The Hong Kong Polytechnic University

School of Accounting and Finance

Essays on the Impact of Institutional Development on Capital Markets

Jacqueline Wenjie WANG

A thesis submitted in partial fulfillment of the requirements

for

the Degree of Doctor of Philosophy

May 2008

Certificate of Originality

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

_____ (Signed)

Wenjie Wang (Name of Student)

Abstract of thesis entitled:
"Essays on the Impact of Institutional Development on Capital Markets"

Submitted by WANG Wenjie
for the degree of Doctor of Philosophy
at The Hong Kong Polytechnic University in April 2008

Essays on the Impact of Institutional Development on Capital Markets

Abstract

This thesis examines the impact of institutional development on capital markets. The first part of the thesis focuses on the impact of accounting standards and reporting incentives on the information content of stock prices using a sample of 44 countries around the world over a 10-year period from 1995 through 2004. Following Morck, Yeung, and Yu (2000), we use stock market synchronicity as a proxy for the informativenss of stock prices. We find that the adoption of International Financial Reporting Standards or US GAPP *per se* is not related to the information content of stock prices. Better accounting standards are helpful only in countries with proper reporting incentives. In particular, we find a significantly negative relationship between stock price synchronicity and accounting standards in common-law countries, countries with better shareholder protection, and countries with effective legal enforcement. Our results are robust to alternative measures of both accounting standards and reporting incentives,

to alternative sample periods, and to alternative sample countries. Our findings suggest that a well functioning capital market needs both high quality accounting standards and strong legal and enforcement mechanisms.

The second part of the thesis examines the relationship between shareholder return and risk and investor protection in an international setting with a sample of 41 countries around the world over an 11-year period from 1994 through 2004. We include both internal and external governance mechanisms in our analysis which allows us to determine if internal mechanisms complement or substitute for external mechanisms. We first find a significant curvilinear relationship between shareholder return and the fraction of insider ownership. The curve slopes upward until closely-held ownership reaches approximately 35% to 50% and then slopes slightly downward, and the relationship is stronger in countries with better investor protection, suggesting that shareholder return is more responsive to the alignment of interest between insiders and outside investors in countries with better investor protection. Secondly, we find that shareholder return is also significantly positively related to external governance mechanisms, and a combination of both internal and external mechanisms. Furthermore, we find shareholder return is significantly positively related to economic growth, and economic growth is more helpful in countries with market-based (versus bank-based) financing infrastructure. Finally, we find

a negative relationship between risk and governance mechanisms, suggesting that good governance not only enhances shareholder return but also reduces risk borne by investors.

Acknowledgements

I first thank Professor Wayne Yu, for his patience and efforts in guiding my pursuit for academic research over the last three years. Without his constructive comments and constant advice, the completion of this thesis would not have been possible. I would also like to thank my co-supervisor, Professor Jeong-Bon Kim, for his insightful suggestions.

I would express my greatest gratitude to my parents, for their understanding and unfailing support. Last but not least, thanks all my friends for their help and encouragement.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER TWO

CHAPTER THREE

LIST OF FIGURES

Chapter 1. Introduction

This thesis investigates the impact of institutional development on capital markets. In the first part of the thesis we want to investigate the relationship between accounting standards and reporting incentives and the information content of stock prices. Our study is motivated by two major shortcomings in the extant literature. First, studies examining the impact of accounting standards per se such as Ashbaugh and Pincus (2001) and Barth et al. (2006) do not take into account of potential differences in reporting incentives, while studies on reporting incentives such as Ball et al. (2000, 2003), Leuz et al. (2003), and Burgstahler et al. (2006) do not *explicitly* account for differences in accounting standards in their sample countries. To help understand the interplay between accounting standards and reporting incentives, we include both of them in our analyses and our research design allows us to test the incremental effect of reporting incentives over and beyond that of accounting standards.

Secondly, differences documented by cross-country, capital market-based

studies (e.g., higher value relevance for IRFS earnings than local GAAP earnings as documented in both Burgstahler et al. 2006 and Barth et al. 2007) are due in part to differences in how each country's stock market incorporates information. In particular, stock markets around the world are not equally efficient in processing information, as demonstrated in recent work by Morck et al. (2000) and Jin and Myers (2006). Our focus in this study is to assess if and how the differences among accounting standards affect a stock market's ability in capitalizing information into stock prices. Under the market efficiency hypothesis where rational investors can decipher any masked accounting information, differences in the quality of accounting numbers would be irrelevant. However, there are costs involved in obtaining and processing information, especially low quality information (Grossman and Stiglitz, 1980). Therefore, low quality information impedes the efficient incorporation of information into stock prices. Under this alternative view, higher accounting quality, due to the adoption of high accounting standards and/or proper reporting incentives, should make stock prices more informative. Our main purpose in this paper is to examine the impact of accounting standards and reporting incentives on the information

content of stock prices. Therefore, as a major departure from prior cross-country, market-based studies, our research does not need to assume similarity of stock market efficiency across different countries.

In the second part of this thesis we investigate the relationship between shareholder return and risk and investor protection in an international setting with a sample of 41 countries around the world over an 11-year period from 1994 through 2004. The available empirical evidence is inconclusive on the effect of investor protection on shareholder returns. Hail and Leuz (2006) report a negative relationship between investor protection and ex ante cost of equity, while Lombardo and Pagano (2002) find a positive relationship between the general quality of legal systems and shareholder returns. More importantly, the theoretical link between equity return and investor protection is not that clear either. On the one hand, strong investor protection limits expropriation by controlling shareholders (or insiders), which should lead to higher returns to all shareholders. On the other hand, strong investor protection (e.g., better disclosure and securities regulation) can enhance investor recognition and thereby enlarge investor

base and improve risk sharing (Merton, 1987), leading to a lower rate of required return by investors. Similarly, as argued by Lombardo and Pagano (2000), strong investor protection can reduce monitoring costs borne by investors, and hence the required rate of return. Therefore, the effect of investor protection on equity returns is ultimately an empirical issue. Furthermore, we are not aware of any paper in the extant literature of cross-country studies that considers both internal and external governance mechanisms. We include both internal governance mechanisms such as ownership structure and capital structure and external governance mechanisms such as property rights protection and judicial efficiency in our analysis which allows us to examine how the governance mechanisms interact in relation to equity returns.

Second, a country's economic growth should be explicitly controlled for in examining the relationship between equity returns and investor protection. Shareholders' return should benefit from faster economic growth, as corporate profits are generally positively related to a country's economy. Vassalou (2003) demonstrates that one-year-ahead GDP growth rates can

explain the cross-section of equity returns as well as the Fama-French (1992) model can. Intuitively, the rather low equity returns in Japan for the last decade or so is perhaps due to its slow economic growth, rather than poor investor protection. Similarly, the phenomenal equity returns in the emerging markets such as China and India in the last few years can be partly explained by their high GDP growth during the period. Furthermore, the earnings of the largest firms traded in most national stock markets, especially multinational firms, depend not only on domestic economic growth but also worldwide growth. We will therefore include the effect of both domestic and global GDP growth in order to ascertain the relationship between equity returns and investor protection. Indeed we find the relationship between shareholder returns and governance mechanisms are much more significant after controlling for economic growth.

Third and perhaps more important, our study is one of the first to empirically examine the effect of investor protection on risk of equity returns. Theoretically, Albuquerque and Wang (2007) develop a model to show that weaker investor protection creates incentives to overinvest, which

generates additional volatility in the capital accumulation process, resulting in more volatile equity returns. Similarly, Johnson et al. (2000) find evidence of substantial tunneling – the diversion of corporate resources to the controlling shareholder, especially in countries with weak investor protection. Tunneling therefore increases the volatility of a firm's earnings or cash flows, leading to more volatile equity returns. On the other hand, Friedman et al. (2003) develop a model in which the controlling shareholder props up the firm by using their own private funds to benefit minority shareholders when there is a moderate adverse shock so that the firm stays in business. However, if the negative shock is large enough, the controlling shareholder loots the firm and it collapses. Although looting certainly increases risk, propping will dampen fluctuations in the firm's earnings and cash flows, reducing the volatility of equity returns. The extant empirical literature is silent on this important link, neither firm-level studies such as Gompers et al. (2003) and Core et al. (2006) nor country-level studies such as Daouk et al (2006) and Hail and Leuz (2006) examine the relationship between risk and investor protection. We find a significant negative relationship between the risk of equity returns and governance mechanisms,

providing further evidence that proper governance mechanisms are beneficial to shareholders.

Chapter 2. The Information Content of Stock Prices, Reporting Incentives and Accounting Standards: The International Evidence

2.1. Introduction

There has been a strong push for the adoption of International Financial Reporting Standards (IFRS) in the recent years[1]. For example, as of January of 2005, all listed firms in the European Union were required to adopt IFRS in reporting their financial information. However, recent studies on the effectiveness of adopting IFRS or reconciling financial statements according to US GAAP have found mixed results. Leuz & Verrecchia (2000) document a reduction in the bid-ask spread and an increase in trading volume for a sample of German firms that switched from German to an international reporting regime (IFRS or US GAAP). Similarly, Bartov, Goldberg, and Kim (2005) find that the value relevance of IFRS or US GAAP earnings is higher than that of German GAAP earnings. Ashbaugh

[1] International Accounting Standards (IAS) were renamed to International Financial Reporting Standards (IFRS) in 2001. For ease of exposition we use the term IFRS throughout the paper to refer to both.

and Pincus (2001) find that analyst forecast errors are smaller for firms using IFRS than those using domestic GAAP. Barth et al. (2006) find that relative to firms applying domestic GAAP, firms applying IFRS have less earnings management, more timely recognition of losses, greater value relevance of accounting measures, and lower cost of capital. On the other hand, Eccher and Healy (2000) fail to find significant difference in terms of value relevance of accounting measures prepared using IFRS and domestic GAAP for a sample of Chinese firms. Alford et al. (1993) find that accounting earnings prepared using domestic GAAP in Australia, France, the Netherlands, and the UK are more value relevant than accounting earnings prepared using US GAAP in the US. Similarly, using a sample of foreign firms traded in US exchanges, Chan and Seow (1996) find that stock returns is more closely associated with foreign GAAP earnings than earnings reconciled to US GAAP.

Although much of the international accounting debate focuses on accounting standards per se, there have been studies that examine the effects of reporting incentives. Watts and Zimmerman (1986) argue that accounting quality is influenced not only by accounting standards, but also by reporting

incentives. After all, as recent corporate scandals involving Enron, Global Crossings, and WorldCom illustrate, accounting information reported even using US GAAP can be meaningless or misleading. Prior research on international accounting has documented a significant relationship between accounting quality and reporting incentives. Ball et al. (2000) hypothesize that compared to common-law countries where the demand for accounting information is mainly influenced by the demand for public disclosure, managers in code-law countries have greater discretion in deciding when economic gain and losses are recognized in accounting income through varying the application of accounting standards. Consistent with their hypothesis, they find that accounting income is less timely, particularly in recognizing economic losses in code-law countries. Similarly, Ball et al. (2003) argue that even though accounting standards in Hong Kong, Malaysia, Singapore, and Thailand are generally viewed high (initially influenced first by British colonial common-law and then by the (partial) adoption of IFRS during the sample period of 1984 through 1996), accounting income in the four countries is no different from that of code-law countries in terms of timeliness because preparers' incentives in

the four countries resemble the code-law model. Hung (2001) finds that the use of accrual accounting (versus cash accounting) reduces the value relevance of financial statements only in countries with weak shareholder protection, suggesting a significant role of reporting incentives. Leuz, Nanda, and Wysocki (2003) argue that earnings management is negatively related to the level of investor protection because strong protection limits managers' ability to acquire private control benefits, which reduces their incentives to manage earnings. Based on a sample of 31 countries from the period of 1990 through 1999, their analysis confirms the negative relationship between earnings management and both the level of minority shareholder protection and the quality of legal enforcement. Similarly, Burgstahler, Hail, and Leuz (2006) provide evidence that reporting incentives are important determinants of earnings management in 13 countries in the European Union. Although both private and public firms in the EU are required to use the same accounting standards in preparing their financial statements, private firms exhibit higher levels of earnings management than public firms. Secondly, Burgstahler et al. (2006) find that earnings management is more pervasive in countries with weak legal

systems and enforcement.

Our study is motivated by two major shortcomings in the extant literature. First, studies examining the impact of accounting standards per se such as Ashbaugh and Pincus (2001) and Barth et al. (2006) do not take into account differences in reporting incentives, while studies on reporting incentives such as Ball et al. (2000, 2003), Leuz et al. (2003), and Burgstahler et al. (2006) do not *explicitly* account for differences in accounting standards in their sample countries. To help understand the interplay between accounting standards and reporting incentives, we include both of them in our analyses and our research design allows us to test the incremental effect of reporting incentives over and beyond that of accounting standards.

Secondly, most prior empirical studies assess the impact of accounting standards by examining either differences in the quality of financial statements such as the level of earnings management or the variability of earnings (e.g., Leuz et al. 2003, Hung and Subramanyam 2004, and Barth et al. 2006) or differences in capital market responses such as the value relevance of IFRS/US GAAP accounting numbers relative to local GAAP

numbers, market liquidity, the cost of capital, or timeliness of recognizing economic income (e.g., Harris and Muller 1999, Hung 2001, Ball et al. 2000, Leuz and Verrecchia 2000, Lang, Raedy and Wilson 2005, Burgstahler et al. 2006, and Barth et al. 2007). One concern about the accounting-numbers based research is that it is not clear if and how the differences in the properties of financial statements lead to any differences in making investment or compensation decisions. On the other hand, differences documented by cross-country, capital market-based studies (e.g., higher value relevance for IRFS earnings than local GAAP earnings as documented in both Burgstahler et al. 2006 and Barth et al. 2007) are due in part to differences in how each country's stock market incorporates information. In particular, stock markets around the world are not equally efficient in processing information, as demonstrated in recent work by Morck et al. (2000) and Jin and Myers (2006).

To address these concerns, we employ explicit measures of accounting standards and reporting incentives, and our research design simultaneously takes into account differences in each of the two measures across the countries in our sample. Furthermore, our focus in this study is to assess if

and how these differences affect stock markets' ability in capitalizing information into stock prices. On the one hand, under the market efficiency hypothesis where rational investors can decipher any masked accounting information, rendering differences in accounting quality irrelevant. However, there are costs involved in obtaining and processing information, especially low quality information (Grossman and Stiglitz, 1980). Therefore, low quality information impedes the efficient incorporation of information into stock prices. Under this alternative view, higher accounting quality, due to the adoption of high accounting standards and/or proper reporting incentives, should make stock prices more informative. Our main purpose in this paper is to examine the impact of accounting standards and reporting incentives on the information content of stock prices. Therefore, as a major departure from prior cross-country, market-based studies, our research does not need to assume similarity of stock market efficiency across different countries.

Following Morck et al. (2000) and Jin and Myers (2006), we use the average market model R^2 in a country as a measure of information content of stock prices. We measure accounting standards followed in a country first

by averaging the adoption of IFRS or US GAAP across all firms in a country using the Worldscope database. The Worldscope database provides an extensive coverage for listed firms in more than 50 countries around the world, allowing us to construct a very comprehensive sample to examine the impact of accounting standards. Our second accounting standards measure is based on the usage of IFRS by listed firms in 51 countries as of March 2005 at the *country* level[2]. The IFRS usage level is obtained from Deloitte (2005)'s booklet titled *International Financial Reporting Standards in Your Pocket 2005 --- An IAS Plus Guide*.

Our measures of reporting incentives are based on the recent studies by Ball et al. (2000, 2003), Hung (2001), Leuz et al. (2003), and Burgstahler et al. (2006) who together have identified the following set of institutional characteristics that are important in explaining reporting incentives: a) Minority shareholder protection as measured by the index of anti-director rights in La Port et al. (1998), which is a proxy for minority shareholders' protection from the expropriation by corporate insiders and majority shareholders; b) Legal origin as measured by a dichotomous variable

[2] As the use of IFRS became mandatory for listed firms in the European Union as of January 1 2005, we repeat our analyses with EU countries removed from our sample and find no material impact on our findings.

indicating if a country's law is originated from the common-law or code-law tradition, as outlined in La Porta et al. (1998); and c) Level of legal enforcement as measured by the sum of three variables from La Porta et al. (1998): 1) the efficiency of a country's judicial system, 2) an assessment of rule of law, and 3) the level of government corruption.

Using a large panel sample of more than 200,000 firm-year observations from 44 countries for the period of 1995 through 2004, we first find that the information content of stock prices is negatively associated with accounting standards, indicating that higher quality accounting standards improve the functioning of the stock markets. But when we include measures of reporting incentives and their interaction terms with accounting standards measures, we find the negative relationship is significant only in countries with solid institutional development that promotes the genuine applications of IFRS or US GAAP. Our results are robust to the choices of accounting standards measures and reporting incentive proxies. Secondly, our results are robust to the choices of different sample periods (1990 through 2004 and 2000 through 2004), and different sample countries (with the US removed, and with the EU countries removed). Finally, all our models

include variables that have been found significant in explaining differences in stock price synchronicity (Morck et al. 2000, and Jin and Myers 2006).

Our study builds on the recent literature on the roles of accounting standards (e.g., Barth et al. 2006) and institutional characteristics as proxies for reporting incentives (e.g., Ball et al. 2000, 2003; Leuz et al. 2003; and Burgstahler et al. 2006). We extend this literature first by examining the impact of accounting standards and reporting incentives simultaneously. The inclusion of both in our model specifications allows us to directly assess the incremental effect of reporting incentives using the interaction terms between accounting standards and institutional factors. Furthermore, our sample is one of the most comprehensive covering more than 200,000 firm-years from 44 countries for as long as 15 years (1990 through 2004), which improves the reliability of our findings.

Our paper also extends the recent work by Morck et al. (2000) and Jin and Myers (2006) on the information content of stock prices. Morck et al. (2000) find that strong private property rights protection encourages informed trading, which capitalizes more firm-specific information into stock prices. Jin and Myers (2006) report that it is the lack of corporate

transparency that impedes the incorporation of firm-specific information into stock prices. However, corporate transparency can be a result of high quality standards, or proper reporting incentives, or both. Our study extends the literature by providing evidence consistent with the view that corporate transparency is the product of high accounting standards and proper reporting incentives. Our findings highlight the importance of reporting incentives in the production of high quality accounting information, which in turn improves the information content of stock prices.

The rest of the paper is organized as follows. Section 2 describes the data and methodology. Section 3 presents our empirical results, and section 4 concludes.

2.2. Data & Methodology

2.2.1. Data

Our base sample begins with all the firms covered by Datastream spanning ten years from 1995 through 2004. Initially all firms from 48 countries covered by Datastream during the period are selected to compute

the stock price synchronicity measure as in Morck et al. (2000). Similar to their sample selection criteria, we keep the firm only if it has more than 30 weeks of valid data in a year so as to yield relatively sufficient number of observations to reliably assess the explanatory power of the market returns on each stock. Weekly returns exceeding 25% in absolute value are also removed to avoid coding errors. Finally, a country with less than 10 firms in a year is dropped from the sample in that year. In the end, when we match our data on stock price synchronicity with that on accounting standards, we are able to use the stock price synchronicity measure for 203,652 firm-years from 44 countries. Since our analysis is done at the country level, the stock price synchronicity is averaged over all the firms in the country each year to yield 425 country-year observations.

We first measure accounting standards followed at the firm level by using the universe of firms in Worldscope. We base our measure on the data item "accounting standards followed" in Worldscope, which identifies accounting standards used by each sample firm in each year. For each year, countries with less than 10 firms are removed to ensure reliability of the measure. In aggregate, when matched with available stock price

synchronicity measures, we are able to determine accounting standards followed by a panel of 208,939 year-firms from 44 countries around the world. Again, we average accounting standards followed over all firms in a country in each year to yield 425 country-year observations.

