and *PDI* are individualism, uncertainty avoidance, masculinity, and power distance scores from Hofstede (1980). *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	Accrual			
	Mean		Median	
	(1)	(2)	(3)	(4)
PR	-0.0040 [-2.64]***	-0.1011 [-3.11]***	-0.0016 [-1.67]*	-0.0728 [-2.79]***
INVPRO	-0.0003 [-0.27]	-0.0694 [-2.94]***	0.0001 [0.21]	-0.0486 [-2.57]***
PR*INVPRO		0.0142 [3.06]***		0.0105 [2.85]***
BM	-0.0140 [-2.02]**	-0.0144 [-0.87]	-0.0057 [-1.58]	-0.0241 [-1.49]
SIZE	-0.0012 [-2.09]**	-0.0040 [-2.76]***	-0.0004 [-1.47]	-0.0027 [-2.08]**
CFO	-0.1330 [-3.66]***	-0.5253 [-1.83]*	-0.0091 [-0.25]	-0.4597 [-2.12]**
LEV	-0.0276 [-0.63]	0.0199 [0.34]	0.0016 [0.11]	-0.0490 [-0.79]
GROWTH	0.0682 [1.78]*	0.0349 [0.43]	-0.0174 [-0.50]	0.0229 [0.14]
PPE_CHANGE	0.0359 [1.03]	0.1100 [1.01]	0.1019 [2.57]**	0.2749 [1.61]
GDP_GROWTH	0.2211 [2.25]**	0.2333 [1.28]	0.1168 [1.61]	-0.0290 [-0.15]
INFLATION	0.1594 [1.64]	0.1849 [1.12]	0.1879 [3.27]***	0.2377 [1.24]
EQUITY/GDP	-0.0068 [-1.78]*	0.0501 [3.25]***	-0.0027 [-1.41]	0.0397 [2.94]***
Fixed year	YES	YES	YES	YES
R square	0.3249	0.3156	0.3409	0.348
N.	364	364	364	364

3.10.8 Alternative measures of earnings management

Following Chaney et al. (2010), I use the standard deviation of the firm's abnormal accruals by Francis and Wang (2008) over the previous three and five years (REDCA_3yrs and REDCA_5yrs) as the new dependent variables. To be consistent with Chaney et al. (2010), I use all the control variables in their study, including the standard deviation of sales, sales growth, and operating cash flows. The findings in Table 3.11 indicate that better political rights reduce fluctuations of abnormal accruals, and that political rights substitute for investor protection in terms of earnings quality.

Table 3.11: Impact of Political and Legal Institutions on Earning Management Behaviors - Alternative Measures of Earnings Management

Table 3.11 displays the results of regressions based on the following models:

$$REDCA_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 \sigma(Sales)_{i,t} + \beta_5 \sigma(Growth)_{i,t} + \beta_6 \sigma(CFO)_{i,t} + \beta_7 LEV_{i,t} + \beta_8 BM_{i,t} + \beta_9 EQUITY/GDP_{i,t} + e_{i,t}$$

REDCA_3yrs (*REDCA_5yrs*) measures the standard deviation of the firm's discretionary accruals over prior three (five) years. $\sigma(Sales)$ is the standard deviation of sales deflated by total assets over prior 3(5) years. $\sigma(Growth)$ is the standard deviation of annual growth of sales over prior 3(5) years. $\sigma(CFO)$ is the standard deviation of cash flows deflated by total assets over prior 3(5) years. *PR* is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *BM* is the book-to-market ratio, equal to the book value of equity divided by the market value of equity. *LEV* is the total liabilities to total assets ratio. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank.). *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	REDCA_3yrs		REDCA_5yrs	
	(1)	(2)	(3)	(4)
PR	-0.0087 [-14.06]***	-0.0187 [-6.71]***	-0.0083 [-13.22]***	-0.0156 [-4.80]***
INVPRO	-0.0013 [-2.69]***	-0.0091 [-4.62]***	-0.0011 [-2.22]**	-0.0066 [-2.93]***
PR*INVPRO		0.0015 [4.06]***		0.0010 [2.48]**
$\sigma(Sales)$	0.0326 [7.87]***	0.0323 [7.80]***	0.0437 [8.16]***	0.0430 [8.01]***
$\sigma(Growth)$	0.0493 [13.76]***	0.0493 [13.78]***	-0.0013 [-3.26]***	-0.0015 [-3.66]***
$\sigma(CFO)$	0.8500 [60.21]***	0.8494 [60.30]***	0.9259 [58.98]***	0.9254 [59.05]***
LEV	0.0356 [9.27]***	0.0362 [9.43]***	0.0387 [9.91]***	0.0392 [10.07]***
BM	-0.0036 [-4.27]***	-0.0033 [-3.88]***	-0.0014 [-1.71]	-0.0013 [-1.51]
EQUITY/GDP	-0.0106 [-7.42]***	-0.0078 [-5.09]***	-0.0113 [-7.00]***	-0.0092 [-5.29]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.7214	0.7359	0.8259	0.826
N.	86,821	86,821	41,492	41,492

3.11 Conclusions for earnings management section

This section documents the impact of political rights on earnings management as well as the interaction between political rights and investor protection. I find that political rights restrict managers' earnings management behaviors, leading to better earnings quality. This is consistent with the findings from Bushman, Piotroski, and Smith (2004), which document that better political institutions are related to a better information environment. And a better information environment can restrict managers' earnings management behaviors (e.g. Wysocki, 2004; Meuwissen, Moers, Peek, and Vanstraelen, 2005). Therefore, political rights restrict managers' earnings discretion by providing a better information environment. The relationship between political rights and earnings management behaviors may also be explained through monitoring power. People in a country with strong political freedom tend to have more economic freedom and are willing to monitor their investment. This limits managers' earnings management behaviors as a result. Additionally, I find that the interaction term between political rights and investor protection is positively associated with abnormal accruals, thus, political rights and investor protection partially act as substitutes.

Chapter 4: Accounting conservatism

In this chapter, I study how accounting conservatism is influenced by both legal and political institutions of the country in which firms are domiciled. I seek deeper understanding into the joint effect of the legal and political environments on accounting conservatism. I empirically analyze the relationship between key characteristics of legal and political environments at country level and accounting conservatism.

Conservatism is the result of managerial discretion and driven by economic incentives, which are affected by both institutional and political environments. The decisions to be conservative are made by managers or board of members. In accordance with Skinner (1993), managers can voluntarily accept a set of accounting procedures, such as conservative accounting procedures, in order to maximize firm value. Therefore, both firm-specific and country-specific attributes could influence managers' decision to adopt conservative accounting.

This dissertation contributes by adding political environments as an explanatory factor that was neglected in previous literature to explain managers' accounting conservatism behaviors across countries. Most prior international research on conservatism employs the measure of Basu (1997). Few studies control for the firm-specific attributes. Gassen et al. (2006) use time-series data to measure conservatism in order to analyze the impact of firm-specific attributes. However, their measures only capture the average conservatism behaviors over 14 years, which fails to give us the opportunity to study the time-series properties under their setting. Thus my dissertation contributes by studying conditional conservatism by controlling attributes at both the country and firm level.