As an alternative, we construct another accounting standards measure directly at the country level using the booklet published by Deloitte (2005), *IFRSs in Your Pocket 2005 --- An IAS Plus Guide*. The booklet provides information with regard to the use of IFRS by listed firms for a sample of 51 countries as of March 2005.

Country-level institutional variables are mainly drawn from La Porta et al. (1998), who developed a series of institutional characteristics that have been extensively used in the finance and accounting literature (e.g., Morck et al., 2000, Leuz et al., 2003, and Hung, 2001). Control variables measuring a country's population size, GDP per capita, and annual GDP growth rates are all obtained from the World Bank. Other control variables such as the number of stocks listed in each country and the Herfindahl indices measuring the level of economic dominance by large firms or industries are based on data retrieved from Datastream and Worldscope, respectively.

2.2.2. Stock Price Synchronicity

Following Roll (1988) and Morck et al. (2000), for each year we run the following expanded market model including industry returns for every firm to obtain the average R^2 for a country.

$$r_{i,k,j,t} = \alpha_j + \beta_{1,j} r_{j,m,t} + \beta_{2,US}[r_{US,t} + e_{j,US,t}] + \beta_{3,j} r_{j,k,t} + \varepsilon_{i,k,j,t} \quad (1)$$

where $r_{i,k,j,t}$ is stock i's return in week t (stock return on every Wednesday) of industry k in country j, $r_{j,m,t}$ is the weekly domestic market index return in country j in week t, $r_{US,t}$ is the weekly U.S. market return in week t, and the expression $[r_{US,t} + e_{j,US,t}]$ translates U.S. stock market returns into local currency returns. The currency-adjusted U.S. market returns are included because most economies are at least partially open to foreign capital or foreign trade, and their firms are influenced by the U.S. equity market. For stock markets in the Far East including China, Hong Kong, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, and Thailand, US market returns are lagged by one day to account

for time zone differences. When we calculate Equation (1) using U.S. data, we set $\beta_{2,US}$ to zero. The market model is expanded to include either market-capitalization weighted industry returns or equally weighted industry returns. Datastream's industry classifications are used to compute the industry returns in each country.

The weekly stock return data begins with all companies covered by the Datastream in 48 countries around the world over from Jan 4, 1995 to Dec 29, 2004. These returns are calculated every Wednesday. Following Morck et al. (2000), we also trimmed the observations by dropping data if $r_{i,k,j,t}$ exceeds 25% in absolute value to avoid coding errors. We keep the sample only if more than 30 weeks of valid data are available for each year so as to yield relatively sufficient observations to reliably assess the explanatory power of the market returns on each stock.

The regression statistic for equation (1), $R^2_{i,j}$, measures the percent of the variation in the weekly returns of stock i in country j explained by variations in country j's market return, the U.S. market return and industry return. Following Morck et al. (2000), we define

$$R_j^2 = \frac{\sum_i R_{ij}^2 \times SST_{i,j}}{\sum_i SST_{i,j}} \tag{2}$$

as a country j's overall stock price synchronicity measure. In equation (2) $SST_{i,j}$ is the sum of squared total variation for stock i in country j. A higher R_j^2 suggests that stock prices in country j move in the same direction more frequently.

The stock price synchronicity measure, R_j^2, is unsuitable as the dependent variable in a regression model because it is bounded within the intervals [0, 1]. Following Morck et al. (2000), we therefore adopt a standard econometric remedy and apply logistic transformations to the variable. Our left-hand side variable is thus

$$\Psi_j = \ln\left(\frac{R_j^2}{1-R_j^2}\right)$$

Ψ_j maps R_j^2 from the unit interval to the set of real numbers from negative to positive infinity, more suitable for regression analysis. The transformation above is applied to each of our two R^2 measures, one with

value-weighted industry returns and the other with equally-weighted industry returns added to the market model. For ease of exposition, we will hereafter refer to the two R^2's and two Ψ_j as VW R^2, EW R^2, $VW\Psi_j$ and $EW\Psi_j$, respectively.

2.2.3. Accounting Standards

Our first measure of accounting standards followed in a country is the average of the data item "accounting standards followed" from Worldscope by all firms in the country. The data item has the following original coding to indicate accounting standards followed by a firm:

01 = Local Standards

02 = International Accounting Standards (IAS)

03 = U.S. Standards (US GAAP)

04 = Commonwealth Countries Standards

05 = European Union Standards

06 = International Standards and Some EU Guidelines

07 = Specific Standards Set by the Group

08 = Local Standards with EU and IASB Guidelines

09 = Not Disclosed

10 = Local Standards with Some EU Guidelines

11 = Local Standards – Inconsistency Problems

12 = International Standards – Inconsistency Problems

13 = US Standards – Inconsistency Problems

14 = Commonwealth Standards – Inconsistency Problems

15 = EEC Standards – Inconsistency Problems

16 = International Standards and Some EU Guidelines – Inconsistency Problems

17 = Local Standards with Some OECD Guidelines

18 = Local Standards with Some IASC Guidelines

19 = Local Standards with OECD and IASC Guidelines

20 = US GAAP Reclassified from Local Standard

21=Local Standards with Certain Reclassification for Foreign Companies

22 = Other

23 = International Financial Reporting Standards

Following Daske et al. (2007), our first accounting standards variable,

ASF, takes a value of 1 for full or partial adoption of IFRS or US GAAP (categories 02, 03, 06, 08, 12, 13, 16, 18, 19, 20, and 23 above) and a value of 0 for local standards for each firm-year observation[3]. The firm-year values of the ASF variable are then averaged across all firms in a country for each year, which measures the *proportion of firms* adopting IFRS or US GAAP as their reporting standards in that year.

Our second accounting standards measure, IFRS, is the level of IFRS usage at the country level as reported by Deloitte (2005) in its booklet titled *IFRSs in Your Pocket 2005 --- An IAS Plus Guide*. The guide contains the level of IFRS usage for financial reporting by listed companies in 51 countries as of March 2005. Our second accounting standards variable, IFRS, is defined as follows:

IFRS = 0 if IFRS is not permitted in that country;

= 1 if IFRS is permitted in that country;

= 2 if IFRS is permitted and required for some domestic listed companies in that country;

= 3 if IFRS is permitted and required for all domestic

[3] IFRS and US GAAP are often regarded as of high quality - previous studies propose IFRS has comparable quality to US GAAP (Harris and Muller, 1999; Leuz, 2003; Barth et al., 2006).

listed companies in that country.

We realize that there are three major limitations with the IFRS variable above. First, the use of IFRS was made mandatory for firms in the European Union as of January 1 2005, and therefore we will repeat our analyses after removing the EU countries from our sample. Secondly, the IFRS score assigned above represents a "wholesale" type of mandatory adoption, without recognizing potential differences that may exist among individual firms in terms of their incentives in adopting IFRS. Finally, and perhaps more importantly, it is not time variant and may not reflect the usage of IFRS throughout our sample period[4]. Therefore, our results using the IFRS variable should be interpreted with caution.

2.2.4. Institutional Variables

Watts and Zimmerman (1986) argue that the quality of financial statements, and hence the informativeness of reported earnings, also

[4] Although the institutional variables from La Porta et al. (1998) are also time invariant, it is much less of a problem since a country's legal origin, level of shareholder protection, and level of legal enforcement either stays the same or changes at a much slower pace than the usage of IFRS. For example, Chinese firms that issue B-shares (restricted to foreign investors prior to 2001) were required to prepare their financial statements using IFRS as early as 1991; and all listed firms in China were required to use accounting standards which are almost identical to IFRS as of January 2007.

depends on reporting incentives in addition to accounting standards used. Prior research has identified a country's legal origin and the level of investor protection as two key institutional factors affecting reporting incentives. Ball et al. (2000) show that reporting quality, measured by timely recognition of economic income (particularly losses), is higher in common-law countries than in code-law countries. Although accounting standards in Hong Kong, Malaysia, Singapore, and Thailand derive from common-law countries (UK, US, and IFRS), Ball et al. (2003) find that accounting quality in the four countries are no different from that in code-law countries. Hung (2001) finds that the use of accrual accounting (versus cash accounting) reduces the value relevance of financial statements in countries with weaker investor protection. Similarly, Leuz et al. (2003) provide evidence that earnings management is negatively related to investor protection and legal enforcement with a sample of 31 countries.

Since most of the institutional variables are from La Porta et al. (1998), who describe them in more detail, we will be brief in defining the variables:

Shareholder Protection – The anti-director rights index in La Porta et al. (1998), ranging from 0 to 6, measures the ease with which shareholders

exercise their voting rights and legal rights in suing directors. This variable has been found important in explaining the value relevance of accounting information (Hung 2001) and earnings management (Leuz et al. 2003 and Burgstahler et al. 2006).

Legal Origin – A country's legal system is classified as common-law or civil-law by La Porta et al. (1998). Ball et al. (2000), Hung (2001), and Burgstahler et al. (2006) find this variable significantly related to quality of accounting information.

In addition to the two variables above, other institutional characteristics such as rule of law and efficiency of a country's judicial system are also enforcement mechanisms that are important to the development and functioning of capital markets (La Porta et al. 1998). However, many of the institutional variables are highly correlated with each other and hence cannot enter in a regression model simultaneously. As a sensitivity test of our results, later in section 4 we will therefore perform a factor analysis using maximum likelihood estimation procedures with the following set of variables that have been found important in prior accounting literature: legal origin (common versus code law), the anti-director rights index, the

efficiency of the judicial system, the assessment of rule of law, and the government corruption index. Significant factors based on this analysis can be viewed as the encompassing factors capturing the overall impact of institutional development as represented by the five individual factors above.

2.2.5. Control Variables

Morck et al. (2000) and Jin and Myers (2006) have identified several variables that may affect stock price synchronicity in a country, and thus we will include them in our regression models as control variables. We now provide a brief explanation for each of the variables as follows: 1) On average countries with high *per capita GDP* have lower R^2, so our first control variable is the logarithm of per capita GDP. 2) By construction, the average R^2 in a country decreases with the number of stocks listed. Intuitively, in a market with few stocks, each individual stock is a more important part of the market index. Therefore, a higher R^2 might simply reflect the fact that the market has fewer listed stocks. To control for this effect, we include the logarithm of the number of stocks listed in each

country in our analysis. 3) Macroeconomic instability may be higher in low-income countries, resulting in more volatile market fundamentals which may overwhelm firm-specific factors, so that stock prices tend to move together. Macroeconomic instability is measured by the variance of per capita GDP growth rates for each country. 4) Country size may first limit economic diversity of firms in the country, and small countries may have more homogeneous population who share a common value system. The lack of diversity in the economy, or opinions and interpretation of information may cause stock prices to move together. Country size is measured by the logarithm of a country's population. 5) Finally, listed firms in some countries could be concentrated in a few industries. Consequently, the fundamentals of these firms could be highly correlated and their stock price movements highly synchronous. We construct an industry sales-based Herfindahl index, which measures a country's industry concentration.

2.2.6. Regression framework

All the control variables as discussed in the previous section are always included in all our regression models. We begin our analysis by first adding

only an accounting standards variable, ASF or IFRS. This specification allows us to estimate the impact of accounting standards alone on stock price synchronicity. To examine the impact of both accounting standards and reporting incentives, we include in our regression model a variable measuring accounting standards, an institutional variable, and an interaction term between the accounting standards and institutional variables. Correspondingly, our regression models are in the following forms:

$$\Psi_{j,t} = \alpha_1 + \beta_1 X_{j,t} + \beta_2 LNUM_{j,t} + \beta_3 LPOP_{j,t} + \beta_4 VGDPG_{j,t} + \beta_5 LGDPPC_{j,t} + \beta_6 HERFINDAHL_{j,t} + \varepsilon_{j,t} \quad (3)$$

$$\Psi_{j,t} = \alpha_1 + \beta_1 X_{j,t} + \beta_2 X_{j,t} \times Y_{j,t} + \beta_3 Y_{j,t} + \beta_4 LNUM_{j,t} + \beta_5 LPOP_{j,t} + \beta_6 VGDPG_{j,t} + \beta_7 LGDPPC_{j,t} + \beta_8 HERFINDAHL_{j,t} + \varepsilon_{j,t} \quad (4)$$

Where

$\Psi_{j,t}$ = Logistic transformation of R^2;

$X_{j,t}$ = One of the two accounting standards measures, ASF or IFRS;

$Y_{j,t}$ = One of the institutional variables, Legal Origin or Shareholder Protection;

$X_{j,t} \times Y_{j,t}$ = Interaction term of an accounting standards measure and an institutional variable;

$LNUM_{j,t}$ = Logarithm of the number of listed firms;

$LPOP_{j,t}$ = Logarithm of population;

$VGDPG_{j,t}$ =Variance of GDP growth rates from 1995 through 2004;

$LGDPPC_{j,t}$ = Logarithm of GDP per capita;

$HERFINDAHL_{j,t}$ = Industry Herfindahl index.

Our objective is to assess the significance of the coefficients for the accounting standards variable and the interaction term. A negative coefficient for the X variable indicates that better accounting standards reduces stock price synchronicity, and a negative coefficient for the interaction term would suggest that sound institutional environment, coupled with high accounting standards, further reduces stock price synchronicity. Our sample covers 44 countries for the period of 1995 through 2004 with 425 country-year observations, resulting in an unbalanced panel. Following Jin and Myers (2006), Gompers et al. (2003), and Core et al. (2006), we fit all our regression models using the Fama-MacBeth (1973) method. To ensure our inferences are unaffected

by serial correlation in the year-by-year regression coefficients, we follow Jin and Myers (2006) and use the Pontiff (1996) adjustment procedure in the computation of the standard errors of the Fama-Macbeth coefficients. This adjustment makes intuitive sense since the presence of a country effect may cause the yearly coefficient estimates to be serially correlated. In addition, following Core et al. (2006), we compute t-statistics based on the standard errors of the yearly coefficients after adjusting for serial correlation using the Newey and West (1987) procedure. The Newey-West (1987) adjusted t-statistics are essentially the same as those adjusted using the Pontiff procedure. For brevity, our inferences will be drawn based on the Pontiff-adjusted results. One logical alternative to the Fama-MacBeth method would be a panel setup with fixed-country effects, as suggested by Petersen (2007). However, in our case, the fixed-country effects modeling would not work because the country-level institutional variables from La Porta et al. (1998) are time invariant and the country-specific dummies would be perfectly correlated with them.

2.3. Empirical Results

Table 1 presents the summary statistics for the 44 countries of the two stock price synchronicity measures, R^2 obtained using the expanded market model including value- or equal-weighted industry returns, and the two accounting standards measures. Consistent with findings in Morck et al. (2000) and Jin and Myers (2006), stock price synchronicity as measured by R^2 is generally higher in low-income countries than high-income countries. The five highest average R^2s based on the expanded market model with value-weighted industry returns (VW R^2s) are for the Russian Federation, Argentina, China, Turkey, and Malaysia, while the five lowest VW R^2s are for Canada, Australia, the United States, Belgium, and the United Kingdom. We get similar rankings if we use average R^2s based on the expanded market model with equally-weighted industry returns (EW R^2s): the five highest EW R^2s are for China, Malaysia, the Russian Federation, Turkey and Greece, while the five lowest EW R^2s are for Canada, the United States, Australia, the United Kingdom, and Ireland.

[Insert Table 1 about here]

Based on the "accounting standards followed" variable retrieved from Worldscope, the five countries with the highest rates of IFRS/US GAAP adoption at the firm-level are Italy, Luxembourg, Switzerland, the Russian Federation, and Austria, other than the United States where all listed firm are required to use US GAAP. Overall, about 41.04% of the 208,939 firm-years in our sample adopted IFRS/US GAAP during our sample period from 1995 through 2004. However, with U.S. firms excluded, IFRS/US GAAP is adopted by only 6.17% of the 132,539 non-U.S. firm-years. According to the information in Deloitte (2005), the use of IFRS is required for all domestically listed firms in 21 countries, required for some domestically listed firms in 3 countries, permitted for domestically listed firms in 4 countries, and not allowed in 16 countries.

Table 2 displays the Pearson correlation coefficients matrix for the key variables in our study. The expanded market model R^2s (VW R^2 and EW R^2) are each significantly negatively related to both accounting standards measures (two at the 1% level, one at the 5%, and one at the 10% level), suggesting that higher accounting standards are negatively associated with

stock price synchronicity. Therefore, on the univariate basis, higher accounting standards are indeed associated with more informative stock prices. This finding is consistent with prior evidence on the benefits of adopting higher accounting standards such as Ashbaugh and Pincus (2001) who find that analyst forecast errors are smaller for firms using IFRS than those using domestic GAAP, and with Barth et al. (2006) who find that relative to firms applying domestic GAAP, firms applying IFRS have less earnings management, more timely recognition of losses, greater value relevance of accounting measures, and lower cost of capital.

[Insert Table 2 about here]

Consistent with Morck et al. (2000) and Jin and Myers (2006), the correlation matrix in Table 2 also shows the R^2s are each significantly negatively associated with each of the institutional variables. Generally, stock prices are more informative in countries with better institutional development as measured by Legal Origin and Shareholder Protection, each statistically significant with a p-value of less than 0.0001. The R^2s are also

significantly negatively correlated with GDP per capita, suggesting higher stock price synchronicity in lower income countries. Finally, consistent with earlier findings in Morck et al. and Jin and Myers (2006), the R^2s are significantly negatively correlated with most of the control variables in the predictable fashion.

[Insert Table 3 about here]

We begin our multivariate analysis for the panel of 44 countries from 1995 to 2004 by regressing the logistically transformed values of the annual country-average R^2s ($VW\Psi_j$ or $EW\Psi_j$) on one of the accounting standards measures at a time and the set of control variables as explained in section 2.5. As discussed earlier, we fit all regression models using the Fama-MacBeth (1973) method, with an additional adjustment proposed by Pontiff (1996) to correct for serial correlation in the year-by-year regression coefficients. The first two columns of Table 3 display the Fama-Macbeth regression results when accounting standards is measured by ASF, the proportion of firms adopting IFRS/US GAAP, and the last two columns

display the results when accounting standards is measured by the IFRS variable – the level of IFRS usage by listed firms as reported in Deloitte (2005). Accounting standards is significantly negatively related to Ψ_j in each of the four regression models, suggesting that higher accounting standards is associated with lower R^2s even with all the control variables included in the models. Generally, models using $VW\Psi_j$ as the dependent variable have higher adjusted R^2s, indicating a better fit than $EW\Psi_j$ with the independent variables.

Next we analyze whether the previously documented accounting standards effect differs by taking into account a country's institutional development. This analysis serves two purposes. First, if we could show that the effect of accounting standards differs cross-sectionally in a predicted way, which would further reduce concerns that our results are driven by correlated omitted variables or measurement errors. Second, this analysis is an attempt to shed some light on why accounting standards appears to affect the information content of stock prices.

Both theory and prior empirical evidence suggests that country-specific factors are important in explaining stock market synchronicity and financial

reporting incentives (Morck et al., 2000; Ball et al. 2000, 2003; Hung, 2001; and Leuz et al., 2003). The basic idea is that, the quality of financial statements, and hence the informativeness of reported earnings, also depends on reporting incentives in addition to accounting standards used (Watts and Zimmerman, 1986). Countries with sophisticated institutional infrastructure are more likely to have proper reporting incentives, which should reduce the stock market synchronicity. Our first institutional factor is Legal Origin – a country's legal system is classified as common-law or civil-law by La Porta et al. (1998). Ball et al. (2000), Hung (2001), and Burgstahler et al. (2006) find this variable significantly related to quality of accounting information. Prior research has also identified minority shareholder protection as a key institutional factor affecting reporting incentives (Hung, 2001; and Leuz et al., 2003).

To explore these issues, we use the two institutional factors as described above to capture the reporting incentives effect. The first variable, Legal Origin, is equal to one if the country's law is of common-law origin, and zero otherwise (La Porta et al., 1998). The second variable is based on the anti-director rights index in La Porta et al. (1998). We create a binary

variable, Shareholder Protection, which takes the value of one (zero) if a country's of anti-director rights index is above (below) the sample median. As noted earlier, many of the institutional variables in La Porta et al. (1998) are highly correlated and cannot simultaneously enter in a single regression model. To explore the effect of the whole set of the variables, we will perform a factor analysis to further examine the importance of reporting incentives later in this section.

We multiply each of the institutional variable dummies with an accounting standards measure and introduce both main and the interaction effects into the models. In essence, this specification estimates separate slope coefficients for the effect of accounting standards in poor and strong institutional environments.

[Insert Table 4 about here]

Table 4 presents a series of Fama-Macbeth regressions for testing the incremental effect of country's institutional infrastructure with ASF as an accounting standards measure. Each regression model includes the

following independent variables: the accounting standards measure (ASF), the institutional variable (either Legal Origin or Shareholder Protection), an interaction term between ASF and the institutional variable, and the control variables. We now find the main effect of accounting standards as measured by ASF is statistically insignificant. This suggests that once reporting incentives are controlled for, adopting high accounting standards is not associated with lower stock price synchronicity. We find the main effect of institutional factor is always negative, significant at the 5% level when it is proxied by Legal Origin. Thus, consistent with prior findings, good institutional infrastructure and hence proper reporting incentives is generally associated with lower stock market synchronicity (Ball et al. 2000, 2003; Hung 2001; and Leuz et al., 2003).

The inclusion of the interaction term in the regression models tests the effect of accounting standards on the information content of stock prices for countries with different levels of institutional infrastructure. In particular, the coefficient of ASF represents its effect for countries with low shareholder protection, the coefficient of the interaction term ASF*Institution shows the incremental effect when moving from an

environment with low shareholder protection to one with high shareholder protection. Therefore, the sum of the coefficients of ASF and ASF*Institution represents the effect of accounting standards for countries with high shareholder protection.

The interaction term is significantly negative in all specifications. In addition, the magnitude of the coefficient on the interaction term is much larger than that of the coefficient on ASF, suggesting that the effect of high quality accounting standards is much bigger in countries with strong institutional infrastructure (Common law origin and high anti-directors rights index). We also provide a formal test for the significance of the sum of the coefficients of ASF and ASF*Institution, which measures the magnitude of the coefficient on ASF for countries of common-law origin and with the anti-director rights index higher than the sample median. As reported in the last row of Table 4, the sum of the coefficients is all significantly negative at the 1% level.

Our regression results in Table 4 suggest that adopting high accounting standards is effective in improving stock market efficiency only in countries with solid institutional environment where investors are well protected. Our

findings are consistent with Ball et al. (2000, 2003), Hung (2001), Leuz et al. (2003) and Burgstahler et al. (2006) in that it is the reporting incentives instead of accounting standards that improve accounting quality and stock market efficiency.

As noted by Daske et al. (2007), one of the drawbacks of the Wroldscope database, where we retrieve the data to construct our first accounting standards proxy, ASF, is that it attempts to capture many different reporting practices around the world, but often at the expense of consistency through time or across countries. Therefore, we use another accounting standards measure, the IFRS score based on the level of IFRS usage by listed firms as reported in Deloitte (2005). We redo our regressions models in Table 4 by replacing ASF by this new accounting standards measure, IFRS, and the results are presented in Table 5. The main effect of accounting standards as measured by IFRS is also statistically insignificant. And the interaction term is significantly negative at the 1% level in all the four specifications. We also note that the magnitude of the coefficient on the interaction term is in general much larger than that of the coefficient on IFRS. We also conduct formal tests for the sum of the coefficients of the variables IFRS and

IFRS*Institution, and we find the sum is significantly negative at the 1% level in all specifications. Overall our results using the IFRS score are qualitatively the same as those using ASF, suggesting that the potential measurement problems associated with ASF in the Worldscope database are not significant enough to alter our conclusions.

[Insert Table 5 about here]

In what follows in this section, we perform a number of additional robustness checks to make sure that our findings are not sensitive to our choices of sample countries or sample periods. First, we check whether our results are sensitive to the inclusion of European Union (EU) countries when using the IFRS score as the accounting standards measure. Since as of January of 2005, all listed firms in the EU were required to adopt the IFRS in reporting their financial information, all EU countries are scored 3 in Deloitte (2005), the highest ranking. Therefore excluding the EU countries from our sample would alleviate the measurement bias problem. In addition, we also redo our regressions with the US removed from our sample. As

noted earlier, even though studies such as Harris and Muller (1999) and Barth et al. (2006) report that IFRS is comparable to US GAAP, others find that the two are not the same (FASB, 1999; Babalyan, 2001; and Goncharov and Zimmermann, 2006).

Table 6 displays the regression results with EU or the US removed[5]. Panel A of Table 6 reports the results using IFRS as the accounting standards measure after removing the EU countries from the sample. In general, both the magnitude and statistical significance of the coefficients for the interaction term (IFRS*Institution) and the sums of the coefficients capturing the main and incremental effects ($\beta_1+\beta_2$) remain the same as those in the full sample. Regression results using ASF and IFRS as the accounting standards measure with the US removed from the sample are reported in Panel B and Panel C, respectively. In general, both the signs and statistical significance of the coefficients on ASF, IFRS, the interaction terms, and the sum of the coefficients for the main and incremental effects remain the same. However, comparing the results in Panel B and those in Table 4, a noticeable difference is that the interaction term of ASF*LEGAL ORIGIN

[5] In the interest of space, we report the coefficients and their t-statistics only for the key variables, although all the regressions are fit with all the same control variables included.

loses significance, although the signs remain negative.

[Insert Table 6 about here]

In addition to the two institutional variables we use in the analysis so far, legal origin and the anti-directors rights index, other institutional characteristics such as rule of law and efficiency of a country's judicial system are also enforcement mechanisms that are important to the development and functioning of capital markets (La Porta et al., 1998). However, many of the institutional variables are highly correlated with each other and hence cannot enter in a regression model simultaneously. We therefore perform a factor analysis using maximum likelihood estimation procedures with the following set of variables that have been found important in prior accounting literature: legal origin (common versus code law), the anti-director rights index, the efficiency of the judicial system, the assessment of rule of law, and the government corruption index. We keep the factor if it has an eigenvalue greater than 1, and our analysis reveals two significant factors. Following the methodology in Bushman et al. (2004),

we rotate the two factors using the varimax rotation technique.

[Insert Table 7 about here]

Table 7 displays the results of our factor analysis, with the first two columns showing the coefficients associated with the raw factor patterns, and the last two columns showing the coefficients after the rotation. We note that the first factor after rotation is mainly related to government corruption, rule of law and judicial efficiency, while unrelated to anti-director rights and legal origin. Therefore this factor captures the extent of rule of law and efficiency in enforcing laws in a country, and we label this factor as *Legal Enforcement*, consistent with the terminology used in Leuz et al. (2003) and Burgstahler et al. (2006). In contract, the second factor depends much more heavily on legal origin and anti-director rights. We label this factor as *Investor Protection*, broader in scope than the anti-director rights index which measures mainly the protection of minority shareholders from expropriation by majority shareholders and/or corporate insiders.

[Insert Table 8 about here]

We rerun our regressions using the binary representations of the two factors, where *High Legal Enforcement* and *High Investor Protection* each takes the value of one if a country's *Legal Enforcement* and *Investor Protection* is higher than the respective sample median, and a value of zero otherwise. For brevity, Table 8 displays the Fama-MacBeth coefficients and their t-statistics for the key variables only. Overall, the signs, magnitudes, and statistical significance of the coefficients on ASF and IFRS remain mostly the same. The interaction terms between ASF (or IFRS) with either of the two binary factors are significantly negative at the 1% level in all but two specifications. As expected, the use of the binary factors, which capture the effect of a broader set of institutional variables, improves the model fits, as indicated by higher adjusted R^2 values relative to those in Tables 5 and 6.

As a last sensitivity check, we conduct the Fama-Macbeth regressions based on two different sample periods (1990 - 2004 or 2000 - 2004). In general, data coverage and data quality improve over time, but we also need a long enough time period to increase the power of our tests and that is why

we choose to use 1995 to 2004 as our base sample period. Another issue is that the adoption of IFRS/US GAAP has gained popularity only in the recent years, we want to make sure that our results are not sensitive to the choice of sample periods. Regression results are reported in Table 9 with Panels A and B displaying results using ASF as the accounting standards measure, and Panels C and D displaying results using IFRS. By and large, the results obtained with each of the two alternative time periods are similar to those from 1995 to 2004. In particular, the interaction term between an accounting standards measure and an institutional variable is significantly negative at conventional levels in all but two specifications. Formal tests as reported in the last row in each panel reveal that adopting high accounting standards in countries of common-law and countries with high investor protection is significantly correlated with stock price synchronicity at the 1% level.

[Insert Table 9 about here]

2.4. Conclusions

In this paper we investigate the impact of accounting standards on the information content of stock prices using a sample of 44 countries around the world over a 10-year period from 1995 through 2004. Following Morck, Yeung, and Yu (2000), we use stock market synchronicity as a proxy for the informativenss of stock prices. Accounting standards are explicitly measured in our paper by two alternative proxies. The first one is based on the classification of accounting standards adopted at the firm level retrieved from Worldscope, which is then averaged across all the firms in a country in a year to obtain the fraction of firms adopting IFRS/US GAAP in their financial statements. The second measure is the level of IFRS usage by listed firms at the country level as reported in Deloitte (2005). Following prior studies such as Ball et al. (2000, 2003), Hung (2001), Leuz et al. (2003), and Burgstahler et al. (2006), we measure reporting incentives by a country's legal origin, the level of investor protection, and the effectiveness of legal enforcements. Our research designs allow us to explicitly test the incremental effect of reporting incentives by interacting accounting standards with institutional infrastructure variables.

We find that the adoption of IFRS or US GAPP is negatively correlated

with stock price synchronicity at the univariate level, and the negative relationship remains in a multivariate setting where the influences of other variables such as the size of the stock market, the stability of the economy, and GDP per capita are controlled. However, the negative relationship disappears once we include reporting incentives as measured by the level of investor protection or the effectiveness of legal enforcements, suggesting that adopting IFRS/US GAAP per se is not effective in improving stock market efficiency. Further analysis reveals that high quality accounting standards are helpful only in countries with proper reporting incentives. In particular, we find a significantly negative relationship between stock price synchronicity and accounting standards in common-law countries, countries with better shareholder protection, and countries with effective legal enforcements, and this negative relationship is insignificant in the other countries.

We conduct various sensitivity tests to make sure that our findings are robust. First, one of our accounting standards is the level of IFRS usage as of 2005. However, all listed firms in the European Union were required to use IFRS as of January 2005. Our findings remain the same with EU

countries removed from our sample. US GAAP and IFRS are treated the same in our measure of accounting standards. Dropping the U.S. does not lead to any change in our results. Finally, there are two concerns related to the choice of our sample period from 1995 through 2004: 1) data coverage and data quality both improve over time, which may result in inconsistency in our variables; and 2) the adoption of IFRS/US GAAP has gained popularity in recent past only. We address these concerns by using two alternative sample periods, one for 1990 through 2004 and the other from 2000 through 2004. Our results remain qualitatively the same regardless which sample period is chosen.

Our findings are most closely related to those in Daske et al. (2007) who find that, on average, adopting IFRS has little effect on a firms' cost of capital and market liquidity. However, when their sample firms are divided into "serious" and "label" adopters, they find that the reduction in the cost of capital and the improvement in market liquidity are significantly stronger for "serious" adopters than for "label" adopters. Their results suggest the importance of reporting incentives in that only firms with a serious commitment to high quality disclosure can benefit from the adoption of a

higher quality accounting standards such as IFRS or US GAAP. Our findings lend support for the same argument by demonstrating that the informativeness of reported earnings depends on reporting incentives more than accounting standards adopted at the country level (Watts and Zimmerman, 1986). Our findings suggest that a well functioning capital market needs both high quality accounting standards and proper reporting incentives. Although it is perhaps popular to adopt high accounting standards such as IFRS and US GAAP in order to boost accounting quality, countries that are serious about making their capital market more efficient may have to consider developing other institutional infrastructure such as improving investor protection and strengthening legal enforcements. Only then will high accounting standards be implemented in spirit.

Chapter 3. Shareholder Returns, Risk, and Governance Mechanisms

3.1. Introduction

Shleifer and Vishny (1997) suggest that corporate governance is a set of mechanisms that assure investors of getting a fair return on their investments. The mechanisms include both internal and external governance arrangements that are designed to alleviate both agency problems arising from the separation of ownership and control and expropriation of minority shareholders by controlling shareholders. In general, internal mechanisms include monitoring by the board of directors, managerial equity ownership and performance-based managerial compensation that help align with shareholders' interests. External mechanisms include the threat of takeovers and the general pressure from the corporate control market, monitoring by market participants such as analysts and active investors, and the legal rights provided to investors such as the right to vote on corporate mergers and liquidations as well as in the election of boards of directors. More importantly, the quality of a country's legal and economic institutions such

as rule of law, legal enforcement, and property rights play a vital governance role (e.g., La Porta et al. 1998, 2006).

Consistent with the implications of Shleilfer and Vishny (1997), Giannetti and Koskinen (2007) develop a theoretical model that predicts expected returns are increasing in the level of investor protection. In their model, there are two classes of investors: portfolio or outside investors who can only enjoy cash-flow rights on a pro-rata basis, and insiders or controlling shareholders who enjoy both cash-flow rights and private control benefits through expropriating outside investors. The controlling shareholders are therefore willing to increase their demand for stocks and drive up the market clearing prices. As a result, the equilibrium stock price is not low enough to fully discount the extraction of private benefits by controlling shareholders, leading to a lower expected return. Since the level of investor protection is inversely related to the amount of private control benefits, there is greater demand for stocks by controlling shareholders in a country with weaker investor protection, resulting in a higher equilibrium price and hence a lower expected return.

However, Albuquerque and Wang (2007) develop a model to show that

expected returns *decrease* with the level of investor protection. They argue that in countries with weaker investor protection, controlling shareholders have stronger incentives to invest as there is a positive relationship between private benefits firm size (e.g., Jensen, 1986). The higher investment increases both the volatility of capital accumulation and that of a firm's output, resulting in a higher risk premium, since equilibrium risk premium is proportional to the variance of a firm's output. Since the expected return of equity is the sum of the risk-free rate and the risk premium, the expected return thus decreases with the level of investor protection.

The theoretical debate on the effect of investor protection is also borne out in empirical findings. The limited but growing body of empirical studies can be broadly classified into two categories: those that examine the effect of corporate governance on equity returns at the firm level, and the others at the country level. Gompers et al. (2003) find that firms with strong shareholder rights protection have risk-adjusted stock returns that are 8.5% higher per year than those of firms with weak shareholder rights in the U.S. for the period of 1990 through 1999. Cremers and Nair (2005) extended Gompers et al. (2003) by investigating the interactive effect of internal and

external governance mechanisms. In particular, Cremers and Nair (2005) find that a portfolio that buys firms with the highest level of takeover vulnerability and shorts firms with the lowest level of takeover vulnerability generates an annualized abnormal return of 10% to 15% only when public pension fund or block-holder ownership is high as well. However, Core et al. (2006) argue that the results in Gompers et al. (2003) may be time-period specific and present evidence that abnormal returns for firms with strong shareholder rights are actually *lower* than those for firms with weaker shareholder rights for the period of 2000 through 2003.

Cross-country empirical studies have also documented mixed evidence regarding the effect of corporate governance on shareholder returns. Lombardo and Pagano (2000) show that realized stock returns are positively correlated with overall measures of the quality of institutions such as judicial efficiency and rule of law, but not related to shareholder rights as measured by the anti-director rights index developed by La Porta et al. (1998). However, Hail and Leuz (2006) document a negative relationship between the implied or ex ante cost of equity capital and disclosure requirements and securities regulation, and to a lesser extent, the overall

quality of legal systems as measured by the rule of law index. In addition, Daouk et al. (2006) find that both implied and realized cost of equity capital also decreases with the level of "capital market governance" that capture three dimensions of a country's securities regulation: the degree of earning opacity, the enforcement of insider trading laws, and the effect of removing short-selling restrictions.

As the conflicting results demonstrate, the effect of strong investor protection on equity returns is far from obvious. More importantly, the theoretical link between equity return and investor protection is not that clear either. On the one hand, strong investor protection limits expropriation by controlling shareholders (or insiders), which should lead to higher returns to all shareholders. On the other hand, strong investor protection (e.g., better disclosure and securities regulation) can enhance investor recognition and thereby enlarge investor base and improve risk sharing (Merton, 1987), leading to a lower rate of required return by investors. Similarly, as argued by Lombardo and Pagano (2000), strong investor protection can reduce monitoring costs borne by investors, and hence the required rate of return. Therefore, the effect of investor protection on equity

returns is ultimately an empirical issue.

The contribution of this study is three-fold. Firstly, all the cross-country studies above focus on the relationship between equity returns and external institutional factors such as the quality of legal system (e.g., judicial efficiency) or securities regulation (e.g., disclosure requirements). However, internal mechanisms such as ownership structure and capital structure may evolve to offset the weak protection offered to minority shareholders. Indeed, La Porta et al. (1999) find other than the US and UK, corporate ownership is highly concentrated, especially in countries with poor investor protection. Furthermore, La Porta et al. (1997) find that countries with strong investor protection have bigger stock markets (relative to their GDPs) and more external equity financing. It is conceivable that the cost of expropriation by a controlling shareholder (with high equity ownership) in a country with weak investor protection could be similar to that by an insider with little equity ownership in a country with strong investor protection. In this study, we include both external and internal mechanisms in our tests, which allows us to determine if and how the governance mechanisms interact in relation to equity returns.

Second, a country's economic growth should be explicitly controlled for in examining the relationship between equity returns and investor protection. Shareholders' return should benefit from faster economic growth, as corporate profits are generally positively related to a country's economy. Vassalou (2003) demonstrates that one-year-ahead GDP growth rates can explain the cross-section of equity returns as well as the Fama-French (1992) model can. Furthermore, she shows that when future GDP growth is included in the asset pricing model, the book-to-market and firm size variables in Fama-French (1992) lose much of their ability to explain the cross-section of equity returns in the US. In addition, Ibbotson and Chen (2003) report that long-term equity returns in the US from 1926 through 2000 are in line with the growth of per capita GDP. Intuitively, the rather low equity returns in Japan for the last decade or so is perhaps due to its slow economic growth, rather than poor investor protection. Similarly, the phenomenal equity returns in the emerging markets such as China and India in the last few years can be partly explained by their high GDP growth during the period. Furthermore, the earnings of the largest firms traded in most national stock markets, especially multinational firms, depend not only

on domestic economic growth but also worldwide growth. We will therefore include the effect of both domestic and global GDP growth in order to ascertain the relationship between equity returns and investor protection.

Third and perhaps more important, our study is one of the first to empirically examine the effect of investor protection on risk of equity returns. Theoretically, Albuquerque and Wang (2007) develop a model to show that weaker investor protection creates incentives to overinvest, which generates additional volatility in the capital accumulation process, resulting in more volatile equity returns. Similarly, Johnson et al. (2000) find evidence of substantial tunneling – the diversion of corporate resources to the controlling shareholder, especially in countries with weak investor protection. Tunneling therefore increases the volatility of a firm's earnings or cash flows, leading to more volatile equity returns. On the other hand, Friedman et al. (2003) develop a model in which the controlling shareholder props up the firm by using their own private funds to benefit minority shareholders when there a moderate adverse shock so that the firm stays in business. However, if the negative shock is large enough, the controlling shareholder loots the firm and it collapses. Although looting certainly

increases risk, propping will dampen fluctuations in the firm's earnings and cash flows, reducing the volatility of equity returns. The extant empirical literature is silent on this important link, neither firm-level studies such as Gompers et al. (2003) and Core et al. (2006) nor country-level studies such as Daouk et al (2006) and Hail and Leuz (2006) examine the relationship between risk and investor protection. Although Harvey (1995) shows that emerging markets exhibit higher volatility of returns, our tests will examine the effect of investor protection over and above that associated with the emerging status of a market.