4.1 Literature about accounting conservatism

Basu (1997) defines conservatism as the incremental timeliness of bad news recognition over good news recognition. Basu (1997, p. 4) describes conservatism as “capturing accountants’ tendency to require a higher degree of verification for recognizing good news than bad news in financial statements. Under my interpretation of conservatism, earnings reflect bad news more quickly than good news.” Ball and Shivakumar (2005) describe Basu’s (1997) conservatism as conditional conservatism, under which the understatement of accounting values is conditional on future economic events. Similarly, Holthausen and Watts (2001) define conservatism as the different verification threshold for gains versus losses, while the threshold for gains is higher. LaFond and Roychowdhury (2008, p. 102) define conservatism as “the use of stricter standards for recognizing bad news as losses than for recognizing good news as gains.” This type of conservatism is defined as unconditional conservatism, which refers to a reporting system where the understatement of accounting values occurs independently from future economic events (Beaver and Ryan, 2005).

In accordance with Watts (2003, p. 209), the causes of accounting conservatism are the following: (1) The contracting explanation where “conservative accounting is a means of addressing moral hazard caused by parties to the firm having asymmetric information, asymmetric payoffs, limited horizons and limited liability. For example, conservatism can constrain management’s opportunistic behaviors in reporting accounting measures used in a contract;” (b) The litigation explanation where “litigation also produces asymmetric payoffs in that overstating the firm’s net assets is more likely to generate litigation costs for the firm than understating the assets;” (c) The taxation incentive where “asymmetric recognition of gains and losses enables managers of profitable firms to reduce the present value of taxes and increase the value of the

firm;” and (d) The regulatory explanation where “standard setters and regulators are likely to face more criticism if firms overstate net assets than if they understate net assets. Conservatism reduces the political costs imposed on standard setters and regulators.”

Although conservatism is an important attribute and has a longstanding tradition in the financial reporting world, the FASB and IASB have consistently opposed it. The FASB (1980) considered conservatism as “possible error in measurement [that] should be in the direction of understatement rather than overstatement of net income and net assets.” In a handout for both FASB and IASB board meeting in July 2005, the following paragraph address their disagreement on conservatism:

“What is the role of conservatism? Does it conflict with neutrality? If not, why not? Why keep it?”

“Financial information needs to be neutral – free from bias intended to influence a decision or outcome. To that end, the common conceptual framework should not include conservatism or prudence among the desirable qualitative characteristics of accounting information. However, the framework should note the continuing need to be careful in the face of uncertainty.” (FASB, 2005, p. 24)

FASB (2005) indicates that conservatism leads to information asymmetry by failing to convey information about future cash flows from growth options. In 2010, IASB revised its framework and removed the term “prudence” (or conservatism), contending that it is inconsistent with neutrality and is not a desirable quality of financial reporting information. Additionally, IFRS allows for various fair value options for financial reporting, which is considered to be imprudent per se.

Despite the efforts of regulators to rule out the concept of conservatism, the notion of conservatism is still deeply ingrained in financial reporting and widely adopted by accountants and managers. The accounting standards themselves embody a rich interpretation of conservatism. Andre et al. (2013) find that IFRS include many mechanisms which would encourage the application of conservatism, such as the recognition of probable liabilities versus the non-recognition of contingent assets (IAS 37) and capitalization and impairment of development costs (IAS 38). Thus, Andre et al. (2013) point out that preparers of financial statements will not be less conservative, in that the standards leave opportunities for conservatism.

On the other hand, recent studies show that accounting practices have become more conservative in the last 30 years (Watts, 2003), especially after the passage of the Sarbanes–Oxley Act (SOX). Watts (2003) points out that the increasing conservative practices in accounting is due to some benefits of conservatism overlooked by regulators. Inconsistent with the view of the FASB on conservatism, LaFond and Watts (2008) find that accounting conservatism reduces information asymmetry between managers and investors, leading to lower agency costs and higher equity values. By studying firm values during financial crisis, Francis et al. (2013) find that there is a positive relationship between accounting conservatism and firm stock performance. They argue that conservatism is an effective governance mechanism to benefit shareholders. Li (2010) reveals that firms domiciled in a country with conservative accounting reporting systems are more likely to have lower cost of debt and equity.

4.2 Legal factors and conservatism

There is substantial evidence indicating that legal institutions can be employed to explain cross-national differences in accounting conservatism. Many studies explore the impact of legal origin and regulatory infrastructure on conservatism across countries.

Ball et al. (2000) extend the Basu (1997) study by examining conservatism in seven countries. They find variations in asymmetric earnings timeliness between common law countries and code law countries. They show that accounting income in common law countries is timelier and document higher conservatism in the US, Canada, and Australia. The authors attribute this variation to legal and institutional factors, such as regulation, litigation, and debt and equity market.

By focusing on seven European countries, García Lara and Mora (2004) document relatively higher conservatism in the UK, the only common law country in their sample. However, they indicate that variations in conservatism across countries are not that pronounced. Finally, they point out that conservative behaviors will not disappear after adopting a same set of standards, due to differences in institutional factors across different countries.

By investigating France, Germany and the UK, Giner and Rees (2001) find that no statistical differences are found among these three EU countries with different legal traditions. However, a similar study conducted by Beuselinck et al. (2007) finds differences in conservatism across European countries, when using a larger sample of European countries and a longer time period.

Gassent et al. (2006) focus on developed equity markets over the period between 1990 and 2003. They find that conditional conservatism is related to the importance of debt financing. However, legal origin has no explanatory power for cross-national variations when firm-specific factors are controlled for their analysis. However, they measure asymmetric timeliness based on time-series data over 10 years and require at least five years of negative returns. This induces survivorship bias and selection bias. Additionally, this measure only captures average conservatism for each firm over 14 years, and this fails to reflect variations over time.

Ball et al. (2008) show that accounting conservatism is only related to the size of debt markets. However, the measures of accounting conservatism at the country level simply assume all firms in the same country are homogeneous, obscuring cross-sectional variations for individual firms. Additionally, Ball et al. (2008) only address the size of debt or equity market, and they do not test the quality of capital markets directly.

Most cross-national studies try to use legal origin to address differences in conservatism. However, legal origin may not be an appropriate variable, because there are variations in institutional environment with the same legal origin. If variations in the underlying institutional data are informative, the use of a legal origin indicator variable may weaken the power of the tests. In order to address this issue, many studies try to use different institutional factors to explain differences in conservatism. Raonic et al. (2004) study conservatism in 366 cross-listed firms in Europe and examine cross-national differences by focusing on accounting disclosure levels, market effects, regulatory effects, and legal enforcement. They conclude that variations across countries with respect to conservatism can be explained by differences in legal factors as well as the interaction between market effects and legal effects.

Bushman and Piotroski (2006) find that firms in countries with high quality judicial systems report earnings more conservatively. They find that public enforcement of securities law and judicial impartiality are two important explanatory factors for differences in conservatism across countries.

As summarized by Salter et al. (2012), both cultural value differences and institutional factor differences are examined. They present evidence that legal variables, such as creditor rights, investor protection, and legal protection of minority shareholders, are significantly related to accounting conservatism.

4.3 Political institutions and conservatism

There is scant empirical evidence addressing the relationship between political institutions and accounting conservatism. Ball et al. (2003) find that East Asian common law countries are relatively less conservative. And they posit that this may be explained by other legal factors or some unknown factors. Several studies reveal that legal factors may not be sufficient to explain cross-national differences in conservatism. Ball et al. (2008, p. 190) point out that “the origin of unconditional accounting conservatism lies outside the capital markets”. Therefore, in this dissertation, I examine whether political institutions can also play an important role in explaining variations of conservatism across countries.