Following Morck et al. (1988), McConnell and Servaes (1990), and Dahlquist et al. (2003), we use the decile rank of closely-held ownership (Φ) in a country as a measure of internal mechanism. At low to moderate levels of insider ownership, a higher ownership helps align interests of outside shareholders with those of insiders. However, as argued by Stulz (1988), insider ownership beyond a sufficiently high enough level would lead to insider entrenchment, making it easier for insiders to expropriate outside investors. Consistent with this view, McConnell and Servaes (1990) report evidence of an inverse U-shaped relationship between insider ownership

and firm valuation[6]. Another measure of internal governance mechanism we use is the value-weighted average debt-asset ratio in a country. As suggested by Jensen (1986), the use of debt can alleviate agency problem by reducing the amount of free cash-flow in the hands of corporate insiders since interest payments and principal repayments are mandatory while dividend payments are at the discretionary. Furthermore, debt-holders can also serve additional role in monitoring corporate insiders. We measure external governance mechanisms by identifying the principal factor from a factor analysis of the institutional variables that have been found important in the literature, chief among which are rule of law, good government index, legal origin, anti-director rights, judicial efficiency (La Porta et al. 1998), disclosure requirements and securities regulations (La Porta et al. 2006), and the enforcement of insider trading laws (Bhattarcharya and Daouk 2002). Our principal factor approach captures the influences of all the factors yet in the meantime circumvents the multi-collinearity problem since these factors are highly correlated and cannot be used simultaneously.

Using a large panel sample of 444 country-year observations from 41

[6] A major difference between our study and McConnel and Servaes (1990) is that we will examine the impact of insider ownership on shareholder returns, while they focus on the effect on valuation.

countries for the period 1994 through 2004, we first find a significant curvilinear relation between shareholder return and the fraction of common stock owned by insiders. The curve slopes upward until closely-held ownership reaches approximately 35% to 50% and then slopes slightly downward, and the relationship is stronger in countries with better investor protection, suggesting that shareholder returns are more responsive to the alignment of interest between insiders and outside investors in countries with better investor protection. Secondly, we find that shareholder returns are also significantly positively related to external governance mechanisms, and a combination of both internal and external mechanisms. Furthermore, we find shareholder returns are significantly positively related to economic growth, and economic growth is more helpful in countries with market-based (versus bank-based) financing infrastructure. Finally, we find a negative relationship between risk and governance mechanisms, suggesting that good governance not only enhances shareholder return but also reduces risk borne by investors.

The rest of the paper is organized as follows. Section 2 describes the data and methodology. Section 3 presents our empirical results, and section 4

concludes.

3.2. Data & Methodology

3.2.1. Shareholder Return and Risk

Datastream provides a 'total market' index for each country in the database which represents the value-weighted cum-dividend index for the listed firms in the country. Datastream claims that the constituent stocks used to construct the 'total market' index represent no less than 75% of the total market capitalization in the country. We will use this index to measure shareholder returns in this study, since it provides the most comprehensive coverage and it also includes dividend yields. The total market index is available in the US dollar or local currencies. To facilitate the comparison of shareholder returns across countries, we normalize each market index to constant 2000 US dollars by adjusting for both the exchange rate and the U.S. inflation rate[7]. This adjustment converts shareholder returns into real US

[7] Datastream does not provide US dollar total market index for Colombia, India, Israel, Pakistan, Peru, and Sri Lanka. Thus, for those countries we first translate the local currency market index in to U.S. dollar by adjusting its local currency exchange rate with U.S. dollar, and then adjust the nominal market index to real-terms (constant 2000 U.S. dollar) using the procedure described below.

dollar returns by taking into account the impact of both foreign exchange rate changes and inflation rates. In our robustness tests later, we will use both nominal US dollar returns with US inflation as an independent variable and real excess returns (with the U.S. three-months T-bill rate deducted).

The following is a sketch of how we adjust each sample country's stock market index in the US dollars for inflation. As mentioned earlier, we use the year 2000 US dollar as the base year, the market index for years after 2000 (MI_t) are discounted as follows to arrive at the market index in constant 2000 US dollars (RMI_t):

$$RMI_{2001} = \frac{MI_{2001}}{(1+Inflation_{2001})}$$

$$RMI_{2002} = \frac{MI_{2002}}{(1+Inflation_{2001})\times(1+Inflation_{2002})};$$

……

$$RMI_{2005} = \frac{MI_{2005}}{(1+Inflation_{2001})\times(1+Inflation_{2002})\times(1+Inflation_{2003})\times\cdots\cdots\times(1+Inflation_{2005})}$$

Similarly, we normalize the stock market index for years before 2000 by compounding it by the US inflation rate as follows:

$$RMI_{1999} = MI_{1999}\times(1+Inflation_{2000})$$

$$RMI_{1998} = MI_{1998} \times (1 + Inflation_{2000}) \times (1 + Inflation_{1999})$$

……

$$RMI_{1994} = MI_{1994} \times (1 + Inflation_{2000}) \times (1 + Inflation_{1999}) \times \cdots\cdots \times (1 + Inflation_{1995})$$

The real-term US dollar shareholder return inclusive of dividend yield for each country and year is therefore computed by:

$$R_{j,t} = \left(\frac{RMI_{j,t} - RMI_{j,t-1}}{RMI_{j,t-1}} \right) \times 100\%$$

where,

$R_{j,t}$ denotes the real shareholder return in the US dollar for country j in year t.

We first measure risk borne by shareholders in each country-year by using the annualized standard deviation of the daily returns. This measure is available for each country-year, resulting in a panel data of 444 country-year observation for the 41 countries from 1994 through 2004. Secondly, we use the standard deviation of the residuals from the Fama-French three factor

models for each sample country. Since the standard deviation is computed for each country using the residuals in each year over the 11-year period, we end up with 41 observations (countries) for this second risk measure.

3.2.2. Governance Variables

In this section we describe the governance variables and provide a brief explanation for each to be included in our analysis. Our measures of external governance variables are based on the recent studies such as La Porta et al. (1998, 2002, 2006), Hail and Leuz (2006) and Morck et al. (2000) who, among many others, together have identified the following set of institutional characteristics that are important in explaining stock market development, firm valuation, value relevance of accounting information, cost of capital and stock market informativeness. Since most of the external institutional variables are from La Porta et al. (1998, 2006) and Bhattacharya and Daouk (2002), who describe them in more detail, we will be brief in defining the variables:

a) *Anti-director rights*, a measure of the ease with which shareholders exercise their voting rights and legal rights in suing directors, obtained from La Porta et al. (1998). This variable has been found important in explaining

the value relevance of accounting information (Hung 2001) and earnings management (Leuz et al. 2003 and Burgstahler et al. 2006).

b) *Legal origin,* measured by a dichotomous variable classifying a country's legal origin from either the common-law or code-law tradition, as outlined in La Porta et al. (1998). Ball et al. (2000), Hung (2001), and Burgstahler et al. (2006) find this variable significantly related to quality of accounting information.

c) *Good government*, measured by the sum of three variables from La Porta et al. (1998): 1) government corruption index, 2) the risk of expropriation – meaning outright confiscation or forced nationalization – by the government, and 3) the level of repudiation of contracts by government. This variable has been found important in deterring risk arbitrage (Morck et al. 2000). And Jin and Myers (2006) use this variable to proxy for protection of investor, which is found to bring lower stock price synchronicity.

d) *Rule of law*, as a proxy for the overall quality of country's legal system, is from La Porta et al. (1998). This variable has been found positively related to firm valuation (Durnev and Kim, 2005), and negatively related to

the cost of equity capital (Hail and Leuz 2006).

e) *Judicial efficiency*, an assessment of the efficiency and integrity of the legal environment, also from La Porta et al. (1998).

f) *Insider trading law enforcement*, a measure of a country's insider trading law enforcement based on Bhattacharya and Daouk (2002) who find that the enforcement of insider trading laws is inversely related to the cost of equity in a country.

g) *Disclosure requirement*, a measure of laws mandating disclosure from La Porta et al. (2006). This variable has been found negatively related to the cost of equity capital (Hail and Leuz 2006) and positively related to stock market development (La Porta et al. 2006).

h) *Liability standard*, a measure of the extent of facilitating private enforcement through liability rules, which could reduce the uncertainties and the cost of private litigation, from La Porta et al. (2006).

i) *Public enforcement*, a public enforcement index from La Porta et al. (2006), which is constructed by the arithmetic mean of 1) supervisor characteristics index; 2) rule-making power index; 3) investigative powers index; 4) orders index; and 5) criminal index. The preceding 5 indices are

five broad aspects of public enforcement. This variable, together with disclosure requirement index and liability standard index has been found negatively related to the cost of equity capital (Hail and Leuz 2006).

As many of the institutional variables are highly correlated with one another and hence cannot enter in a regression model simultaneously. We therefore perform a factor analysis using maximum likelihood estimation procedures with the set of variables above. Significant factor(s) based on this analysis can be viewed as the encompassing factors capturing the overall impact of external institutional development as represented by the nine individual external factors above.

Internal governance variables include the percentage of shares closely-held and the average debt-asset ratio. Worldscope defines closely-held shares as shares held by insiders, including senior corporate officers and directors and their immediate families; shares held in trusts; shares held by another corporation (except shares held in a fiduciary capacity by financial institutions); shares held by pension/benefit plans; and shares held by individuals who hold 5% or more of shares outstanding. Prior literature has documented various effects of ownership structure on

accounting earnings quality (e.g., Haw et al. 2004, Fan and Wong 2002, and Chin et al. 2006), corporate valuation (e.g., Morck et al. 1988, and McConnell and Servaes 1990), and home bias (Dahlquist et al. 2003). We aggregate the firm-level data to derive the country level percentage of closely-held shares by dividing the sum of the market value of all closely-held shares in a country by the sum of the market value of all shares.[8] Due to the skewness of this measure, we use the decile rank of inside ownership (Φ) in our regression models, with a higher score indicating a higher insider ownership in that country.

The second measure of internal governance we use is the debt-asset ratio[9]. The signaling argument by Ross (1977) and Myers (1984) postulates that a higher leverage is a signal of better corporate performance. But more importantly, Jensen (1986) argues that a higher leverage forces managers to disgorge excess cash and hence helps to reduce the agency problem of free cash-flows. In addition, Jensen (1986) also notes that debt-holders can serve additional role in monitoring corporate insiders. Similarly, Stulz (1988)

[8] A country's value-weighted average percentage of closely-held shares is constructed by only using firms with available data in that country.

[9] We realize that there are many other internal governance mechanisms such as performance-based pay or board composition. However, we are constrained by data availability, especially in an international setting such as in our study.

argues that a higher leverage could exert additional pressure on managers because they could lose their control through bankruptcy. Therefore, the use of debt can help align corporate insiders' interests with that of outside shareholders, resulting in a positive relationship with shareholder return. For each country and year, we aggregate separately the total debt and total assets across all the firms in a country with available data in Worldscope, and we then take the ratio of the two as the value-weighted leverage ratio.

To assess the combined effect of both external and internal governance mechanisms, we perform another factor analysis using maximum likelihood estimation procedures with all the nine external and two internal measures explained above. Significant factor(s) will be retained to measure the overall governance level in a country.

3.2.3. Economic Growth and Control Variables

As mentioned earlier, shareholder returns should benefit from faster economic growth, as corporate profits are generally positively related to a country's economy. Consistent with this view, Vassalou (2003) demonstrates that one-year-ahead GDP growth rates can explain the cross-section of equity

returns better than the Fama-French (1992) model can. In addition, Ibbotson and Chen (2003) report that long-term equity returns in the US from 1926 through 2000 are in line with per capita GDP growth rates. Intuitively, the rather low equity returns in Japan for the last decade and the phenomenal equity returns in the emerging markets such as China and India in the last few years can be partly explained by the differences in the economic growth rather than differences in investor protection. Furthermore, the earnings of the largest firms traded in most national stock markets, especially multinational firms, depend not only on domestic economic growth but also worldwide growth.

Per capita GDP growth rate has been widely used to measure economic development (e.g., Demirguc-Kunt and Levine, 1996a and 1996b). We will therefore include two measures of economic growth in our models: per capita GDP growth rate in each country, and the GDP-weighted average per capita GDP growth rate for the world. Both measures are obtained from the World Bank WDI online database. In our robustness tests, we also use GDP growth rates, and growth rates of earnings-per-share (EPS) which is a more direct measure of corporate profits growth. Consistent with Vassalou (2003),

we use one-year-ahead economic growth rates, to better reflect the fact that the stock market is a leading economic indicator.

The Fama and French (1992) three factor model is the basic reason we include three similar measures as control variables for risk factors in our return regressions models. The three proxies we use as risk factors are the world return, the book-to-market ratio, and the market size. The world return is the real-term US dollar return of the value-weighted world portfolio, based on the total world index retrieved from Datastream. The book to market ratio is computed using data from Worldscope, which is the ratio of the sum of total book value over the sum of total market capitalization across all firms in a country in a year. The size variable in Fama and French (1992) is proxied by the logarithm of a country's total market capitalization, following Hail and Leuz (2006).

When we examine the relationship between risk and governance mechanisms, we use a different set of control variables. Basic finance theory suggests a positive relationship between financial leverage and volatility, therefore we will include the debt-asset ratio as a control variable. Secondly, Harvey (1995) documents emerging markets display higher return

volatility, we will therefore include a dummy variable indicating a country's emerging market status as of another control variable. Finally, Hail and Leuz (2006) and Giannetti and Koskinen (2007) argue that macroeconomic volatility is positively related to volatility. We control for macroeconomic variability in the risk model by including the first principle component of the following five proxies of macro variability: earnings per share variability, return on equity (ROE) variability, return on assets (ROA) variability, volatility in the GDP growth rates, and exchange rates variability[10].

3.3. Empirical Results

Before we conduct any empirical testing on the relationship between shareholder return and risk and governance variables, we perform factor analyses to identify commonalities underlying our measures of governance. As discussed earlier, many of the external governance variables are highly correlated with each other and hence cannot enter in a regression model

[10] The five proxies are highly correlated, thus we use the first principle component factor among these five variables to measure macro-economic variability.

simultaneously. We therefore perform a factor analysis using maximum likelihood estimation procedures with the set of nine institutional variables defined in section 2.2.2 above, which measures the overall quality of legal systems (e.g., rule of law and judicial efficiency), respect for property rights (e.g., risk of government repudiating private contracts and government corruption), and securities laws (e.g., insider trading laws and disclosure requirements). As mentioned above, these variables have been found very significant in explaining various aspects of capital market development including market size, market efficiency, and the cost of equity (e.g., La Porta et al. 1998 and 2006, Morck et al, 2000, and Hail and Leuz 2006). Significant factor(s) based on this analysis can be viewed as the encompassing factors capturing the overall impact of external governance as represented by the nine individual variables.

Our factor analysis identifies one significant factor with an eigenvalue greater than 1. Table 10 presents the results of our factor analysis. The associated coefficients with these nine raw factors are presented in the first column. Following the methodology in Bushman et al. (2004), we rotate the factor using the varimax rotation technique and the standardized coefficients

with the varimax rotation are presented in the second column. We can see that from the both columns, the three highest loadings are for the indices on *Good government, Rule of law*, and *Judicial efficiency*. We label this significant factor "*External Governance*" as an overall measure of a country's external governance environment. We will conduct our analyses using this overall measure and the three significant components separately in order to ensure that our results are stable.

[Insert Table 10 about here]

Next we combine the nine external factors with the two internal mechanisms (percentage of closely-held shares and debt-asset ratio) to perform a factor analysis in order to identify a factor that captures the effect of both external and internal governance mechanisms. Columns 3 and 4 in Table 10 present the raw and standardized coefficients (using the varimax rotation method) associated with the eleven variables. In terms of the factor loadings, in addition to the three factors with the highest loadings in the previous analysis that retain their loadings, the fourth highest loading is on

Φ, the decile rank of the percentage of shares closely-held. It is interesting to note that the loading on Φ is negative while all the other loadings remain positive, suggesting that the internal and external mechanisms offset each other acting as substitutes, consistent with the conjecture in Shleifer and Vishny (1997) and the findings in La Porta et al. (1999) that ownership concentration is rather common, especially in countries with poor investor protection.

Table 11 presents the summary statistics of our key variables for the sample of 41 countries from 1994 through 2004. Real-term shareholder returns have an average (median) value of 7.77% (5.61%), ranging from -57.6% to 139.2%. The annualized volatility has an average (median) of 23.02% (19.74%), also with a wide range between 7.70% and 136.47%. Per capita GDP growth rates range from -14.3% to 16.2%, with a mean (median) of 2.26% (2.44%). There is considerable variation in terms of external governance mechanisms for our sample, the *External Governance* variable has a mean (median) of 0.051 (0.278) with a standard deviation of 0.974 and a range of -2.005 to 1.259. Closely-held ownership has a mean (median) of 43.17% (44.34%), ranging from 3.93% to 80.27%, suggesting that

ownership concentration is quite common around the world as reported in La Porta et al. (1999). The distribution of the debt-asset ratio suggests that the use of debt around the world is moderate, consistent with the findings in Rajan and Zingales (1995). The debt-asset ratio has a mean (median) of 30.45% (30.08%) with a range of 12% to 64.97%.

[Insert Table 11 about here]

Table 12 presents the summary statistics by country. The five highest geometric average returns are for Finland, Ireland, Sweden, Denmark, and Greece, while the five lowest geometric returns are for the Philippines, Venezuela, Thailand, Argentina, and Indonesia. We get similar rankings if we use arithmetic average returns: the five highest arithmetic returns are for Finland, South Korea, Greece, Turkey, and Sweden, while the five lowest are for the Philippines, Venezuela, Sri Lanka, Singapore, and Argentina. The five countries with highest average risk as measured by return volatility are Turkey, Venezuela, Indonesia, South Korea, and Thailand, while the five lowest are Austria, the United Kingdom, Canada, Belgium, and Portugal.

The five countries with the highest average per capita GDP growth rates are Ireland, India, South Korea, Sri Lanka, and Chile, while the five lowest are Venezuela, Colombia, Switzerland, Argentina, and Japan.

[Insert Table 12 about here]

In terms of external governance mechanisms as captured by the *External Governance* variable, the five countries with the highest scores are Switzerland, Norway, New Zealand, the Netherlands, and Sweden, and the five lowest scores are for the Philippines, Pakistan, Indonesia, Peru, and Sri Lanka. Based on the decile rank of the percentage of shares closely-held (Φ), the five countries with the highest decile rank are mostly emerging markets: Pakistan, Turkey, Indonesia, New Zealand, and the Philippines, while the five lowest Φ markets are all developed markets: the United Kingdom, the United States, Ireland, Finland, and Sweden. Finally, the five countries with the highest leverage ratios are Thailand, Indonesia, Korea, Japan, and Canada; while the five lowest are for Venezuela, Columbia, South Africa, the Netherlands, and the UK.

Table 13 displays the Pearson correlation coefficients matrix for the key variables in our study. As can be seen, shareholder returns are not significantly related to any of the internal or external governance measures on the univariate basis. Shareholder returns are significantly positively related to per capita GDP growth rates (p-value less than 0.001). This finding is consistent with prior evidence of Vassalou (2003) and Ibbotson and Chen (2003), which also challenges the negative correlation view (Siegel, 1998; Dimson et al., 2002; and Ritter, 2005).

[Insert Table 13 about here]

Return volatility is significantly negatively correlated with *External Governance* and each of the three components measuring external governance mechanisms, suggesting that better investor protection lowers risk faced by shareholders. On the other hand, return volatility is significantly positively related to insider ownership and leverage. As expected, the three components of external governance variables are highly significantly correlated with each other, justifying our approach of using an

overall factor to alleviate the multicollinearity problem in regression analyses later. Furthermore, as expected, insider ownership and leverage are each significantly negatively correlated with each of the external mechanisms.

Before proceeding to regression analyses, we explain why OLS is not appropriate for our sample, a panel consisting of observations from 41 countries for each year from 1994 to 2004. As explained by Petersen (2007), OLS regression residuals may be correlated across years for a given country. An apparent remedy for the dependence problem is to use a fixed-effect modeling approach. However, most of the external governance mechanisms are time-invariant for a given country in our sample, rendering the fixed-country modeling impossible. An effective methodology has been proposed by Petersen (2007) that takes into account of the correlation of residuals within each country (cluster) in the computation of the standard errors of the regression coefficients. Therefore, we fit all our regressions using the Petersen (2007) procedure and report t-statistics for the coefficients with the standard errors estimated taking into account of the clustering effect.

We begin our multivariate regression analyses with the effect of internal and external institutions on shareholder returns. As explained earlier, when we examine shareholder returns we control for the risk factors identified by Fama and French (1992) in an attempt to remove the effect of priced risk on returns. Table 14 displays the regression results of shareholder returns on the internal and external governance mechanisms with the Fama-French three risk factors included as control variables. Following Stulz (1988) and McConnell and Servaes (1990), our model specifications allow for flexibility in the relationship between shareholder return and insider ownership. In particular, we follow McConnell and Servaes (1990) by using a quadratic term to accommodate both the alignment of interest effect and entrenchment effect.

[Insert Table 14 about here]

Regression results in the first four columns in Table 14 indicate that shareholder returns initially rise as insider ownership increases and then declines beyond certain level of insider ownership, consistent with the

valuation effect of insider ownership as documented in McConnell and Servaes (1990). Although the curvilinear relationship in our study is mostly statistically insignificant, we find that the alignment of interest effect is stronger in countries whose *External Governance* are higher than the sample median. Results in the last column in Table 14 suggest a significant positive relationship between shareholder return and the overall measure for both internal and external mechanisms as captured by the *Overall Governance* variable, consistent with the findings in Lombardo and Pagano (2000) and the theoretical implication in Giannetti and Koskinen (2007).

As we discussed earlier, it is important to control for economic growth in examining the relationship between shareholder return and governance mechanisms[11]. Corporate profits in general rise with economic activities, which influence shareholder returns. For example, the low average shareholder return of 2.56% for Japan during our sample period is at least partly due to its slow per capita GDP growth of 1.07% per annum, compared to an average return of 10.11% for India with an average per capita GDP growth rate at 4.79% per annum. In addition, companies listed on stock

[11] Economic growth is not controlled for in the cross-country studies by Lombardo and Pagano (2000) and Daouk, Lee and Ng (2006); firm-level studies by Gompers et al (2003) and Core et al. (2006) do not control for differences in growth either.

exchanges are probably large companies whose revenues and profits depend not only on domestic economic growth, but also economic growth worldwide. This dependence increases over time as the world economy is becoming more global and is especially important for companies in open economies such as Canada, the U.S., and Hong Kong, to name a few. Therefore, in an attempt to control for the effect of economic development, we include both the domestic and world per capita GDP growth rates.

[Insert Table 15 about here]

Table 15 displays the regression results with the economic growth rates included as additional control variables. It is apparent that the inclusions of the economic growth variables drastically improve the fitness of the regression models, as shown by the noticeable increases in the model adjusted-R^2 from below 0.3 in Table 14 to above 0.4 in Table 15. Furthermore, shareholder returns are positively related to the one-year-ahead domestic and worldwide per capita GDP growth rates in all model specifications, statistically significant at the 1% level. Our finding here is

consistent with Vassalou (2003), who demonstrates that one-year-ahead GDP growth rates can explain the cross-section of equity returns as well as the Fama-French (1992) model can. The last column in Table 15 shows that shareholder returns are significantly positively related to the quality of overall governance. More importantly, we now find shareholder returns are more significantly related to our governance variables, especially in countries with better external governance environment. The inverse U-shaped relationship between inside ownership and shareholder returns remains less significant in countries with poor investor protection. This finding is consistent with Shleifer and Vishny (1997) who note that large shareholders may be very effective in solving the agency problem associated with disperse ownership only if there is proper legal protection of minority shareholders. Our results also point to the possibility that internal governance mechanisms such as inside ownership is less relevant in explaining shareholder returns in countries with poor investor protection. To explore this possibility, we run the same regressions separately for the sub-samples of countries with external governance mechanisms higher (lower) than the sample medians. We expect the curvilinear relationship to be

significant only for the sub-sample of countries with strong investor protection (with governance mechanisms higher than sample medians).

Table 16 displays the separate regressions for the two sub-samples, with the first three columns for the sub-sample of country -years with strong investor protection and the last three columns for country-years with poor investor protection. Indeed, the curvilinear relationship between inside ownership and shareholder returns is significant only in countries with strong investor protection. Secondly, the model adjusted-R^2s are considerably higher for the sub-sample of countries with strong investor protection than those for the sub-sample of countries with poor investor protection, suggesting that the variations in shareholder returns are better explained by the governance variables for the former sub-sample. Furthermore, relative to countries with strong investor protection, the coefficients on domestic and worldwide per capita GDP growth rates are much larger in countries with poor investor protection, suggesting that shareholder returns are more determined by economic development in those countries. As before, the debt-asset ratio is always insignificant in all specifications, indicating a very little role of leverage in enhancing shareholder returns.

[Insert Table 16 about here]

There are at least two questions raised by our findings: 1) Why is there an entrenchment effect in countries with strong investor protection? 2) Why is there no ownership effect in countries with poor investor protection? The first question is answered partly by the findings in the theoretical work of Stulz (1988) and the empirical work of McConnell and Servaes (1990), both in the context of the U.S., a country with strong investor protection. Furthermore, as recent corporate scandals illustrate, corporate insiders of Enron, Global Crossing, and Worldcom, for example, can and do engage in self-serving activities at the expense of outside shareholders. But more importantly, as Jensen (1993) argues, there is a general failure of governance in large U.S. companies in that they repeatedly make inefficient investments without being penalized.

Our findings of no ownership effect in countries with poor investor protection is consistent with Volpin (2002) who finds very low sensitivity of CEO turnover and corporate performance in Italy, a country with poor legal

protection for investors. In addition, our results are also in line with Pinkowitz et al. (2006) who find evidence suggesting firms in countries with poor investor protection are less likely managed for the benefit of shareholders. In general, corporate insiders are more likely to be entrenched and are less sensitive to internal governance arrangements, which may be endogenously determined. Finally, the lack of relationship between shareholder return and ownership structure is also consistent with Morck et al. (2000) who provide compelling evidence that stock prices in countries with poor investor protection are much less informative – there is high synchronicity in stock price movements in those countries.

Next we analyze whether the previously documented economic development effect differs by taking into account of a country's financing system. This analysis is an attempt to shed some light on why economic development appears to affect shareholder returns. Ritter (2005) reports a negative relationship between shareholder returns and per capita GDP growth, arguing that economic growth is mainly driven by high savings rates and technological changes instead of corporate reinvestments of retained earnings. One way to test his idea is to examine if the relationship

between shareholder returns and economic growth is weaker in a sample of countries in which personal savings are the main source of financing. We use the classifications in Demirguc-Kunt and Levine (1999) that divide our sample countries into bank-financed or market-financed. We multiply the bank-financing dummy with the per capita GDP growth variable and introduce both main and the interaction effect into the model. In essence, this specification estimates separate slope coefficients for the effect of economic development in bank-financed and market-financed markets.

[Insert Table 17 about here]

The first two columns of Table 17 report our basic regressions results, while the last two columns include another control – a dummy variable that takes the value of 1 if the country is classified as an emerging economy by the World Bank and 0 otherwise. The emerging economy dummy is included to control for the tendency that bank financing is more prevalent in those countries. Consistent with Ritter's (2005) argument, shareholder returns are less sensitive to per capita GDP growth in bank-financed

countries relative to market-financed countries, as the coefficient on the interaction term is significantly negative in all model specifications. In addition, we also find that shareholder returns are significantly positively related to the bank-financing dummy, suggesting higher average shareholder returns in bank-financed countries relative to market-financed countries, suggesting that bank-financing is beneficial to shareholders. This finding is consistent with the hypothesis that banks serve as additional monitors and thus help reduce agency problems.

We now turn to the analysis of risk and governance mechanisms, a topic that is much less explored relative to the relationship between return (or valuation) and governance. Prior empirical studies examining the effect of investor protection or governance mechanisms on shareholder returns or firm valuation do not take into account of risk (e.g., La Porta et al 2002, Gompers et al. 2003, Cremers and Nair 2005). Furthermore, there is litter research on if and how governance mechanisms influence risk. One exception is Albuquerque and Wang (2007) who develop a theoretical model that equity returns are more volatile under weaker investor protection. This is so because weaker investor protection creates incentives to over-invest, and

overinvestment will make the capital accumulation more volatile, hence more volatile equity returns.

Our study is one the first to present empirical evidence on the relationship between risk and governance mechanism. We use two measures of equity return risk. The first measure is the annualized volatility of shareholder returns as measured by the annualized standard deviation of daily returns for each sample country. This measure is available for each country-year, resulting in a panel data of 444 country-year observation for the 41 countries from 1994 through 2004. Secondly, we use the standard deviation of the residuals from the Fama-French three factor models for each sample country. Since the standard deviation is computed for each country using the residuals in each year over the 11-year period, we end up with 41 observations (countries) for this second risk measure.

In our regression models, we include the following control variables that may be related to the risk of equity returns: financial leverage as measured by the debt-asset ratio, a dummy variable indicating a country's emerging market status[12], and a measure of macroeconomic variability which is the first principle component of the following five proxies of macro variability:

[12] Harvey (1995) shows emerging markets display higher return volatility.

earnings per share variability, return on equity (ROE) variability, return on assets (ROA) variability, volatility in the GDP growth rates, and exchange rates variability. We will use the two factors capturing external and overall governance as our key independent variables (*External Governance* and *Overall Governance*).

[Insert Table 18 about here]

Table 18 displays our regression results, with Panel A showing the coefficients using the annualized return volatility as the risk measure and Panel B showing the coefficients using the standard deviation of the residuals from the Fama-French three factor models. As can be seen, both of the governance measures, *External Governance* and *Overall Governance*, are each significantly negatively related to both of our risk measures. Our findings are consistent with the theoretical predictions in Albuquerque and Wang (2007) that investors face higher risk in countries with weaker investor protection.

In what follows in this section, we perform a number of additional

robustness checks to make sure that our findings are not sensitive to our choices of measurements or regression techniques. First we check whether our results are sensitive to the alternative shareholder return measures. Instead of the real shareholder returns in the US dollar, we use nominal shareholder returns in the US dollar with US inflation rate as a control variable. This specification is more flexible in that we do not impose a coefficient of 1 for the US inflation variable, reflecting the possibility that investors do not forecast inflation with perfect accuracy. The second alternative return measure we use is the real excess return in the US dollar, which is the difference between real shareholder return and the three-month US Treasury bill rate. This measure represents the real risk premium received by shareholders.

[Insert Table 19 about here]

The first two columns in Table 19 displays the regression results with nominal shareholder returns as the dependent variable, while the last two columns report results using real excess shareholder return as the dependent

variable. In general, both the magnitudes and statistical significance of the coefficients of our interest are similar to those using real shareholder returns as reported in Table 15. In addition, the goodness of fit (as measured by model adjusted R^2s) is also comparable to that in Table 15.

In addition to the per capita GDP growth rates we use in the previous analysis so far, GDP growth is another proxy to represent economic development. Furthermore, shareholder returns are perhaps more directly related to the growth in earnings per share (EPS). We therefore check whether our results are sensitive to the replacement of GDPPCG by either the GDP growth or the EPS growth.

[Insert Table 20 about here]

The first two columns in Table 20 report the results using GDP growth and the last two using the EPS growth. Not surprisingly, the results using GDP growth rates are almost identical to those with per capita GDP growth. When EPS growth is used, we note that the goodness of model fit deteriorates – model adjusted-R^2s drop from about 0.40 to around 0.30.

Secondly, although shareholder returns are positively related to EPS growth, both the coefficient and statistical significance decline rather substantially.

Finally, geometric average return is considered a superior measure of the long-term mean rate of return because it indicates the compounded annual rates of return based on both the beginning and the ending values of the asset (Reilly and Brown, 2000). As a final sensitivity check, we use the geometric average return as a measure of shareholder returns. For the holding period of 1994 through 2004, we compute the geometric average return for each of the sample countries, resulting in a cross-section of 41 returns. We therefore conduct a simple OLS cross-sectional regression based on the average values of the variables over our sample period (1994-2004). This model specification precludes us from using the Fama-French (1992) three factors to control for risk. Instead, we use average annualized return volatility as a risk measure in this regression. Regression results are reported in Table 21.

[Insert Table 21 about here]

As before, shareholder returns as measured by the geometric average are significantly positively related to our overall governance factor. In addition, shareholder returns are also significantly positively related to economic growth.

3.4. Conclusions

In this paper we investigate the overall impact of internal and external governance mechanisms on shareholder returns and risk using a sample of 41 countries around the world over an 11-year period from 1994 through 2004. Internal governance mechanisms are measured in our study by the percentage of shares closely-held and debt/assets ratio. We identify nine country-level institutional factors that are constructed by La Porta et al. (1998, 2006) as our base measures for external governance mechanisms. Because these factors are highly correlated with one another, we first perform a factor analysis identifying a significant factor that captures the overall effect of the nine individual components and label the significant factor *External Governance* in our study. In addition, we also perform analyses using the three components with the highest loadings on *External*

Governance. Furthermore, in an attempt to combine the effect of the two internal governance mechanisms and the nine external governance variables, we perform a factor analysis to identify a significant factor that captures the effect of both internal and external mechanisms and label it as *Overall Governance*.

We find a significant positive relationship between shareholder return and external governance measures, consistent with the empirical finding in Lombardo and Pagano (2000) and the theoretical prediction by Giannetti and Koskinen (2007). The relationship between internal mechanism and shareholder returns is significant only in countries with strong investor protection. The curvilinear relationship between shareholder returns and the fraction of common stock owned by corporate insiders in countries with strong investor protection suggests that shareholder returns are more responsive to the alignment of interest between outside investors and insiders. The lack of relationship between ownership and shareholder returns in countries with poor investor protection is consistent with the findings in Volpin (2002) and Pinkowwitz et al. (2006), and is also in line with the implications of Morck et al. (2000).

Consistent with Vassalou (2003) and Ibbotson and Chen (2003), we find a significant positive relationship between shareholder returns and future economic growth. Furthermore, we find that it is crucial to control for economic growth in examining the relationship between shareholder returns and governance mechanisms. For example, the significant relationship between returns and internal governance mechanisms is identified only after economic growth is controlled for. Our analysis also attempts to reconcile the opposite findings by Ritter (2005) and Dimson et al. (2002) who report a negative relationship between returns and economic growth. First, we use the one-year-ahead GDP growth rates instead of the contemporaneous GDP growth rates to reflect that the stock market is a leading indicator of economic activities. Secondly, we present evidence showing that shareholder returns are indeed less sensitive to GDP growth in economies where financing is mainly provided by banks. This is consistent with the argument that economic growth is mainly driven by high savings rates put forward by Ritter (2005).

We conduct various sensitivity tests to make sure that our findings are robust to the choices of shareholder return measures and economic growth

proxies. Our conclusions remain the same when regressing geometric average returns on the cross-section averages of the governance and economic growth variables.

Perhaps more importantly, we find that strong governance mechanisms not only enhance shareholder returns, but also reduce risk. We measure risk first by the annualized standard deviation of daily returns and then by the standard deviation of the residuals from the Fama and French (1992) three factor models. We find that both risk measures are each significantly negatively related to external and overall governance measures. Our results are consistent with the theoretical implication of the model developed by Albuquerque and Wang (2007).

Chapter 4. Conclusions

4.1. Summary

Using a large panel sample of more than 200,000 firm-year observations from 44 countries for the period of 1995 through 2004 in the first half of the thesis, we first find that the information content of stock prices is negatively associated with accounting standards, indicating that higher quality accounting standards improve the functioning of the stock markets. But when we include measures of reporting incentives and their interaction terms with accounting standards measures, we find the negative relationship is significant only in countries with solid institutional development that promotes the genuine applications of IFRS or US GAAP. Our results are robust to the choices of accounting standards measures and reporting incentive proxies. Secondly, our results are robust to the choices of different sample periods (1990 through 2004 and 2000 through 2004), and different sample countries (with the US removed, and with the EU countries removed). Finally, all our models include variables that have been found significant in explaining differences in stock price synchronicity (Morck et al. 2000, and Jin and Myers 2006).

Our study builds on the recent literature on the roles of accounting standards (e.g., Barth et al. 2006) and institutional characteristics as proxies for reporting incentives (e.g., Ball et al. 2000, 2003; Leuz et al. 2003; and Burgstahler et al. 2006). We extend this literature first by examining the impact of accounting standards and reporting incentives simultaneously. The inclusion of both in our model specifications allows us to directly assess the incremental effect of reporting incentives using the interaction terms between accounting standards and institutional factors. Furthermore, our sample is one of the most comprehensive covering more than 200,000 firm-years from 44 countries for as long as 15 years (1990 through 2004), which improves the reliability of our findings.

Our paper also extends the recent work by Morck et al. (2000) and Jin and Myers (2006) on the information content of stock prices. Morck et al. (2000) find that strong private property rights protection encourages informed trading, which capitalizes more firm-specific information into stock prices. Jin and Myers (2006) report that it is the lack of corporate transparency that impedes the incorporation of firm-specific information into stock prices. However, corporate transparency can be a result of high

quality standards, or proper reporting incentives, or both. Our study extends the literature by providing evidence consistent with the view that corporate transparency is the product of high accounting standards and proper reporting incentives. Our findings highlight the importance of reporting incentives in the production of high quality accounting information, which in turn improves the information content of stock prices.

For the second half of this thesis, we investigate the overall impact of internal and external governance mechanisms on shareholder returns and risk using a sample of 41 countries around the world over an 11-year period from 1994 through 2004. We first find a significant curvilinear relation between shareholder returns and the fraction of common stock owned by insiders. The curve slopes upward until closely-held ownership reaches approximately 35% to 50% and then slopes slightly downward, and the relationship is stronger in countries with better investor protection, suggesting that shareholder returns are more responsive to the alignment of interest between insiders and outside investors in countries with better investor protection. Secondly, we find that shareholder returns are also significantly positively related to external governance mechanisms, and a

combination of both internal and external mechanisms, consistent with the empirical finding in Lombardo and Pagano (2000) and the theoretical predictions by Giannetti and Koskinen (2007). Furthermore, we find shareholder returns are significantly positively related to economic growth, and economic growth is more helpful in countries with market-based (versus bank-based) financing infrastructure. This is consistent with the argument put forward by Ritter (2005) that economic growth is mainly driven by high savings rates.

Finally, we find a negative relationship between risk and governance mechanisms, suggesting that good governance not only enhances shareholder return but also reduces risk borne by investors.

4.2. Limitations and Future Research

Our findings must be interpreted with a few *caveats*. First, our findings may be subject to a survival bias. Even some of our sample countries have poor institutional development, each of them manages to have a relatively active stock market. There are many other countries in the world whose institutional development is so poor that they are not in our sample.

However, the potential survival bias is against our finding significant relationship between institutional development and the functioning of capital markets. Secondly, our proxies for reporting incentives and governance mechanisms are all country-level variables. Although this setting allows us to examine the impact of institutional development, which is country-level by definition, our research design does not allow us to examine the impact of both reporting incentives and governance mechanisms at the firm-level. For example, the level and structure of executive compensation has been documented to affect a firm's disclosure quality (Nargar et al., 2003). Similarly, other governance mechanisms such as institutional ownership and board structure are related to corporate performance/shareholder wealth (e.g., McConnell and Servaes 1990 and Yermack 1996). Therefore, future research may overcome these problems by conducting firm-level analyses, although it remains a challenge to gather the requisite data, especially in the international setting. Most of the databases, such as Worldscope, COMPUSTAT Global Vantage, or Datastream do not provide sufficient firm-level data regarding reporting incentives or governance mechanisms.