Relations between political institutions and conservatism could arise through several channels. First, Political institutions impact the possibility that a firm’s assets would be expropriated by government entities (Glaeser et al., 2004). Bushman and Piotroski (2006) study the relationship between conservatism and state involvement. They find that firms in countries with low state involvement are more likely to report earnings conservatively. They pointed out that the implication of state involvement for conservatism is related to a benevolent view of government. A benevolent government is more likely to intervene in poorly performing firms. As a result, managers seek to avoid state involvement through less conservative accounting.

Second, accounting is conservative due to contracting reasons. Watts (2003, p. 209) indicates “conservative accounting is a means of addressing moral hazard caused by parties to the firm having asymmetric information, asymmetric payoffs, limited horizons, and limited liability.” Therefore, conservatism is demanded by investors, creditors, regulators, and other stakeholders in order to constrain managers’ opportunistic behaviors in reporting earnings used in a contract. Bushman et al. (2004) link a firm’s information environment with political and legal variables.

Since a better information environment makes investors better able to monitor managers' behaviors, investors under better political institutions are more likely to demand conservative accounting. Managers may have incentives to introduce biases and noise into reported accounting numbers to gain opportunistic payments if their compensation is related to firm performance. However, investors in a country with a better political institution can play a monitoring role, which demand accounting conservatism to offset managerial biases in this scenario.

Finally, the political costs may also encourage regulators and standard setters to favor conservative accounting. Watts (1977) indicates that the losses from using conservative accounting are less than the gains due to undervalued assets or understated earnings. Regulators and standard setters would face more criticism if firms overstate accounting numbers. Watts (2003, p. 210) argues that "This asymmetry in political costs, like the asymmetry in litigation costs, is consistent with noncontracting parties (such as voters) valuing conservatism's constraint on opportunistic payments to managers and other parties." Investors in a country with better political environments are more likely to impose pressure on regulators and standard setters to favor conservatism.

Bushman and Piotroski (2006) is the first study associating conservatism with political economy factors. However, Bushman and Piotroski (2006) only focus on one aspect of political institutions by studying state involvement, which is measured by risk of expropriation by the state and the size of government enterprises and investment. Additionally, the two measures used by Bushman and Piotroski (2006) are not good measures of political institutions because they only reflect ex post government performance instead of ex ante views of restrictions on government behaviors (Qi et al., 2010). Therefore, in my dissertation, I use the political rights index measured by Freedom House, which captures a country's overall political environment. Similar to the research design for earnings management, the third research question of my dissertation is to study

whether political rights have an impact on accounting conservatism behaviors. I use the following regression to study this research question.

$$\begin{aligned}
 \text{Conservatism}_{i,t} & \\
 &= \alpha_0 + \alpha_1 \text{Political Institutions}_{i,t} + \alpha_2 \text{Legal Institutions}_{i,t} \\
 &+ \alpha \text{Controls}_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{6}$$

Where i identifies a particular firm, and t denotes the time of the firm reporting earnings. The control variables include country-level and firm-level variables. The primary measure of political institutions is the political index from Freedom House, which provides an annual report of political rights and civil liberties ratings between 1972 and 2012.

The fourth research question is *whether political rights and legal institutions are complements, substitutes, or independent with respect to accounting conservatism behavior*. Following Djankov et al. (2003), Glaeser and Shleifer (2003), and Qi et al. (2010), I use the following model to study these two research questions:

$$\begin{aligned}
 \text{Conservatism}_{i,t} & \\
 &= \alpha_0 + \alpha_1 \text{Political Institutions}_{i,t} + \alpha_2 \text{Legal Institutions}_{i,t} \\
 &+ \alpha_3 (\text{Political Institutions}_{i,t} \times \text{Legal Institutions}_{i,t}) \\
 &+ \alpha \text{Controls}_{i,t} \\
 &+ \varepsilon_{i,t}
 \end{aligned} \tag{7}$$

Where i identifies a particular firm, and t denotes the time of the firm reporting earnings. The control variables include country-level and firm-level variables. The primary measure of political institutions is the political index from Freedom House, which provides an annual report of political rights and civil liberties ratings between 1972 and 2012.

A negative (positive) α_3 in equation (6) indicates that political rights substitute (complement) for legal institutions. This means that a marginal increase in political rights will produce a smaller (greater) improvement for conservatism behaviors in a country with better legal protection.

4.4 Measuring accounting conservatism

Previous studies on international conservatism are at country level, due to the lack of a method to capture conservatism at the firm level. Therefore, how managers behave differently in conservatism across countries at the firm level is unclear. In this dissertation, I use the conservatism measure from Khan and Watts (2009), which employs a cross-sectional approach to estimate the firm-year Basu (1997) measure. Following Khan and Watts (2009), I first estimate the following cross-sectional model:

$$\begin{aligned}
 NI_i = & k_0 + k_1 D_i + R_i(\mu_1 + \mu_2 Size_i + \mu_3 M/B_i + \mu_4 Lev_i) + D_i R_i(\lambda_1 + \lambda_2 Size_i + \lambda_3 M/B_i \\
 & + \lambda_4 Lev_i) + (\delta_1 Size_i + \delta_2 M/B_i + \delta_3 Lev_i + \delta_4 D_i Size_i + \delta_5 D_i M/B_i \\
 & + \delta_6 D_i Lev_i + \varepsilon_i
 \end{aligned} \tag{8}$$

Where i identifies a particular firm.

NI = net income divided by lag market value of equity

R = annual returns compounded monthly beginning from nine months before the end of a fiscal year

D = dummy variable equal to 1 if $R < 0$

Size = market value of equity, calculated as the natural log of market value of equity

M/B = market to book ratio, calculated as market value of equity to book value of equity

Lev = leverage, calculated as long-term debt plus short-term debt divided by market value of equity

After equation (8) is estimated by country and year, estimated coefficients are used to calculate C-score, which is defined as $\lambda_1 + \lambda_2 \text{Size}_i + \lambda_3 \text{M/B}_i + \lambda_4 \text{Lev}_i$. A higher C-score in a particular firm is related to a higher level of accounting conservatism.

4.5 Measuring legal institutions and political institutions

Similar to the measures used in section 3, I use the aggregate investor protection index (INVPRO) from the World Bank Doing Business database, which utilizes the methodology by Djankov et al. (2008). This index measures three legal variables: (1) the extent of disclosure; (2) the extent of director liability; (3) shareholders' ability to sue officers and directors for misconduct. The average of the three variables gives an overall index for investor protection. To provide assurance that the results are not driven by using a specific measure for legal institutions, I use anti-self-dealing index (ANTI_SD) from Djankov et al. (2008) and creditor rights index (CR) from the World Bank. The anti-self-dealing index measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. The creditor rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and

thus facilitate lending. I employ creditor rights index as a measure for legal institutions for a number of reasons. First, Ball et al. (2008) argue that debt markets demand high scores on conservatism. Second, Salter et al. (2012) show that creditor rights have a positive and significant impact on conservatism.

For political institutions, I use the political rights index as the measure of overall political institutions. The index is from Freedom House (<http://www.freedomhouse.org>), which provides an annual survey report of political rights and civil liberties ratings between 1972 and 2012.