Thirdly, our results are based on rather static, panel-data analyses. A more direct test would involve a more dynamic analysis examining the changes in institutional development and changes in the functioning of capital markets. If our hypothesis is correct, an improvement in the institutional infrastructure should lead to a better functioning capital market. However, a country's institutional infrastructure tends to change very slowly and gradually, making it hard to identify any clear turning point. Finally, a fascinating but potentially difficult line of research is to explain the evolution of a country's institutional infrastructure, so we can better understand why some countries end up having solid institutions and others do not.

References

Albuquerque, R. and Wang, N., 2007. Agency conflicts, investment, and asset pricing. *Journal of Finance*, Forthcoming.

Alford, A., Jones, J., Leftwich, R., Zmijewski, M., 1993. The relative informativeness of accounting disclosures in different countries. *Journal of Accounting Research 31 (Suppl.)*, 183-221.

Ashbaugh, H., and Pincus, M., 2001. Domestic accounting standards, international accounting standards, and the predictability of earnings. *Journal of Accounting Research* 39 (3), 417-434.

Babalyan, L., 2001. Association between accounting earnings and stock returns as a measure of value relevance of accounting standards: Empirical evidence from the Swiss market. *EFA 2002 Berlin Meeting Discussion Paper.*

Ball, R., Kothari, S.P., Robin, A., 2000. The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics* 29, 1-51.

Ball, R., Robin, A. and Wu, J., 2003. Incentives versus standards: properties of accounting income in four East Asian countries. *Journal of Accounting and Economics* 36, 235-270.

Barth, M., Landsman, W., Lang, M., and Williams, C. D., 2006. Accounting quality: International accounting standards and U.S. GAAP. *Stanford University Graduate School Business Research Working Paper.*

Barth, M., Landsman, W., and Lang, M., 2007, International accounting standards and accounting quality, *Stanford University Graduate School of Business Research Working Paper No. 1976.*

Bartov, E., S. Goldberg, and S. Kim, 2005, Comparative value relevance among German, U.S., and international accounting standards: A German stock market perspective, *Journal of Accounting, Auditing, and Finance* 20, 95-119.

Bhattacharya, U., and Daouk, H., 2002. The world price of insider trading. *Journal of Finance* 57, 75-108.

Burgstahler, D., Hail, L., and Leuz, C., 2006. The importance of reporting incentives: earnings management in European private and public firms. *The Accounting Review* 81(5), 983-1016.

Bushman, R., Piotroski, J. and Smith, A., 2004. What determines corporate transparency? *Journal of accounting research* 42(2), 207-252.

Chan, J.P., and Seow, G.S., 1996. The association between stock returns and foreign GAAP earnings versus adjusted to U.S. GAAP. *Journal of Accounting and Economics* 21, 139-158.

Chin, C., Kleinman, G., Lee, P., and Lin, M., 2006. Corporate ownership structure and accuracy and bias of mandatory earnings forecast: Evidence from Taiwan. *Journal of International Accounting Research* 5(2), 41-62.

Core, J.E., Guay, W.R., and Rusticus, T.O., 2006. Does weak corporate governance cause weak stock returns? An examination of firm operating performance and investors' expectations. *Journal of Finance* 61, 655-687.

Cremers, K.J., and Nair, V., 2005. Governance mechanisms and equity prices. *The Journal of Finance* 60 (6), 2859-2894.

Dahlquist, M., Pinkowitz, L., Stulz, R.M., and Williamson, R., 2003. Corporate governance and home bias. *The Journal of Financial and Quantitative Analysis* 38(1), 87-110.

Daouk, H., Lee, C. and Ng, D., 2006. Capital market governance: how do securities laws affect market performance? *Journal of Corporate Finance* 12 (12), 560-593.

Daske, H., Hail, L., Leuz, C., and Verdi. Ro., 2007. Adoption a label: Heterogeneity in the economic consequence of IFRS adoptions. *Working Paper (*University of Mannheim, SSRN: http://ssrn.com/abstract=979650).

Deloitte, 2005. IFRSs in your pocket 2005 – An IAS Plus guide. *www.iasplus.com*

Demirguc-Kunt, A. and Levine, R., 1999. Bank-based and market-based financial systems: Cross-country comparisons. *World Bank Policy Working Paper* No. 2143.

Demirguc-Kunt, A. and Levine, R., 1996a., Stock market development and financing choices of firms, *The World Bank Economic Review*, 10, 223-239.

Demirguc-Kunt, A. and Levine, R., 1996b. Stock market development and financial intermediaries: Stylized facts, *The World Bank Economic Review*, 10 (2), 291-321.

Dimson, E., Marsh, P. and Staunton, M., 2002. Triumph of the optimists: 101 years of global investment returns, *Princeton University Press*, Princeton.

Durnev, A. and Kim, E.H., 2005. To steal or not to steal: Firm attributes, legal environment, and valuation. *The Journal of Finance*, 1461-1493.

Eccher, E and Healy, P., 2000. The role of international accounting standards in transitional economies: A study of the Peoples Republic of China. *Working Paper. Massachusetts Institute of Technology.*

Fama, E.F., and French, K.R., 1992. The cross-section of expected stock returns. *The Journal of Finance*, 427-465.

Fama, E., and MacBeth, J., 1973. Risk, return, and equilibrium: Empirical tests. *Journal of Political Economy* 81, 607-636.

Fan, J.P.H., and Wong, T.J., 2002. Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics* 33, 401-425.

Financial Accounting Standards Board (FASB). The IASC-U.S. comparison project: A report on the similarities and differences between IASC standards and U.S. GAAP, *2nd edition. Norwalk, CT: FASB*, 1999.

Friedman, E., Johnson, S., and Mitton, T., 2003. Propping and tunneling. *Journal of Comparative Economics* 31(4), 732-750.

Giannetti, M. and Koskinen, Y., 2007. Investor protection, equity returns, and financial globalization. *CEPR Working Paper.*

Gompers, P., Ishii, J., and Metrick, A., 2003. Corporate governance and equity prices. *Quarterly Journal of Economics* 118, 107-155.

Goncharov, I., and Zimmermann, J., 2006. Do accounting standards influence the level of earnings management? Evidence from Germany. *Working Paper, (University of Amsterdam).*

Grossman, S., and Stiglitz, J., 1980. On the impossibility of informationally efficient markets. *American Economic Review* 70(3), 393-408.

Hail, L. and Leuz, C., 2006. International differences in cost of equity capital: Do legal institutions and securities regulation matter? *Journal of Accounting and Research,* 44 (3) 485-531.

Harris, M. and K. Muller. 1999. The market valuation of IAS versus U.S. GAAP accounting measures using Form 20-F reconciliations. *Journal of Accounting and Economics* 26, 285-312.

Harvey, C., 1995. Predictable risk and returns in emerging markets, *Review of Financial Studies 8, 773-816*.

Haw, I., Hu, B., Hwang, L., and Wu, W., 2004. Ultimate ownership, income management, and legal and extra-legal institutions. *Journal of Accounting Research* 42(2), 423-462.

Hung, M., 2001. Accounting standards and value relevance of financial statements: An international analysis. *Journal of Accounting and Economics* 30, 401-420.

Hung M., and K. Subramanyam, 2004, Financial Statement Effects of Adopting International Accounting Standards: The Case of Germany, Working Paper, University of Southern California.

Ibbotson, R.G. and Chen, P., 2003. Long-run stock returns: Participating in the real economy. *Financial Analysts Journal*, 88-98.

Jensen, M.C., 1986. Agency cost of free cash flow, corporate finance, and takeovers. *American Economic Review* 76, 323-329.

Jensen, M.C., 1993. Presidential address: the modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance*, 831-880.

Jin, L., Myers, S.C., 2006. R^2 around the world: New theory and new tests. *Journal of Financial Economics* 79, 257-292.

Johnson, S., La Porta, R., Lopez-de-Silanes, F., and Shleifer, A., 2000. Tunneling. *American Economic Review* 90, 22-27.

Lang, M., J. Raedy, and W. Wilson, 2005, Earning Management and Cross

Listing: Are Reconciled Earnings Comparable to US Earnings? Working Paper, University of North Carolina.

La Porta, R., Lopez-de-Silanes, F., and Shleifer, A., 1999. Corporate ownership around the world. *Journal of Finance* 54, 471-517.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. W. Vishny., 1998. Law and finance. *Journal of Political Economy* 106, 1113-1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. W., 1997. Legal determinants of external finance. *Journal of Finance* 52, 1131-1150.

La Porta, R., Lopes-de-Silanes, F., Shleifer, A., 2006. What works in securities laws? *The Journal of Finance*, 1-32.

Leuz, C., 2003. IAS versus US GAAP: Information asymmetry-based evidence from Germany's new market. *Journal of Accounting Research* 41 (3), 445-472.

Leuz, C., Nanda, D. and Wysocki, P., 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics* 69, 505-527.

Leuz, C., and Verrecchia, R.E., 2000. The economic consequences of increased disclosure. *Journal of Accounting Research* 38, 91-124.

Lombardo, D., and Pagano, M., 2000. Legal determinants of the return on equity. *CSEF Working Paper*.

Merton, R., 1987. A simple model of capital market equilibrium with incomplete information. *Journal of Finance* 42, 483-510.

McConnell, J.J. and Servaes, H., 1990. Additional evidence on equity ownership and corporate value. *Journal of Financial Economics* 27, 595-612.

Morck, R., Shleifer, A., and Vishny, R.W., 1988. Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics* 20, 293-315.

Morck, R., Yeung, B. and Yu, W., 2000. The information content of stock markets: Why do emerging markets have synchronous stock price movements? *Journal of Financial Economics* 58, 215-260.

Myers, S.C., 1984. The capital structure puzzle. *Journal of Finance* 39, 575-592.

Nagar, V., Nanda, D., and Wysocki, P., 2003. Discretionary disclosure and stock-based incentives. *Journal of Accounting and Economics 34*, 283-309.

Newey, W., and West, K., 1987. A simple, positive semi-definite, heteroscedastic and autocorrelation consistent covariance matrix. *Econometrica* 55, 703-708.

Petersen, M. A., 2007. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies*, Forthcoming.

Pinkowitz, L., Stulz, R. and Williamson, R., 2006. Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. *The Journal of Finance*, 2725-2751.

Pontiff, J., 1996. Costly arbitrage: Evidence from closed-end funds. *The Quarterly Journal of Economics* 111(4), 1135-1151.

Rajan R. G., and Zingales, L., 1995. What do we know about capital structure? Some evidence from international data. *Journal of Finance* 50, 1421-1460

Reilly, F.K. and Brown, K.C., 2000. Investment analysis and portfolio

management. 6th edition. *Fort Worth, TX: Dryden*.

Ritter, J. R., 2005. Economic growth and equity returns. *Pacific-Basin Finance Journal*, 13, 489-503.

Roll, R., 1988. R-squared. *Journal of Finance* 43, 541-566.

Ross, S.A., 1977. The determination of financial structure: The incentive-signaling approach, *Bell Journal of Economics* 8, 23-40.

Shleifer, A. and Vishny, R.W., 1997. A survey of corporate governance. *The Journal of Finance* 52(2), 737-783.

Siegel, J.J., 1998. Stocks for the long run. *New York: Irwin*.

Stulz, R., 1988. Managerial control of voting rights, financing policies and the market for corporate control. *Journal of Financial Economics* 20, 25-54.

Vassalou, M., 2003. News related to future GDP growth as a risk factor in equity returns. *Journal of Financial Economics* 68, 47-73.

Volpin, P.F., 2002. Governance with poor investor protection: Evidence from top executive turnover in Italy. *Journal of Financial Economics* 64, 61-90.

Watts, R.L., and Zimmerman, J.L., 1986. Positive accounting theory. *Englewood Cliffs, N.J.: Prentice-Hall*, c1986.

Yermack, D., 1996. Higher market valuation of companies with a smaller board of directors. *Journal of Financial Economics* 40, 185-211.

TABLE 1 Sample Characteristics

This table presents the summary statistics for the 44 sample countries from1995 to 2004. **VW R^2** and **EW R^2** represent the R^2 from the expanded market model that includes value-weighted or equally-weighted industry returns, respectively. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. **Years** is the number of years in which there are at least 10 firms with valid data in each country. **N** is the number of firm-year observations in each country. **μ, Med**, and **σ** stands for the mean, median and standard deviation of the variables, respectively.

Country	VWR^2					EW R^2			ASF					IFRS
	Years	N	μ	Med	σ	μ	Med	σ	Years	N	μ	Med	σ	
Argentina	10	208	0.486	0.469	0.077	0.455	0.455	0.082	10	474	0.008	0.000	0.012	0
Australia	10	8499	0.118	0.116	0.016	0.139	0.135	0.021	10	6803	0.012	0.012	0.003	3
Austria	10	328	0.236	0.191	0.102	0.257	0.226	0.091	10	696	0.356	0.366	0.304	3
Belgium	10	650	0.194	0.168	0.060	0.256	0.243	0.039	10	820	0.138	0.131	0.062	3
Brazil	10	1671	0.267	0.269	0.037	0.252	0.249	0.044	10	1831	0.001	0.000	0.003	0
Canada	10	22259	0.099	0.101	0.007	0.101	0.101	0.011	10	8637	0.029	0.029	0.017	0
Chile	10	626	0.300	0.288	0.061	0.283	0.275	0.051	10	950	0.001	0.000	0.003	0
China	10	8417	0.475	0.461	0.094	0.504	0.496	0.092	10	7710	0.162	0.106	0.115	2
Colombia	9	137	0.345	0.328	0.047	0.350	0.351	0.078	10	216	0.000	0.000	0.000	0
Denmark	10	1043	0.227	0.213	0.038	0.284	0.290	0.027	10	1282	0.073	0.072	0.031	3
Finland	10	460	0.364	0.382	0.053	0.418	0.420	0.046	10	1094	0.029	0.031	0.026	3
France	10	2329	0.327	0.331	0.065	0.291	0.306	0.053	10	5396	0.094	0.100	0.020	3
Germany	10	2794	0.244	0.259	0.055	0.240	0.248	0.047	10	5616	0.296	0.327	0.213	3
Greece	10	1828	0.425	0.425	0.112	0.467	0.452	0.110	10	1364	0.025	0.022	0.019	3
Hong Kong	10	5976	0.235	0.215	0.060	0.264	0.249	0.066	10	5026	0.036	0.041	0.010	1

Table 1 Sample Characteristics (Continued)

This table presents the summary statistics for the 44 sample countries from 1995 to 2004. **VW R^2** and **EW R^2** represent the R^2 from the expanded market model that includes value-weighted or equally-weighted industry returns, respectively. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. **Years** is the number of years in which there are at least 10 firms with valid data in each country. **N** is the number of firm-year observations in each country. **μ, Med**, and **σ** stands for the mean, median and standard deviation of the variables, respectively.

Country	VW R^2					EW R^2			ASF					IFRS
	Years	N	μ	Med	σ	μ	Med	σ	Years	N	μ	Med	σ	
India	10	5544	0.254	0.260	0.056	0.279	0.275	0.045	10	3384	0.005	0.006	0.005	0
Indonesia	10	1790	0.265	0.255	0.049	0.280	0.276	0.040	10	1878	0.000	0.000	0.001	0
Ireland	7	112	0.251	0.254	0.070	0.235	0.218	0.050	10	588	0.035	0.040	0.033	3
Israel	10	2290	0.281	0.283	0.053	0.288	0.283	0.056	10	575	0.307	0.367	0.215	0
Italy	10	1166	0.365	0.360	0.088	0.402	0.386	0.077	10	1846	0.907	0.903	0.048	3
Japan	10	28818	0.239	0.240	0.035	0.288	0.293	0.031	10	29962	0.013	0.012	0.005	0
Korea	10	8840	0.323	0.328	0.077	0.368	0.372	0.085	10	4549	0.001	0.000	0.002	0
Luxembourg	6	108	0.360	0.360	0.050	0.448	0.431	0.056	8	152	0.541	0.517	0.100	3
Malaysia	10	5884	0.426	0.456	0.111	0.482	0.514	0.109	10	5420	0.002	0.003	0.002	0
Mexico	10	338	0.378	0.361	0.075	0.426	0.416	0.091	10	973	0.012	0.012	0.006	0
Netherlands	10	763	0.336	0.336	0.065	0.382	0.367	0.056	10	1746	0.179	0.207	0.066	3
New Zealand	9	270	0.245	0.263	0.048	0.298	0.296	0.066	10	655	0.037	0.042	0.019	2
Norway	10	599	0.288	0.322	0.084	0.311	0.331	0.071	10	1224	0.057	0.056	0.011	3
Pakistan	10	1867	0.283	0.261	0.086	0.289	0.245	0.096	10	815	0.029	0.038	0.026	0
Peru	10	256	0.284	0.281	0.066	0.281	0.264	0.061	10	336	0.025	0.023	0.023	3

TABLE 1 Sample Characteristics (Continued)

This table presents the summary statistics for the 44 sample countries from 1995 to 2004. **VW R^2** and **EW R^2** represent the R^2 from the expanded market model that includes value-weighted or equally-weighted industry returns, respectively. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. **Years** is the number of years in which there are at least 10 firms with valid data in each country. **N** is the number of firm-year observations in each country. **μ, Med**, and **σ** stands for the mean, median and standard deviation of the variables, respectively.

Country	VW R^2					EW R^2			ASF					IFRS
	Years	N	μ	Med	σ	μ	Med	σ	Years	N	μ	Med	σ	
Philippines	10	878	0.265	0.260	0.052	0.246	0.237	0.042	10	1215	0.003	0.000	0.005	0
Poland	8	773	0.319	0.302	0.109	0.349	0.321	0.102	10	606	0.070	0.079	0.030	3
Portugal	10	193	0.369	0.362	0.075	0.407	0.403	0.063	10	537	0.016	0.000	0.033	3
Russian Federation	6	137	0.549	0.529	0.063	0.478	0.432	0.110	8	248	0.380	0.372	0.206	2
Singapore	10	2530	0.356	0.352	0.092	0.411	0.422	0.101	10	3254	0.031	0.026	0.022	0
South Africa	10	1791	0.245	0.239	0.045	0.254	0.244	0.043	10	1830	0.030	0.017	0.032	3
Spain	10	523	0.377	0.379	0.060	0.412	0.413	0.037	10	1116	0.008	0.009	0.008	3
Sri Lanka	10	733	0.421	0.403	0.049	0.420	0.416	0.050	7	91	0.000	0.000	0.000	1
Sweden	10	1473	0.305	0.311	0.070	0.344	0.334	0.078	10	2182	0.035	0.035	0.021	3
Switzerland	10	1450	0.278	0.269	0.053	0.331	0.328	0.035	10	1687	0.540	0.530	0.060	1
Thailand	10	2618	0.326	0.335	0.052	0.354	0.362	0.063	10	2770	0.001	0.000	0.002	0
Turkey	10	1675	0.440	0.442	0.066	0.473	0.479	0.065	10	1055	0.083	0.040	0.128	1
UK	10	12752	0.199	0.191	0.039	0.220	0.215	0.039	10	13930	0.006	0.005	0.005	3
USA	10	60256	0.122	0.118	0.019	0.114	0.110	0.018	10	76400	1.000	1.000	0.000	3
Total	10	203652	0.212	0.217	0.020	0.229	0.228	0.021	10	208939	0.410	0.413	0.053	

TABLE 2 Pearson Correlations

This table presents the summary statistics for the 44 sample countries from1995 to 2004. **VW R^2** and **EW R^2** represent the R^2 from the expanded market model that includes value-weighted or equally-weighted industry returns, respectively. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. **Legal Origin** is equal to 1 if the country is of common law origin and 0 otherwise. **Shareholder Protection** is equal to 1 if country's anti-director rights index is above sample median and o otherwise. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. p-values are reported in the parentheses.