4.6 Empirical models

Following Ahmed and Duellman (2012), I rewrite equation (6) and (7) into equation (9) and (10):

$$\begin{aligned}
 CON_{i,t} = & \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 MB_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 GROWTH_{i,t} \\
 & + \beta_7 RAD_{i,t} + \beta_8 CFO_{i,t} + \beta_9 \sigma(SALES)_{i,t} \\
 & + e_{i,t}
 \end{aligned} \tag{9}$$

$$\begin{aligned}
 CON_{i,t} = & \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 MB_{i,t} + \beta_5 SIZE_{i,t} \\
 & + \beta_6 LEV_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 RAD_{i,t} + \beta_9 CFO_{i,t} + \beta_{10} \sigma(SALES)_{i,t} \\
 & + e_{i,t}
 \end{aligned} \tag{10}$$

Where:

CON = C-score conservatism measure by Khan and Watts (2009)

PR = political rights index measured by Freedom House
(<http://www.freedomhouse.org>) and ranges from 0 to 6

INVPRO = measures of investor protections

MB = market value of equity divided by book value of equity

LEV = the total liabilities to total assets ratio

SIZE = the natural logarithm of total assets

GROWTH = sales growth, calculated as the change of sales in year t divided by the total sales in year $t-1$

RDA = total research and development expense plus advertising expense
divided by total sales

CFO = operating cash flows scaled by total asset in year $t-1$

$\sigma(SALES)$ = standard deviation of the natural logarithm of revenues for the previous five years

4.7 Sample and summary statistics

Table 4.1 lists means for country-level variable by countries. The sample consists of 136,047 firm-year observations in 38 countries. Again, the U.S., Japan, India, Australia, and the U.K. have the largest representations. Countries with high political rights rating (*PR*) do not necessarily have high investor protection ratings (*INVPRO*). For example, among countries that have highest *PR* rating, the *INVPRO* ratings range from 3.0623 (Switzerland) to 8.6842 (Canada). Also, countries with better investor protection do not always have excellent political environments.

Singapore has one of best investor protection environments (9.2570 at INVPRO), but its PR is only 2.1960, the lowest one among the sample.

Table 4.1: Descriptive Statistics by Country for Conservatism

Table 4.1 contains means for the variables used in the main regression. *PR* is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *PCI* is the political constraint index from Henisz (2000). *INVPRO* is the Strength of Investor Protection Index from the World Bank. *ANTI_SD* is the anti-self-dealing index from Djankov et al.(2008), which measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. *CR* is the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending from the World Bank. *IDV*, *UAI*, and *MAS* are individualism, uncertainty avoidance, and masculinity scores from Hofstede (1980). *AVC* is a cultural conservatism measure, equal to *UAI* less *IDV* and *MAS*. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP.

Country	No.	PR	PCI	INVPRO	ANTI_SD	CR	IDV	UAI	MAS	AVC	DEBT/GDP	EQUITY/GDP
Argentina	361	5.0000	0.2413	4.7601	0.4438	4.0000	46	86	56	-16	0.1411	0.2216
Australia	9,464	6.0000	0.4144	5.7082	0.7903	9.1081	90	51	61	-100	1.1618	1.1589
Austria	432	6.0000	0.4818	5.0233	0.2094	7.0000	55	70	79	-64	1.1664	0.3111
Belgium	705	6.0000	0.7028	6.9953	0.5403	6.0000	75	94	54	-35	0.8588	0.6449
Brazil	1,653	5.0000	0.2256	5.3094	0.2913	3.0000	38	76	49	-11	0.4893	0.5700
Canada	761	6.0000	0.3545	8.6824	0.6510	7.0000	80	48	52	-84	1.5853	1.1905
Chile	938	6.0000	0.4437	6.0689	0.6250	4.4989	23	86	28	35	0.8911	1.1573
Denmark	858	6.0000	0.3580	6.2913	0.4656	8.6527	74	23	16	-67	1.8605	0.6611
Finland	738	6.0000	0.5386	5.7176	0.4601	8.0000	63	59	26	-30	0.8173	0.8464
France	2,912	6.0000	0.5256	5.3150	0.3823	5.8853	71	86	43	-28	0.9976	0.7810
Greece	1,162	5.7566	0.3964	3.1837	0.2250	4.0000	35	112	57	20	0.9753	0.3954
India	9,667	5.0000	0.2033	5.9996	0.5490	7.6503	48	40	56	-64	0.4609	0.7778
Indonesia	1,574	4.7282	0.3252	5.8533	0.6830	5.0000	14	48	46	-12	0.2787	0.3501
Ireland	246	6.0000	0.4559	8.2126	0.7868	9.0000	70	35	68	-103	1.7818	0.4763
Israel	983	6.0000	0.5775	8.3008	0.7135	9.0000	54	81	47	-20	0.8961	0.8744
Italy	1,645	5.8898	0.3937	5.9963	0.3854	3.0000	76	75	70	-71	1.0220	0.3085
Japan	25,790	6.0000	0.5261	6.9972	0.4830	6.8066	46	92	95	-49	1.8189	0.7949
Korea, Rep.	4,365	5.9314	0.4186	5.3135	0.4609	8.0000	18	85	39	28	1.4197	0.8712
Malaysia	6,984	2.9213	0.2962	8.6747	0.9479	10.0000	26	36	50	-40	1.0950	1.4091
Mexico	595	4.7254	0.2672	5.1342	0.1785	5.2538	30	82	69	-17	0.2139	0.3226
Netherlands	983	6.0000	0.5648	4.4045	0.2090	6.0000	80	53	14	-41	1.7501	0.8759
New Zealand	641	6.0000	0.3059	9.6435	0.9500	10.0000	79	49	58	-88	1.2995	0.4119

Nigeria	110	2.7034	0.3491	5.7055	0.5156	9.0000	30	55	60	-35	0.2899	0.2485
Norway	353	6.0000	0.5257	6.6513	0.4354	6.0000	69	50	8	-27	0.8002	0.5829
Pakistan	1,143	2.3448	0.1594	6.3008	0.4083	6.0000	14	70	50	6	0.2321	0.2443
Peru	417	5.0000	0.1655	6.6615	0.4083	6.3573	16	87	42	29	0.2338	0.5464
Philippines	953	3.8561	0.3612	4.3628	0.2372	4.0000	32	44	64	-52	0.3077	0.5960
Portugal	229	6.0000	0.3734	5.9713	0.4861	3.0000	27	104	31	46	1.6253	0.3825
Singapore	4,511	2.1960	0.0386	9.2570	1.0000	10.0000	20	8	48	-60	0.9991	1.8714
South Africa	1,922	5.2763	0.4236	7.9699	0.8135	7.0000	65	49	63	-79	1.4515	2.0537
Spain	599	6.0000	0.3052	5.0098	0.3705	6.0000	51	86	42	-7	1.9601	0.8707
Sri Lanka	599	2.5012	0.2810	5.4357	0.4083	3.8750	35	45	10	0	0.2978	0.2673
Sweden	2,691	6.0000	0.4327	5.3772	0.3396	7.2713	71	29	5	-47	1.2144	1.0579
Switzerland	1,661	6.0000	0.4348	3.0623	0.2667	8.0000	68	58	70	-80	1.6220	2.1877
Thailand	3,245	2.5107	0.3928	6.7875	0.8490	5.0000	20	64	34	10	1.1704	0.7346
Turkey	497	4.0000	0.3489	5.4968	0.4260	4.0000	37	85	45	3	0.3739	0.3316
United Kingdom	8,704	6.0000	0.3861	7.9443	0.9271	10.0000	89	35	66	-120	1.7619	1.2571
United States	34,956	6.0000	0.4018	8.2988	0.6510	9.0000	91	46	62	-107	1.8338	1.1953

Table 4.2 displays descriptive statistics of the variables used in the main regression. The mean (median) C-score is 0.2379 (0.1497), which is consistent with prior literature. Table 4.3 presents correlation matrix of the variables of interest. As expected, political rights are positively related with conservatism (0.0901) and the alternative measure of political environments (political constraint index, PCI) is also positively correlated with the conservatism (0.0559).