	(a.)	(b.)	(c.)	(d.)	(e.)	(f.)	(g.)	(h.)	(i.)	(j.)	(k.)
(a.) VW R^2	1										
(b.) EW R^2	0.940 (<.0001)	1									
(c.) ASF	-0.136 (0.004)	-0.185 (<.0001)	1								
(d.) IFRS	-0.119 (0.012)	-0.084 (0.075)	0.345 (<.0001)	1							
(e.) Legal origin	-0.335 (<.0001)	-0.320 (<.0001)	0.066 (0.145)	-0.055 (0.213)	1						
(f.) Shareholder protection	-0.297 (<.0001)	-0.334 (<.0001)	-0.226 (<.0001)	-0.220 (<.0001)	0.613 (<.0001)	1					
(g.) Log (country size)	0.022 (0.652)	-0.066 (0.168)	-0.043 (0.348)	-0.344 (<.0001)	-0.109 (0.014)	0.041 (0.366)	1				
(h.) Log (number of stocks)	-0.393 (<.0001)	-0.374 (<.0001)	0.102 (0.027)	-0.261 (<.0001)	0.285 (<.0001)	0.374 (<.0001)	0.438 (<.0001)	1			
(i.) Log (GDP per capita)	-0.281 (<.0001)	-0.203 (<.0001)	0.210 (<.0001)	0.360 (<.0001)	-0.103 (0.020)	0.003 (0.951)	-0.527 (<.0001)	0.138 (0.003)	1		
(j.) Variance (GDP growth)	0.243 (<.0001)	0.246 (<.0001)	-0.066 (0.141)	0.038 (0.389)	-0.171 (<.0001)	-0.191 (<.0001)	-0.044 (0.312)	-0.085 (0.063)	-0.069 (0.115)	1	
(k.) Herfindahl Index	0.344 (<.0001)	0.256 (<.0001)	0.304 (<.0001)	0.267 (<.0001)	0.044 (0.314)	-0.268 (<.0001)	-0.217 (<.0001)	-0.553 (<.0001)	-0.237 (<.0001)	0.065 (0.135)	1

TABLE 3 Determinants of Information Content of Stock Prices – Accounting Standards

This table provides the results of the Fama-Macbeth regression analysis to assess the effect of accounting standards. $VW\Psi_j$ ($EW\Psi_j$) is the logistic transformation of the R^2 from the expanded market model that include value-weighted (equally-weighted) industry returns for a country in each year. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. Coefficients are estimated by the Fama-Macbeth (1973) method, with the Pontiff (1996) adjusted t-statistics reported under each coefficient. All numbers are rounded.

Logistic(R^2)	$VW\Psi_j$	$EW\Psi_j$	$VW\Psi_j$	$EW\Psi_j$
Intercept	-1.66*	-1.128	-1.382**	-0.410
	(-2.07)	(-1.73)	(-3.10)	(-1.38)
ASF	-0.220***	-0.386***		
	(-8.14)	(-11.54)		
IFRS			-0.062***	-0.052**
			(-4.10)	(-2.97)
Log(number of stocks)	-0.199***	-0.168***	-0.221***	-0.191***
	(-8.80)	(-4.48)	(-6.53)	(-3.84)
Log(country size)	0.098***	0.061**	0.089***	0.038***
	(4.09)	(2.85)	(7.83)	(3.39)
Variance (GDP growth)	24.104**	24.422**	24.934***	25.207**
	(3.01)	(2.73)	(3.39)	(3.03)
Log(GDP per capita)	-0.002	0.003	0.006	-0.011
	(-0.07)	(0.10)	(0.35)	(-0.71)
Herfindahl Index	1.462**	1.561*	1.363**	1.129
	(2.75)	(1.90)	(2.50)	(1.47)
Average adjusted R^2	0.310	0.261	0.329	0.255
Sample size	421	421	425	425

***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4 Determinants of Information Content of Stock Prices – Incremental Effect of Reporting Incentives with ASF as the Accounting Standards Measure

This table provides the results of the Fama-Macbeth regression analysis to assess the incremental effect of reporting incentives. $VW\Psi_j$ ($EW\Psi_j$) is the logistic transformation of the R^2 from the expanded market model that include value-weighted (equally-weighted) industry returns for a country in each year. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. Institution is measured either by Legal Origin or Investor Protection; where **Legal Origin** is equal to 1 if the country is of common law origin and 0 otherwise; and **Investor Protection** is equal to 1 if country's anti-director rights index is above sample median and 0 otherwise. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. Coefficients are estimated by the Fama-Macbeth (1973) method, with the Pontiff (1996) adjusted t-statistics reported under each coefficient. All numbers are rounded.

Logistic(R^2)	$VW\Psi_j$	$VW\Psi_j$	$EW\Psi_j$	$EW\Psi_j$
	Legal Origin	Shareholder Protection	Legal Origin	Shareholder Protection
Intercept	-0.558	-1.682*	0.058	-1.134*
	(-1.39)	(-2.09)	(0.15)	(-1.87)
ASF	-0.026	-0.029	-0.136	-0.211
	(-0.34)	(-0.40)	(-1.52)	(-1.75)
ASF*Institution	-0.347*	-0.593***	-0.469**	-0.629***
	(-2.04)	(-6.67)	(-3.18)	(-5.66)
Institution	-0.187**	-0.079	-0.195**	-0.111
	(-2.58)	(-1.25)	(-2.37)	(-1.20)
Log (number of stocks)	-0.123***	-0.155***	-0.086	-0.118*
	(-4.29)	(-4.39)	(-1.64)	(-2.06)
Log (country size)	0.045***	0.091***	0.003	0.051**
	(3.59)	(4.25)	(0.16)	(2.79)
Variance (GDP growth)	20.665**	22.803**	20.700**	22.361**
	(3.06)	(3.07)	(2.85)	(3.13)
Log (GDP per capita)	-0.061***	-0.010	-0.060***	0.005
	(-3.50)	(-0.26)	(-3.88)	(-0.18)
Herfindahl Index	1.347**	1.476**	1.360	1.603
	(2.52)	(2.66)	(1.74)	(1.72)
Average adjusted R^2	0.317	0.309	0.272	0.271
Sample size	421	421	421	421
H_0:$\beta_1+\beta_2=0$	-0.373***	-0.622***	-0.604***	-0.840***
	(-3.81)	(-19.44)	(-10.39)	(-29.73)

***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 5 Determinants of Information Content of Stock Prices – Incremental Effect of Reporting Incentive with IFRS as the Accounting Standards Measure

This table provides the results of the Fama-Macbeth regression analysis to assess the incremental effect of reporting incentives. $VW\Psi_j$ ($EW\Psi_j$) is the logistic transformation of the R^2 from the expanded market model that include value-weighted (equally-weighted) industry returns for a country in each year. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. Institution is measured either by Legal Origin or Investor Protection; where **Legal Origin** is equal to 1 if the country is of common law origin and 0 otherwise; and **Investor Protection** is equal to 1 if country's anti-director rights index is above sample median and 0 otherwise. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. Coefficients are estimated by the Fama-Macbeth (1973) method, with the Pontiff (1996) adjusted t-statistics reported under each coefficient. All numbers are rounded.

Logistic(R^2)	$VW\Psi_j$ Legal Origin	$VW\Psi_j$ Shareholder Protection	$EW\Psi_j$ Legal Origin	$EW\Psi_j$ Shareholder Protection
Intercept	-0.933***	-1.429***	0.091	-0.470*
	(-4.16)	(-3.71)	(0.49)	(-1.89)
IFRS	-0.016	-0.019	0.003	-0.004
	(-1.17)	(-1.76)	(0.16)	(-0.37)
IFRS*Institution	-0.136***	-0.110***	-0.164***	-0.123***
	(-10.86)	(-5.68)	(-25.06)	(-8.20)
Institution	0.001	0.045	0.009	0.060
	(0.01)	(0.49)	(0.15)	(0.69)
Log (number of stocks)	-0.165***	-0.197***	-0.127**	-0.169**
	(-4.20)	(-4.84)	(-2.27)	(-2.90)
Log (country size)	0.063***	0.085***	0.009	0.035**
	(7.10)	(8.52)	(0.53)	(2.59)
Variance (GDP growth)	20.827**	21.846**	20.324**	21.768**
	(3.13)	(3.08)	(2.90)	(3.07)
Log (GDP per capita)	-0.028	0.001	-0.049**	-0.015
	(-1.62)	(0.06)	(-2.73)	(-0.96)
Herfindahl Index	1.264**	1.413**	1.002	1.126
	(2.50)	(3.22)	(1.50)	(1.64)
Average adjusted R^2	0.352	0.337	0.293	0.266
Sample size	425	425	425	425
H_0:$\beta_1+\beta_2=0$	-0.152***	-0.129***	-0.161***	-0.127***
	(-8.63)	(-6.28)	(-10.73)	(-6.51)

***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 6 Determinants of Information Content of Stock Prices – Incremental Effect of Reporting Incentives, with EU Countries or the U.S. Removed

This table provides the results of the Fama-Macbeth regression analysis with the EU countries or US removed to assess the incremental effect of reporting incentives. $VW\Psi_j$ ($EW\Psi_j$) is the logistic transformation of the R^2 from the expanded market model that include value-weighted (equally-weighted) industry returns for a country in each year. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. Institution is measured either by Legal Origin or Investor Protection; where **Legal Origin** is equal to 1 if the country is of common law origin and 0 otherwise; and **Investor Protection** is equal to 1 if country's anti-director rights index is above sample median and 0 otherwise. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. Coefficients are estimated by the Fama-Macbeth (1973) method, with the Pontiff (1996) adjusted t-statistics reported under each coefficient. All numbers are rounded.

Logistic (R^2)	$VW\Psi_j$ Legal Origin	$VW\Psi_j$ Shareholder Protection	$EW\Psi_j$ Legal Origin	$EW\Psi_j$ Shareholder Protection
Panel A: European Union countries excluded, IFRS as accounting standards proxy				
IFRS	-0.015	0.063*	-0.003	0.050
	(-0.60)	(2.23)	(-0.11)	(1.66)
IFRS*Institution	-0.135***	-0.236***	-0.172***	-0.228***
	(-11.84)	(-12.76)	(-8.04)	(-7.91)
Institution	-0.087	0.030	-0.030	0.044
	(-1.18)	(0.30)	(-0.41)	(0.44)
Average adjusted R^2	0.324	0.346	0.172	0.185
H_0:$\beta_1+\beta_2=0$	-0.150***	-0.174***	-0.175***	-0.178***
	(-7.30)	(-9.15)	(-11.62)	(-11.37)
Panel B: USA excluded, ASF as accounting standards proxy				
ASF	-0.030	-0.042	-0.140	-0.225*
	(-0.38)	(-0.57)	(-1.54)	(-1.91)
ASF*Institution	-0.305	-5.106**	-0.637	-4.946***
	(-0.32)	(-3.09)	(-0.73)	(-4.56)
Institution	-0.205**	0.010	-0.205*	-0.023
	(-2.59)	(0.11)	(-2.23)	(-0.32)
Average adjusted R^2	0.254	0.249	0.175	0.181
H_0:$\beta_1+\beta_2=0$	-0.335	-5.148**	-0.777	-5.171***
	(-0.36)	(-3.17)	(-0.92)	(-4.69)
Panel C: USA excluded, IFRS as accounting standards proxy				
IFRS	-0.015	-0.018	0.005	-0.003
	(-1.09)	(-1.72)	(0.28)	(-0.28)
IFRS*Institution	-0.124***	-0.094***	-0.143***	-0.097***
	(-10.80)	(-4.53)	(-23.61)	(-5.42)
Institution	0.004	0.031	0.015	0.036
	(0.07)	(0.33)	(0.25)	(0.39)
Average adjusted R^2	0.283	0.271	0.201	0.181
H_0:$\beta_1+\beta_2=0$	-0.139***	-0.113***	-0.138***	-0.100***
	(-8.31)	(-5.07)	(-9.26)	(-4.52)

***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 7 Factor Analysis

The table provides the factor analysis loading of five institutional variables from La Porta et al. (1998): **Legal Origin** takes a value of 1 for if a country is of common-law origin and a value of 0 otherwise; **Anti-director Rights index** ranges from zero to six; **Rule of Law** ranges from zero to ten; **Judicial Efficiency** ranges from zero to ten; and the **Government Corruption index** ranges from zero to ten.

	Factor Pattern		Factor Pattern: Varimax Rotation	
	Factor 1	Factor2	Factor 1 (*Legal Enforcement*)	Factor 2 (*Investor Protection*)
Legal Origin	0.1706	0.6977	0.0279	0.7177
Anti-director Rights	0.2082	0.6542	0.0734	0.6826
Rule of Law	0.8267	-0.2998	0.8699	-0.1287
Judicial Efficiency	0.8433	0.0816	0.8100	0.2483
Government Corruption	0.9391	-0.0812	0.9364	0.1080
Eigenvalue	2.3490	1.0178		

TABLE 8 Determinants of Information Content of Stock Prices – Incremental Effect of Reporting Incentives, Proxied by Legal Enforcement and Investor Protection

This table provides the results of the Fama-Macbeth regression analysis to assess the incremental effect of reporting incentives, based on the two significant factors from the factor analysis. $VW\Psi_j$ ($EW\Psi_j$) is the logistic transformation of the R^2 from the expanded market model that include value-weighted (equally-weighted) industry returns for a country in each year. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively, as of March 2005. Institution is measured either by High Legal Enforcement or High Investor Protection; where **High Legal Enforcement** is equal to 1 if the country's Legal Enforcement is above sample median and 0 otherwise; and **High Investor Protection** is equal to 1 if country's Investor Protection above sample median and 0 otherwise. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. Coefficients are estimated by the Fama-Macbeth (1973) method, with the Pontiff (1996) adjusted t-statistics reported under each coefficient. All numbers are rounded.

Logistic(R^2)	$VW\Psi_j$	$VW\Psi_j$	$EW\Psi_j$	$EW\Psi_j$
	High Legal Enforcement	High Investor Protection	High Legal Enforcement	High Investor Protection
Panel A: ASF as accounting standards proxy				
ASF	0.041	-0.169*	-0.005	-0.327***
	(0.42)	(-2.11)	(-0.05)	(-3.95)
ASF*Institution	-0.373***	-0.155	-0.549***	-0.184
	(-4.99)	(-0.86)	(-7.12)	(-1.14)
Institution	-0.238***	-0.186***	-0.201***	-0.233**
	(-5.34)	(-3.28)	(-4.31)	(-2.63)
Average adjusted R^2	0.310	0.320	0.275	0.297
H0:β1+β2=0	-0.332***	-0.323**	-0.554***	-0.511***
	(-5.11)	(-2.88)	(-9.69)	(-5.60)
Panel B: IFRS as accounting standards proxy				
IFRS	-0.022	-0.037**	-0.008	-0.026*
	(-1.07)	(-3.14)	(-0.50)	(-1.89)
IFRS*Institution	-0.103***	-0.108***	-0.121***	-0.121***
	(-8.14)	(-6.04)	(-9.52)	(-7.89)
Institution	0.038	-0.047	0.084	-0.066
	(0.43)	(-0.83)	(1.00)	(-1.12)
Average adjusted R^2	0.353	0.394	0.293	0.345
H0:β1+β2=0	-0.125***	-0.146***	-0.130***	-0.147***
	(-6.96)	(-8.03)	(-6.61)	(-10.25)

***, **, * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 9 Determinants of Information Content of Stock Prices –Incremental Effect of Reporting Incentives, for Alternative Sample Periods

This table provides the results of the Fama-Macbeth regression analysis to assess the incremental effect of reporting incentives using alternative sample periods. $VW\Psi_j$ ($EW\Psi_j$) is the logistic transformation of the R^2 from the expanded market model that include value-weighted (equally-weighted) industry returns for a country in each year. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively as of Feb 2005. Institution is measured either by Legal Origin or Investor Protection; where **Legal Origin** is equal to 1 if the country is of common law origin and 0 otherwise; and **Investor Protection** is equal to 1 if country's anti-director rights index is above sample median and 0 otherwise. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. Coefficients are estimated by the Fama-Macbeth (1973) method, with the Pontiff (1996) adjusted t-statistics reported under each coefficient. All numbers are rounded.

Logistic(R^2)	$VW\Psi_j$		$EW\Psi_j$	
	Legal Origin	Shareholder Protection	Legal Origin	Shareholder Protection
Panel A: ASF as accounting standards proxy,(1990-2004)				
ASF	0.043	0.028	-0.125	-0.186**
	(0.57)	(0.44)	(-1.79)	(-2.33)
ASF*Institution	-0.494**	-0.685***	-0.530***	-0.638***
	(-2.47)	(-5.45)	(-3.62)	(-5.81)
Institution	-0.187***	-0.056	-0.146**	-0.083
	(-4.18)	(-1.20)	(-2.28)	(-1.25)
Average adjusted R^2	0.268	0.258	0.210	0.209
H0:β1+β2=0	-0.451**	-0.657***	-0.655***	-0.823***
	(-3.22)	(-7.63)	(-6.77)	(-13.31)
Panel B: ASF as accounting standards proxy,(2000-2004)				
ASF	-0.082	-0.084	-0.192	-0.339
	(-0.51)	(-0.50)	(-0.91)	(-1.64)
ASF*Institution	-0.115	-0.523**	-0.294	-0.533**
	(-0.56)	(-2.95)	(-1.24)	(-2.39)
Institution	-0.259**	-0.121	-0.273**	-0.221***
	(-2.81)	(-1.60)	(-2.84)	(-3.37)
Average adjusted R^2	0.375	0.365	0.334	0.340
H0:β1+β2=0	-0.197***	-0.607***	-0.486***	-0.872***
	(-4.89)	(-13.32)	(-12.33)	(-16.70)

***, **, * indicate statistical significance at 1%, 5%, and 10%, respectively

TABLE 9 Determinants of Information Content of Stock Prices –Incremental Effect of Reporting Incentives for Alternative Sample Periods (Continued)

This table provides the results of the Fama-Macbeth regression analysis to assess the incremental effect of reporting incentives using alternative sample periods. $VW\Psi_j$ ($EW\Psi_j$) is the logistic transformation of the R^2 from the expanded market model that include value-weighted (equally-weighted) industry returns for a country in each year. **ASF** is the proportion of firms adopting IFRS/US GAAP in each country by year, based on the data item "accounting standards followed" in Worldscope. **IFRS** is the level of IFRS usage by listed firms in each country as reported in Deloitte (2005), a score of 3, 2, 1, or 0 indicates that the use of IFRS is required for all firms, required for some firms, permitted, or not allowed, respectively as of Feb 2005. Institution is measured either by Legal Origin or Investor Protection; where **Legal Origin** is equal to 1 if the country is of common law origin and 0 otherwise; and **Investor Protection** is equal to 1 if country's anti-director rights index is above sample median and 0 otherwise. **Log(number of stocks)** is the logarithm of the number of listed firms. **Log(country size)** is the logarithm of a country's population. **Variance (GDP growth)** is the variance of annual GDP growth rates. **Log(GDP per capita)** is the logarithm of per capita GDP. **Herfindahl Index** is calculated based on industry sales. Coefficients are estimated by the Fama-Macbeth (1973) method, with the Pontiff (1996) adjusted t-statistics reported under each coefficient. All numbers are rounded.