Table 4.2: Descriptive Statistics for Conservatism

Table 4.2 displays descriptive statistics for the variables used in the main regressions:

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 MB_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 CFO_{i,t} + \beta_9 \sigma(SALES)_{i,t} + e_{i,t}$$

CON is the C-score conservatism measure by Khan and Watts (2009). *MB* is the market-to-book ratio, equal to the market value of equity divided by the book value of equity. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years.

Variables	N.	Mean	Standard deviation	25th percentile	Median	75th percentile
C-score	136,047	0.2379	2.2196	-0.1465	0.1497	0.4824
MB	136,047	2.3900	4.4187	0.7503	1.3422	2.4258
LEV	136,047	0.8421	1.6707	0.0361	0.2740	0.8604
SIZE	136,047	5.5471	2.0502	4.1193	5.4574	6.8986
GROWTH	136,047	0.1619	0.6419	-0.0366	0.0645	0.1980
RDA	136,047	0.0574	0.3855	0.0000	0.0000	0.0081
CFO	136,047	0.0457	0.1360	0.0103	0.0590	0.1106
$\sigma(SALES)$	136,047	3.4312	2.3103	2.0279	3.3451	4.7630

Table 4.3: Correlation Matrix for Conservatism

Table 4.3 presents Pearson correlation coefficients for the variables included in the main regressions:

CON is the C-score conservatism measure by Khan and Watts (2009). *PR* is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *PCI* is the political constraint index from Henisz (2000). *INVPRO* is the Strength of Investor Protection Index from the World Bank. *ANTI_SD* is the anti-self-dealing index from Djankov et al.(2008), which measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. *CR* is the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending from the World Bank. *MB* is the market-to-book ratio, equal to the market value of equity divided by the book value of equity. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *AVC* is a cultural conservatism measure, equal to UAI less IDV and MAS.

Correlation coefficients shown in bold are significant at $p < 0.05$ (two-tailed test).

	CON	PR	PCI	INVPRO	ANTI_SD	CR	MB	LEV	SIZE	GROWTH	RDA	CFO	$\sigma(SALES)$	AVC
CON	1.0000													
PR	0.0901	1.0000												
PCI	0.0559	0.5560	1.0000											
INVPRO	0.0402	-0.1621	-0.1413	1.0000										
ANTI_SD	0.0274	-0.3877	-0.3174	0.6495	1.0000									
CR	0.0699	0.0064	-0.2250	0.5924	0.6845	1.0000								
MB	0.0367	0.0393	-0.0207	-0.0466	0.0004	-0.0497	1.0000							
LEV	0.0290	-0.0521	-0.0595	-0.0795	-0.0921	-0.0832	-0.1471	1.0000						
SIZE	-0.0381	0.2096	0.1495	0.0842	-0.2187	-0.0908	-0.0369	0.1255	1.0000					
GROWTH	-0.0583	-0.0077	-0.0483	-0.0510	0.0728	0.0507	0.0536	-0.0498	-0.0908	1.0000				
RDA	0.0819	0.0661	0.0175	0.0737	0.0227	0.0756	0.0645	-0.0595	-0.0973	0.0121	1.0000			
CFO	0.1925	-0.0606	-0.0141	0.0253	-0.0666	-0.0908	-0.0441	-0.0352	0.3014	-0.0708	-0.3592	1.0000		
$\sigma(SALES)$	-0.0360	0.1419	0.0996	0.0013	-0.2236	-0.1729	0.0492	0.0818	0.7791	-0.1760	-0.1182	0.3033	1.0000	
AVC	-0.1089	-0.3736	0.0084	-0.4829	-0.4019	-0.6381	-0.0047	0.1485	-0.0290	-0.0537	-0.1138	0.0907	0.0665	1.0000

4.8 Results

Table 4.4 presents multivariate analysis of the impact of political and legal institutions on conservatism. Column 1 employs the basic specification with political rights, investor protection ratings, and firm characteristics. Column 2 adds the interaction term of political rights and investor protection ratings to the basic regressions. Columns 3 and 4 additionally include debt market size and equity market capitalization to control for country variables.

Columns 1 and 3 show that stronger political rights are associated with a higher degree of accounting conservatism. The coefficient of PR on C-score is 0.0350 and 0.0307 respectively, significant at 1% level. The positive impact of political rights on accounting conservatism is economically large - an increase of political rights ratings by one is associated with a 15% (13%)³ increase in the dependent variable. This implies that political rights play a significant role in encouraging conservative accounting. The coefficient of investor protection (INVPRO) is also positive and significant, suggesting that better investor protection is related to more conservative reporting by managers.

Columns 2 and 4 provide information about the interaction between political rights and investor protection. The significant coefficient of the interaction implies the negative joint effect of political rights and investor protection on conservatism. Political rights substitute for legal institutions, and a marginal increase in political rights will encourage a less improvement on accounting conservatism in a country with better investor protection.

³ 15%=0.0350/0.2370 and 13% = 0.0307/0.2370, while 0.2370 is the mean of C-score.

Table 4.4: Impact of Political and Legal Institutions on Conservatism Behaviors

Table 4.4 displays the results of regressions based on the following model:

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 MB_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 RDA_{i,t} + \beta_9 CFO_{i,t} + \beta_{10} \sigma(SALES)_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	C-score			
	(1)	(2)	(3)	(4)
PR	0.0350 [4.75]***	0.3762 [10.33]***	0.0307 [3.29]***	0.4296 [10.82]***
INVPRO	0.1048 [19.31]***	0.3378 [11.40]***	0.0947 [12.92]***	0.3812 [11.52]***
PR*INVPRO		-0.0442 [-8.61]***		-0.0524 [-9.31]***
MB	-0.0015 [-0.47]	-0.0008 [-0.24]	-0.0013 [-0.41]	-0.0003 [-0.1]
LEV	0.2697 [27.79]***	0.2696 [27.85]***	0.2696 [27.63]***	0.2679 [27.53]***
SIZE	-0.2214 [-34.56]***	-0.2209 [-34.41]***	-0.2245 [-33.70]***	-0.2244 [-33.65]***
GROWTH	-0.0110 [-1.11]	-0.0118 [-1.19]	-0.0068 [-0.67]	-0.0059 [-0.58]
RDA	-0.1038 [-12.69]***	-0.0934 [-11.47]***	-0.1014 [-12.41]***	-0.0878 [-10.81]***
CFO	-0.5566 [-10.72]***	-0.5197 [-10.04]***	-0.5225 [-10.13]***	-0.4854 [-9.44]***
$\sigma(SALES)$	0.0470 [8.05]***	0.0470 [8.03]***	0.0471 [7.98]***	0.0466 [7.88]***
DEBT/GDP			0.0109 [0.48]	0.0175 [0.77]
EQUITY/GDP			0.0447 [2.63]***	-0.0723 [-3.94]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.0803	0.0813	0.0807	0.0819
N.	136,047	136,047	136,047	136,047

4.9 Robustness tests

4.9.1 Weighted Least Squares Regression

In order to address the issue that the dependent variables are estimated with a sample of uneven country representation, I estimate with Weighed Least Squares (WLS) regressions. The weight is inversely proportion to the number of observations in each country. This is expected to reduce the bias by assigning lower weights to countries with more observations. All WLS results are consistent with the OLS results. As in column 1 and 3 of Table 4.5, political rights play a significant role in enhancing conservatism. Columns 2 and 4 of Table 4.5 show that political rights substitute for investor protection in terms of improving conservatism.

Table 4.5: Impact of Political and Legal Institutions on Conservatism Behaviors -
Weighted Least Squares Regression

Table 4.5 displays the results of weighted least squares regressions based on the following model (the weight is inversely proportional to the number of observations per country):

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 MB_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 RDA_{i,t} + \beta_9 CFO_{i,t} + \beta_{10} \sigma(SALES)_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	C-score			
	(1)	(2)	(3)	(4)
PR	0.1457 [10.26]***	0.4220 [8.23]***	0.1031 [6.70]***	0.5700 [8.87]***
INVPRO	0.1243 [10.02]***	0.3361 [9.00]***	0.1110 [8.53]***	0.4714 [10.00]***
PR*INVPRO		-0.0410 [-5.67]***		-0.0680 [-7.72]***
MB	0.0126 [2.20]**	0.0132 [2.30]**	0.0148 [2.51]**	0.0158 [2.67]***
LEV	0.2360 [9.29]***	0.2354 [9.27]***	0.2319 [8.96]***	0.2280 [8.79]***
SIZE	-0.2087 [-12.57]***	-0.2139 [-12.82]***	-0.2176 [-12.49]***	-0.2208 [-12.68]***
GROWTH	-0.1162 [-2.36]**	-0.1131 [-2.32]**	-0.1036 [-1.99]**	-0.0997 [-1.93]
RDA	-0.1132 [-1.23]	-0.0937 [-1.02]	-0.1299 [-1.40]	-0.0895 [-0.96]
CFO	-0.6298 [-3.51]***	-0.5807 [-3.22]***	-0.5115 [-2.76]***	-0.4522 [-2.43]**
$\sigma(SALES)$	0.0659 [5.92]***	0.0671 [6.02]***	0.0670 [5.84]***	0.0652 [5.66]***
DEBT/GDP			0.1892 [2.93]***	0.1603 [2.47]**
EQUITY/GDP			-0.1507 [-2.98]***	-0.2846 [-5.20]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.0490	0.0497	0.0473	0.0487
N.	136,047	136,047	136,047	136,047

4.9.2 Exclusion of individual countries

To alleviate the concern that the results are driven by any specific country, I recursively repeat the main regression in table 4.4, deleting a different country each time. I create 38 samples, each of 37 countries and find virtually no change in the results. The coefficients of political rights are positive and significant, while the interaction is still negative and significant.

4.9.3 Alternative measure of political rights

In Table 4.6, I present the results using Henisz's political constraint index as an alternative measure of political rights. As Henisz (2000) summarized, this index measures the constraints on policy change, and the basic component of this measure is "government's ability to credibly commit not to interfere with private property rights." Henisz derives a measure to capture institutional constraints on the choice of future policies from policy-makers as well as the institutional constraints on the number of independent institutions with veto power over policy change. As Qi et al. (2010) point out, Henisz's political constraint index is also a good proxy for political institutions, because it measures investors' ex ante views of restrictions. As in Table 17, the results and inferences do not change with Henisz's political constraint index.

Table 4.6: Impact of Political and Legal Institutions on Conservatism Behaviors - Alternative Measure of Political Rights

Table 4.6 displays the results of regressions based on the following model:

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_3 MB_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 GROWTH_{i,t} + \beta_7 RDA_{i,t} + \beta_8 CFO_{i,t} + \beta_9 \sigma(SALES)_{i,t} + e_{i,t}$$

PCI is the political constraint index from Henisz (2000). *INVPRO* is the Strength of Investor Protection Index from the World Bank. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	C-score			
	(1)	(2)	(3)	(4)
PCI	1.2417 [8.69]***	4.6762 [9.65]***	1.0681 [6.90]***	4.9932 [9.99]***
INVPRO	0.1249 [10.16]***	0.3133 [11.12]***	0.1118 [8.73]***	0.3309 [11.19]***
PCI*INVPRO		-0.5158 [-7.47]***		-0.5874 [-8.37]***
MB	0.0137 [2.37]**	0.0149 [2.57]**	0.0159 [2.69]***	0.0174 [2.92]***
LEV	0.2401 [9.45]***	0.2413 [9.50]***	0.2359 [9.11]***	0.2354 [9.09]***
SIZE	-0.1913 [-11.75]***	-0.1924 [-11.82]***	-0.2109 [-12.20]***	-0.2084 [-12.05]***
GROWTH	-0.1198 [-2.40]**	-0.1174 [-2.35]**	-0.1036 [-1.97]**	-0.1013 [-1.93]*
RDA	-0.0972 [-1.07]	-0.0821 [-0.90]	-0.1391 [-1.51]	-0.1173 [-1.27]
CFO	-0.7370 [-4.16]***	-0.7062 [-3.99]***	-0.5557 [-3.03]***	-0.5363 [-2.93]***
$\sigma(SALES)$	0.0635 [5.71]***	0.0644 [5.79]***	0.0657 [5.76]***	0.0647 [5.67]***
DEBT/GDP			0.2285 [3.76]***	0.2212 [3.64]***
EQUITY/GDP			-0.1711 [-3.42]***	-0.2548 [-5.10]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.0493	0.0507	0.0484	0.0500
N.	136,047	136,047	136,047	136,047

4.9.4 Political rights in prior year

I study the impact of political rights in the current year on conservatism behaviors. One of the concerns with the findings is that the political environments in current year may not influence financial markets and other related activities in the same year. Unlike legal institutions, the impact from political environments could be a longer process. Therefore, I run the main regression using political rights in year t-1, t-2 and t-3 respectively. I only report the results with political rights in year t-1 in Table 18 for space considerations. Similar to the findings in Table 4.7, the results in the other two tables confirm that political rights matter in improving conservatism and that political rights substitute for investor protection in terms of enhancing conservatism.

Table 4.7: Impact of Political and Legal Institutions on Conservatism Behaviors - Political Rights in Year t-1

Table 4.7 presents the results of regressions based on the following model:

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t-1} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t-1} * INVPRO_{i,t} + \beta_4 MB_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 RDA_{i,t} + \beta_9 CFO_{i,t} + \beta_{10} \sigma(SALES)_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	C-score			
	(1)	(2)	(3)	(4)
PR	0.1270 [9.26]***	0.4040 [8.00]***	0.0785 [5.08]***	0.5197 [8.12]***
INVPRO	0.1242 [9.98]***	0.3354 [9.17]***	0.1076 [8.25]***	0.4460 [9.64]***
PR*INVPRO		-0.0408 [-5.72]***		-0.0636 [-7.31]***
MB	0.0128 [2.23]**	0.0135 [2.34]**	0.0152 [2.57]**	0.0162 [2.72]***
LEV	0.2352 [9.26]***	0.2341 [9.22]***	0.2315 [8.94]***	0.2270 [8.75]***
SIZE	-0.2044 [-12.32]***	-0.2097 [-12.58]***	-0.2146 [-12.33]***	-0.2175 [-12.51]***
GROWTH	-0.1173 [-2.38]**	-0.1142 [-2.34]**	-0.1036 [-1.98]**	-0.1001 [-1.93]*
RDA	-0.1038 [-1.13]	-0.0856 [-0.93]	-0.1216 [-1.31]	-0.0850 [-0.92]
CFO	-0.6552 [-3.65]***	-0.6019 [-3.34]***	-0.5288 [-2.86]***	-0.4686 [-2.53]**
$\sigma(SALES)$	0.0657 [5.90]***	0.0671 [6.02]***	0.0672 [5.86]***	0.0657 [5.71]***
DEBT/GDP			0.2185 [3.33]***	0.1837 [2.78]***
EQUITY/GDP			-0.1574 [-3.11]***	-0.2786 [-5.15]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.04845	0.0491	0.0469	0.0481
N.	136,047	136,047	136,047	136,047

4.9.5 Alternative measures of legal institutions

In the main regression, I use the Strength of Investor Protection Index from the World Bank. To provide assurance that the results are not driven by using a specific measure for legal institutions, I use anti-self-dealing index (ANTI_SD) from Djankov et al. (2008) and creditor rights index (CR) from the World Bank. The anti-self-dealing index measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. However, this anti-self-dealing index is not time-varying and is the average rating for each country. The creditor rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lender. I employ creditor rights index as a measure for legal institutions for two reasons. First, Ball et al. (2008) argue that debt markets demand high scores on conservatism. Second, Salter et al. (2012) show that creditor rights have positive and significant impact on conservatism.

Panel A in Table 4.8 presents the results for anti-self-dealing index, while panel B displays the results for creditor rights index. The results confirm the initial findings in Table 4.4.

Table 4.8: Impact of Political and Legal Institutions on Conservatism Behaviors - Alternative Measure of Legal Institutions

Table 4.8 displays the results of regressions based on the following model:

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t-1} + \beta_2 ANTI_SD_{i,t} + \beta_3 PR_{i,t-1} * ANTI_SD_{i,t} + \beta_3 MB_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 GROWTH_{i,t} + \beta_7 RDA_{i,t} + \beta_8 CFO_{i,t} + \beta_9 \sigma(SALES)_{i,t} + e_{i,t}$$

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t-1} + \beta_2 CR_{i,t} + \beta_3 PR_{i,t-1} * CR_{i,t} + \beta_3 MB_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 GROWTH_{i,t} + \beta_7 RDA_{i,t} + \beta_8 CFO_{i,t} + \beta_9 \sigma(SALES)_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *ANTI_SD* is the anti-self-dealing index from Djankov et al.(2008), which measures the strength of minority shareholder protection against self-dealing by the controlling shareholder. *CR* is the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending from the World Bank. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

Panel A ANTI SD		C-score			
	(1)	(2)	(3)	(4)	
PR	0.1472 [10.13]***	0.3253 [9.36]***	0.1043 [6.86]***	0.3403 [7.70]***	
ANTI_SD	0.6670 [7.46]***	2.0362 [8.70]***	0.6698 [6.92]***	2.4616 [8.59]***	
PR*ANTI_SD		-0.2844 [-5.88]***		-0.3520 [-6.31]***	
MB	0.0120 [2.09]**	0.0128 [2.23]**	0.0144 [2.43]**	0.0151 [2.56]**	
LEV	0.2351 [9.26]***	0.2347 [9.24]***	0.2308 [8.92]***	0.2287 [8.83]***	
SIZE	-0.1974 [-11.82]***	-0.2055 [-12.13]***	-0.2057 [-11.65]***	-0.2094 [-11.84]***	
GROWTH	-0.1214 [-2.46]**	-0.1152 [-2.35]**	-0.1091 [-2.09]**	-0.1035 [-1.99]**	
RDA	-0.0572 [-0.62]	-0.0505 [-0.55]	-0.0813 [-0.87]	-0.0636 [-0.69]	
CFO	-0.6038 [-3.37]***	-0.5678 [-3.16]***	-0.4834 [-2.61]***	-0.4609 [-2.49]**	
$\sigma(SALES)$	0.0633 [5.68]***	0.0639 [5.73]***	0.0640 [5.59]***	0.0622 [5.41]***	
DEBT/GDP			0.1944 [3.09]***	0.1368 [2.07]**	
EQUITY/GDP			-0.1955 [-3.64]***	-0.2632 [-4.97]***	
Fixed year	YES	YES	YES	YES	
Fixed industry	YES	YES	YES	YES	
R square	0.0477	0.0485	0.0466	0.0476	
N.	136,013	136,013	136,013	136,013	

Panel B CR				
	C-score			
	(1)	(2)	(3)	(4)
PR	0.1269 [9.28]***	0.3448 [6.92]***	0.0653 [4.62]***	0.3117 [6.19]***
CR	0.0095 [0.85]	0.1595 [5.38]***	0.0010 [0.08]	0.1753 [5.45]***
PR*CR		-0.0310 [-4.58]***		-0.0354 [-4.95]***
MB	0.0123 [2.14]**	0.0122 [2.13]**	0.0151 [2.55]**	0.0152 [2.57]**
LEV	0.2316 [9.12]***	0.2294 [9.03]***	0.2298 [8.87]***	0.2266 [8.75]***
SIZE	-0.2049 [-12.29]***	-0.2098 [-12.58]***	-0.2203 [-12.61]***	-0.2253 [-12.87]***
GROWTH	-0.1194 [-2.42]**	-0.1165 [-2.35]**	-0.1027 [-1.98]**	-0.0986 [-1.88]*
RDA	-0.0348 [-0.38]	-0.0079 [-0.09]	-0.0687 [-0.74]	-0.0385 [-0.42]
CFO	-0.6342 [-3.53]***	-0.6258 [-3.48]***	-0.4849 [-2.61]***	-0.4788 [-2.57]***
$\sigma(\text{SALES})$	0.0605 [5.28]***	0.0591 [5.13]***	0.0643 [5.53]***	0.0623 [5.32]***
DEBT/GDP			0.2787 [4.05]***	0.2959 [4.23]***
EQUITY/GDP			-0.1220 [-2.46]**	-0.1686 [-3.25]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.0459	0.0467	0.0451	0.0461
N.	136,047	136,047	136,047	136,047

4.9.6 Culture and conservatism

Many studies examine the role of culture on accounting practices as well as accounting choices (Doupnik and Tsakumis, 2004; Gray, 1988; Jaggi and Low, 2000). Hope (2003) finds that cultural factors are important in explaining disclosure behaviors across countries. Hofstede (1980) defines four dimensions of culture: power distance, individualism, masculinity, and uncertainty avoidance. Gray's model (1988) expands Hofstede's model by including accounting subsystem

and accounting values. Gray (1988) introduces four accounting values: Professionalism, Uniformity, Conservatism, and Secrecy.

Salter et al. (2012) find that societal values are an important explanatory factor to address the differences in conservatism across countries. They find that uncertainty avoidance and femininity are positively related to conservatism. Following Douppnik and Tsakumis (2004), they construct a composite measure of conservatism (AVC), equal to uncertainty avoidance score minus individualism and masculinity scores. The findings show that the composite measure of conservatism is positively related to unconditional conservatism.

Gray's model with the Douppnik and Tsakumis' (2004; see Figure 3.2) extension indicates that accounting outcomes are the product of social values and institutional factors. I modify this model and include the political system as one of the institutional factors. Based on this model, accounting outcomes, including conservatism, are influenced by both institutional and societal factors. Therefore, in order to isolate the impact of legal and political institutions as well as their interaction, I add the composite measure of conservatism (AVC) as a control variable in the regression. The results presented in Table 4.9 indicate that the inclusion of the cultural variable does not eliminate impact of political and legal variables. AVC is not significant in column 1, but it is strongly positively related to conservatism in column 2, consistent with the findings in Salter et al. (2012).

Table 4.9: Impact of Political and Legal Institutions on Conservatism Behaviors - Culture as Control Variables

Table 4.9 displays the results of regressions based on the following model:

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t} * INVPRO_{i,t} + \beta_4 MB_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \beta_7 RDA_{i,t} + \beta_8 CFO_{i,t} + \beta_9 \sigma(SALES)_{i,t} + e_{i,t}$$

PR is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year *t* divided by the total sales in year *t-1*. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP. *AVC* is a cultural conservatism measure, equal to UAI less IDV and MAS. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	C-score	
	(1)	(2)
PR	0.0994 [6.00]***	0.5640 [8.84]***
INVPRO	0.1132 [7.95]***	0.5070 [9.87]***
PR*INVPRO		-0.0723 [-7.78]***
MB	0.0168 [2.71]***	0.0159 [2.68]***
LEV	0.2399 [8.88]***	0.2292 [8.83]***
SIZE	-0.2169 [-12.08]***	-0.2190 [-12.54]***
GROWTH	-0.1139 [-2.08]**	-0.1004 [-1.95]*
RDA	-0.1671 [-1.68]*	-0.1063 [-1.15]
CFO	-0.5989 [-3.11]***	-0.4551 [-2.45]**
$\sigma(SALES)$	0.0662 [5.54]***	0.0622 [5.33]***
DEBT/GDP	0.1871 [2.77]***	0.1376 [2.02]**
EQUITY/GDP	-0.1807 [-3.42]***	-0.2578 [-4.46]***
AVC	-0.0007 [-0.73]	0.0029 [2.70]***
Fixed year	YES	YES
Fixed industry	YES	YES
R square	0.0504	0.0491
N.	136,047	136,047

4.9.7 Alternative measure for conservatism

Since the C-score conservatism measure requires stock return data, it may be problematic if a specific stock market is not well developed and the stock price fails to reflect the information in the market. Following Givoly and Hayn (2000), I measure conservatism without using stock market data and employ the ratio of non-operating accruals deflated by averaged total assets as an alternative measure. The findings in Table 21 indicate that better political rights are associated with higher level of conservatism, and that political rights substitute for investor protection in terms of conservatism.

Table 4.10: Impact of Political and Legal Institutions on Conservatism Behaviors - Non-operating Accruals as Dependent Variables

Table 4.10 presents the results of regressions based on the following model:

$$CON_{i,t} = \beta_0 + \beta_1 PR_{i,t-1} + \beta_2 INVPRO_{i,t} + \beta_3 PR_{i,t-1} * INVPRO_{i,t} + \beta_4 MB_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 LEV_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 RDA_{i,t} + \beta_9 CFO_{i,t} + \beta_{10} \sigma(SALES)_{i,t} + e_{i,t}$$

ACC-CON is the ratio of non-operating accruals deflated by averaged total assets over previous three years. *PR* is the political rights index measured by Freedom House (<http://www.freedomhouse.org>) and ranges from 0 to 6. *INVPRO* is the Strength of Investor Protection Index from the World Bank. *LEV* is the total liabilities to total assets ratio. *SIZE* is equal to the natural log of market value of equity. *GROWTH* is the sales growth, calculated as the change of sales in year t divided by the total sales in year t-1. *RDA* is the total research and development expense plus advertising expense divided by total sales. *CFO* is operating cash flows scaled by total assets. $\sigma(SALES)$ is the standard deviation of the natural logarithm of revenues for the previous five years. *EQUITY/GDP* is the market capitalization over GDP ratio from the World Bank. *DEBT/GDP* is the domestic credit provided to the private sector by financial corporations as a percentage of GDP. *, **, *** Indicate significance at the 0.10, 0.05 and 0.01 levels, respectively.

	ACC-CON			
	(1)	(2)	(3)	(4)
PR	0.0028 [17.80]***	0.0055 [9.36]***	0.0015 [10.37]***	0.0037 [5.63]***
INVPRO	0.0003 [2.77]***	0.0024 [6.03]***	0.0005 [4.35]***	0.0015 [3.40]***
PR*INVPRO		-0.0004 [-5.65]***		-0.0003 [-4.1]***
MB	0.0001 [3.27]***	0.0001 [3.43]***	0.0001 [4.22]***	0.0001 [4.17]***
LEV	0.0019 [23.59]***	0.0019 [23.63]***	0.0020 [24.25]***	0.0019 [23.80]***
SIZE	-0.0020 [-15.66]***	-0.0021 [-16.09]***	-0.0022 [-16.83]***	-0.0023 [-17.27]***
GROWTH	-0.0026 [-7.00]***	-0.0026 [-6.92]***	-0.0026 [-6.91]***	-0.0025 [-6.80]***
RDA	0.0354 [27.56]***	0.0357 [27.72]***	0.0343 [27.38]***	0.0350 [27.65]***
CFO	0.1060 [45.49]***	0.1065 [45.67]***	0.1107 [48.15]***	0.1112 [48.14]***
$\sigma(SALES)$	-0.0001 [-1.10]	-0.0001 [-0.97]	0.0000 [0.35]	0.0000 [-0.23]
DEBT/GDP			0.0056 [14.21]***	0.0062 [15.73]***
EQUITY/GDP			-0.0023 [-5.78]***	-0.0023 [-6.40]***
Fixed year	YES	YES	YES	YES
Fixed industry	YES	YES	YES	YES
R square	0.1776	0.1783	0.1915	0.1917
N.	132,870	132,870	132,870	132,870

4.10 Conclusion for conservatism section

In this section, an examination is conducted to determine whether political rights explain differences in conservatism across countries. The evidence leads to a conclusion that political rights are positively associated with the level of conservatism, after controlling for legal institutions factors. Political institutions influence accounting conservatism via the degree of state involvement, contracting purpose, and different political costs. Therefore, a better political environment would lead to lower possibility of being expropriated, better monitoring by stakeholders, and higher political pressures on regulators and standard setters. All of these favor conservative accounting. Furthermore, I find that the interaction term between political rights and legal institutions is negatively associated with the level of conservatism, thus, political rights and investor protection partially act as substitutes.

To check the robustness of these results, I conduct alternative measures of conservatism, political rights as well as investor protection. I re-run the regressions eliminating countries one at a time. Additionally, I estimate models controlling for the impact of culture. The results are robust to all these alternative specifications. To conclude, a more open democratic environment benefits financial market by encouraging managers to report earnings conservatively. And these impacts of political environments are not captured by differences in legal rights and social values.

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