Logistic(R^2)	$VW\Psi_j$		$EW\Psi_j$	
	Legal Origin	Shareholder Protection	Legal Origin	Shareholder Protection
Panel C: IFRS as accounting standards proxy, (1990-2004)				
IFRS	-0.066	-0.072	-0.045	-0.055
	(-1.26)	(-1.63)	(-1.09)	(-1.50)
IFRS*Institution	-0.126***	-0.098***	-0.150***	-0.102***
	(-6.99)	(-5.10)	(-8.25)	(-6.51)
Institution	0.056	0.099	0.098	0.097
	(0.99)	(1.19)	(1.45)	(1.42)
Average adjusted R^2	0.319	0.307	0.238	0.215
H0:β1+β2=0	-0.193***	-0.170***	-0.196***	-0.157***
	(-5.98)	(-4.71)	(-7.32)	(-5.76)
Panel D: IFRS as accounting standards proxy, (2000-2004)				
IFRS	-0.001	-0.017	0.030*	0.007
	(-0.04)	(-0.84)	(2.25)	(0.41)
IFRS*Institution	-0.124***	-0.074***	-0.165***	-0.095***
	(-5.10)	(-4.72)	(-22.87)	(-5.43)
Institution	-0.052	-0.046	-0.040	-0.066
	(-0.54)	(-0.85)	(-0.47)	(-1.25)
Average adjusted R^2	0.401	0.373	0.343	0.302
H0:β1+β2=0	-0.125***	-0.091***	-0.135***	-0.088***
	(-6.26)	(-8.59)	(-10.47)	(-15.47)

***, **, * indicate statistical significance at 1%, 5%, and 10%, respectively

FIGURE 1 R-Square around the World

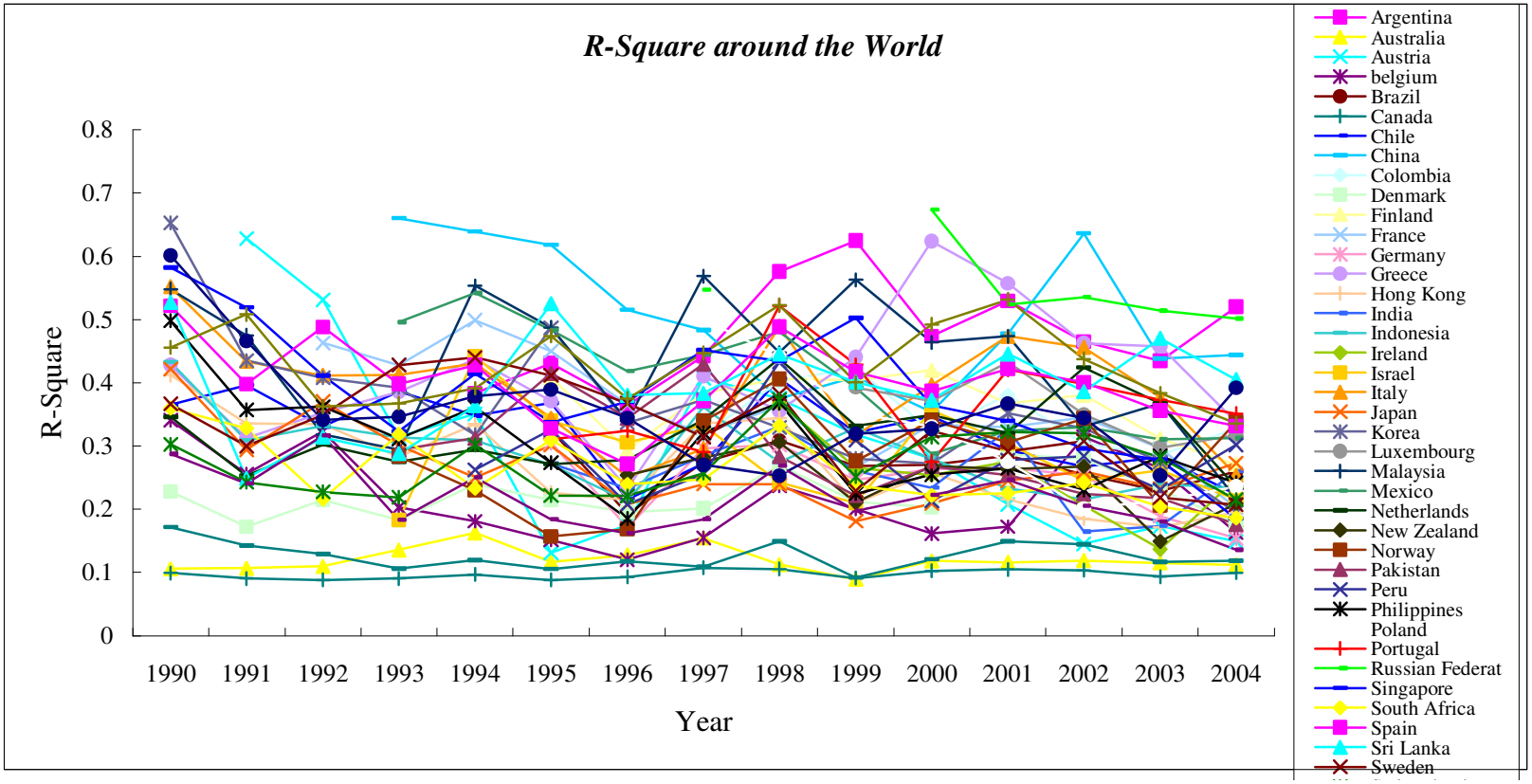

FIGURE 2 Five Highest/ Lowest R-Square Markets

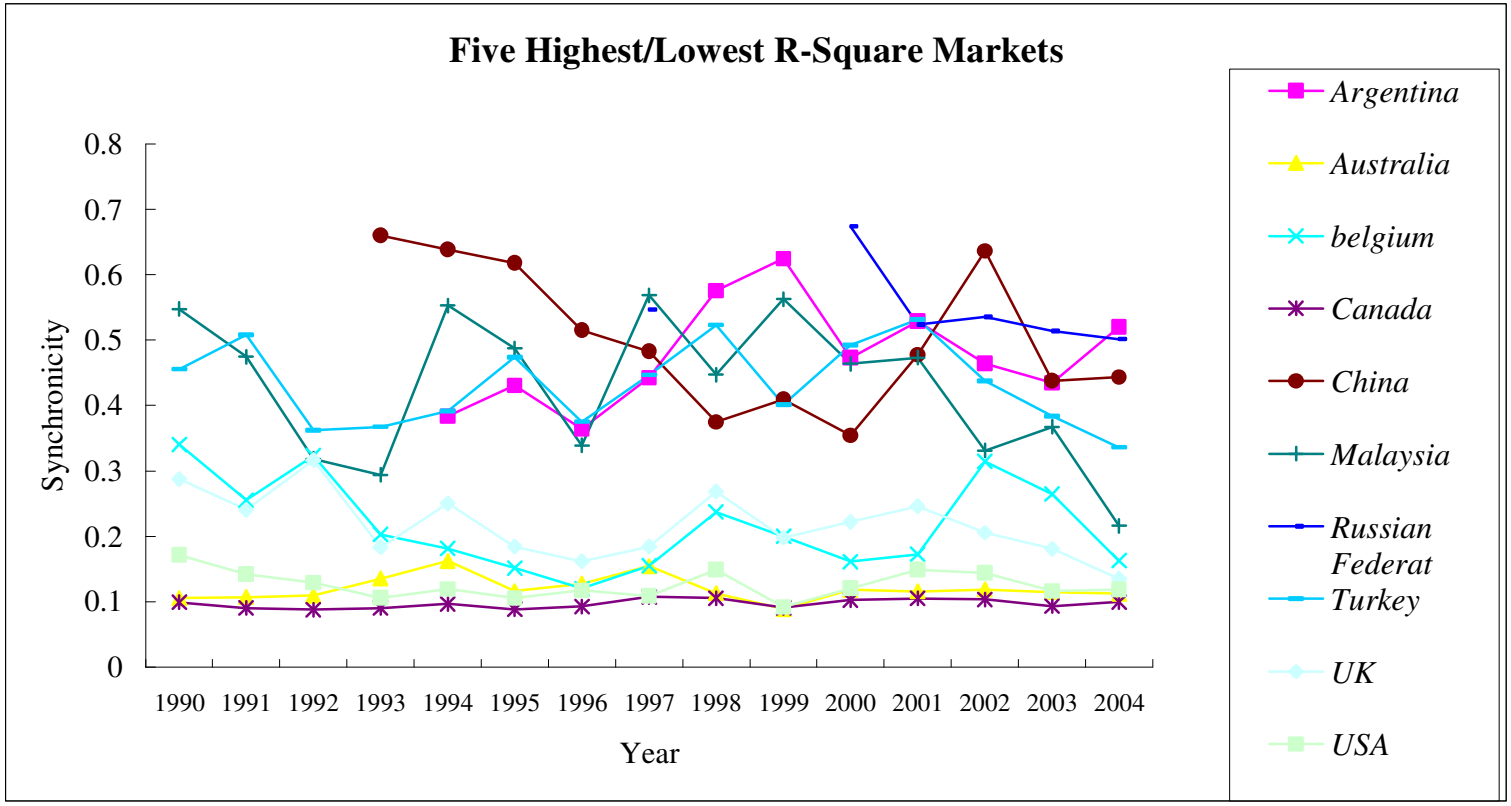

TABLE 10 Factor Analysis

This table provides the factor analysis loading of eleven variables (both external and internal governance mechanisms) from La Porta et al. (1998, 2006), Bhattacharya and Daouk (2002), and the percentage of closely-held shares from Worldscope. **Legal Origin** takes a value of 1 for if a country is of common-law origin and a value of 0 otherwise; **Anti-director Rights index** ranges from zero to six; **Rule of Law** ranges from zero to ten; **Judicial Efficiency** ranges from zero to ten; **Good Government** ranges from zero to thirty, equal to the sum of a country's corruption index, risk of expropriation index, and risk of contract repudiation index, from La Porta et al. (1998). **Insider Trading** is the insider trading law enforcement index from Bhattacharya and Daouk (2002). **Disclosure Requirement, Liability Standard,** and **Public Enforcement** each ranging from zero to one are from La Porta et al. (2006). Φ is the decile rank of the percentage of closely-held shares; and **DA** is the value-weighted debt assets ratio for a country in a year; both from Worldscope.

	Factor Pattern	Factor Pattern: Varimax Rotation	Factor Pattern	Factor Pattern: Varimax Rotation
	External Governance	External Governance	Overall Governance	Overall Governance (Joint-effect of Internal & External)
Anti-director Rights	0.48429	0.05292	0.41840	0.05408
Legal Origin	0.46491	0.3474	0.41510	0.03640
Good Government	0.77325	0.96577	0.81037	0.97759
Rule of Law	0.68585	0.88454	0.72464	0.90433
Efficiency of Judicial System	0.72012	0.79165	0.76070	0.80978
Insider Trading	0.36829	0.24919	0.33563	0.24220
Disclosure Requirement	0.61383	0.12845	0.56134	0.14370
Liability Standard	0.47584	0.10894	0.42368	0.11903
Public Enforcement	0.22631	-0.25396	0.16611	-0.24222
Φ			-0.52523	-0.45425
DA			0.04289	-0.04069
Eigenvalue	2.8276406		3.02040381	

TABLE 11 Sample Characteristics

This table presents the summary statistics for the 41 sample countries from 1994 to 2004. **R** is the real term U.S. dollar return; **Return Volatility** is the standard deviation of daily market return multiplied by the square root of 250; **World Return** is the value-weighted average return of the world portfolio; all obtained from Datastream. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **GG** is the good government index, equal to the sum of a country's corruption index, risk of expropriation index, and risk of contract repudiation index; **RL** is the rule of law index; **JE** is the level of judicial efficiency**;** all obtained from La Porta et al. (1998). **Closely-Held** is the percentage of closely-held shares, with a higher rank indicating a higher inside ownership; **DA** is the value-weighted debt to assets ratio in a country; **Log(BM)** is the logarithm of value-weighted book to market ratio; all obtained from Worldscope. **GDPPPCG** is the per capita GDP growth in U.S. dollar; **Size** is the logarithm of a country's market capitalization; All numbers are rounded.

VARIABLE	MEAN	STD	MAX	Q3	MEDIAN	Q1	MIN
R	7.772	33.800	139.187	25.606	5.607	-17.026	-57.648
Return Volatility	23.018	13.207	136.472	25.859	19.741	15.315	7.695
External Governance	0.051	0.974	1.259	0.979	0.278	-0.798	-2.005
GG	23.537	5.165	29.96	27.93	24.85	18.97	12.94
RL	7.194	2.637	10.00	10.00	7.80	5.35	1.90
JE	7.817	2.182	10.00	10.00	8.00	6.00	2.50
Closely-Held	43.169	16.857	80.270	55.561	44.340	31.949	3.929
DA	30.446	8.690	64.970	35.527	30.077	24.442	12.000
Overall Governance	-0.005	0.993	1.214	0.881	0.158	-0.939	-2.081
GDPPCG	2.255	3.136	16.236	3.671	2.439	1.022	-14.296
World Return	8.031	18.561	34.764	19.576	11.330	-16.501	-18.462
Log(BM)	-0.263	0.489	2.537	-0.063	-0.327	-0.546	-1.248
Size	11.741	1.733	16.625	12.845	11.724	10.570	6.979

TABLE 12 Sample Characteristics by Country

This table presents the summary statistics for each of the 41 sample countries from 1994 to 2004. **Geometric Return** is the geometric mean of real term US dollar return; **Arithmetic Return** is the arithmetic mean of real term US dollar return; **Return Volatility** is the standard deviation of daily returns multiplied by the square root of 250; all from Datastream. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **GG** is the good government index, equal to the sum of a country's corruption index, risk of expropriation index, and risk of contract repudiation index; **RL** is the rule of law index; **JE** is the level of judicial efficiency**;** all from La Porta et al. (1998). Φ is the decile rank of the percentage of closely-held shares, with a higher rank indicating a higher ownership. **DA** is the value-weighted debt to assets ratio in a country; both obtained from Worldscope. **μ, Med**, and **σ** stands for the mean, median and standard deviation of the variables, respectively.

Country	Geometric Return	Arithmetic Return			Return Volatility			External Governance	GG	RL	JE	Φ		DA	Overall Governance
		μ	Med	σ	μ	Med	σ					μ	N		
Argentina	-6.04	1.99	-3.11	47.09	31.43	27.92	9.62	-1.17	16.84	5.35	6	6.73	142	35.23	-1.26
Australia	6.31	7.59	6.42	17.74	16.53	15.76	2.67	0.74	26.5	10	10	3.87	7669	28.89	0.69
Austria	5.84	8.08	-1.36	24.57	13.81	13.99	2.49	0.99	27.86	10	9.5	7.39	596	33.35	0.83
Belgium	7.56	10.23	10.26	25.93	15.35	16.35	4.48	0.88	27.93	10	9.5	6.34	1183	26.60	0.84
Brazil	0.14	7.80	-4.51	43.67	31.37	32.12	7.81	-0.54	20.24	6.32	5.75	7.03	1200	25.65	-0.65
Canada	9.11	11.14	14.28	22.50	15.13	14.27	4.85	1.02	28.63	10	9.25	4.28	3714	37.76	1.00
Chile	2.61	6.64	-3.06	32.30	16.16	15.38	3.79	-0.62	19.6	7.02	7.25	7.75	863	31.92	-0.71
Colombia	-2.85	2.49	1.92	36.15	16.00	15.13	3.83	-0.80	18.97	2.08	7.25	7.19	79	17.22	-0.95
Denmark	10.09	11.71	6.46	20.14	15.90	15.64	4.02	1.08	28.98	10	10	4.50	1352	25.70	1.06
Finland	15.09	24.31	12.02	53.13	30.50	25.31	12.56	1.08	28.82	10	10	3.13	1132	29.55	1.07
France	6.33	8.50	8.24	22.34	18.09	16.48	5.34	0.78	27.89	8.98	8	5.06	5965	29.33	0.72
Germany	4.03	6.46	11.82	23.77	18.22	18.41	5.17	0.98	28.6	9.23	9	5.48	4974	24.94	0.91
Greece	9.85	17.28	9.49	42.47	24.60	22.59	9.12	-0.41	21.01	6.18	7	7.58	746	27.93	-0.49
Hong Kong	-0.61	3.55	-13.36	31.90	24.67	24.70	8.86	0.51	25.63	8.22	10	6.18	6164	27.53	0.46

TABLE 12 Sample Characteristics by Country (Continued)

This table presents the summary statistics for each of the 41 sample countries from 1994 to 2004. **Geometric Return** is the geometric mean of real term US dollar return; **Arithmetic Return** is the arithmetic mean of real term US dollar return; **Return Volatility** is the standard deviation of daily returns multiplied by the square root of 250; all from Datastream. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **GG** is the good government index, equal to the sum of a country's corruption index, risk of expropriation index, and risk of contract repudiation index; **RL** is the rule of law index; **JE** is the level of judicial efficiency**;** all from La Porta et al. (1998). Φ is the decile rank of the percentage of closely-held shares, with a higher rank indicating a higher ownership. **DA** is the value-weighted debt to assets ratio in a country; both obtained from Worldscope. **μ, Med**, and **σ** stands for the mean, median and standard deviation of the variables, respectively.

Country	Geometric Return	Arithmetic Return			Return Volatility			External Governance	GG	RL	JE	Φ		DA	Overall Governance
		μ	Med	σ	μ	Med	σ					μ	N		
India	2.78	10.11	3.03	45.35	24.52	22.02	5.84	-0.88	18.44	4.17	8	6.78	1093	34.25	-0.94
Indonesia	-5.54	3.55	17.70	42.26	37.98	31.40	25.43	-1.62	15.4	3.98	2.5	8.24	2323	47.68	-1.71
Ireland	11.19	13.15	22.19	21.63	16.32	14.86	4.46	0.77	27.15	7.8	8.75	2.53	739	35.69	0.68
Israel	2.30	6.09	-1.58	30.37	23.19	23.04	4.68	0.20	24.12	4.82	10	6.26	546	33.21	0.12
Italy	7.27	9.68	3.94	23.87	20.61	21.64	4.70	0.15	24.65	8.33	6.75	6.03	1851	30.94	0.10
Japan	-2.17	2.56	-3.92	34.89	21.65	22.24	5.02	0.83	27.88	8.98	10	5.25	24089	39.96	0.83
Korea	2.51	17.92	18.18	63.73	37.30	32.94	17.72	-0.40	22.2	5.35	6	4.92	4352	42.85	-0.40
Malaysia	-5.09	2.10	1.47	42.12	25.95	20.56	18.89	-0.06	22.76	6.78	9	6.85	6183	32.71	-0.12
Mexico	0.18	6.04	10.76	36.74	27.10	24.88	10.79	-0.91	18.61	5.35	6	6.56	204	26.60	-1.01
Netherlands	5.71	7.32	11.25	18.53	17.35	17.58	6.14	1.16	29.33	10	10	4.48	1732	22.30	1.15
New Zealand	4.14	6.35	8.58	22.49	16.85	17.71	3.77	1.18	28.98	10	10	8.00	701	35.95	1.04
Norway	8.39	11.06	8.88	25.06	18.27	18.46	5.05	1.21	29.59	10	10	6.12	1263	29.92	1.15
Pakistan	-3.62	4.23	-9.27	42.77	28.38	28.54	9.16	-1.75	13.47	3.03	5	8.46	318	37.18	-1.91

TABLE 12 Sample Characteristics by Country (Continued)

This table presents the summary statistics for each of the 41 sample countries from 1994 to 2004. **Geometric Return** is the geometric mean of real term US dollar return; **Arithmetic Return** is the arithmetic mean of real term US dollar return; **Return Volatility** is the standard deviation of daily returns multiplied by the square root of 250; all from Datastream. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **GG** is the good government index, equal to the sum of a country's corruption index, risk of expropriation index, and risk of contract repudiation index; **RL** is the rule of law index; **JE** is the level of judicial efficiency**;** all from La Porta et al. (1998). Φ is the decile rank of the percentage of closely-held shares, with a higher rank indicating a higher ownership. **DA** is the value-weighted debt to assets ratio in a country; both obtained from Worldscope. **μ, Med**, and **σ** stands for the mean, median and standard deviation of the variables, respectively.

Country	Geometric Return	Arithmetic Return			Return Volatility			External Governance	GG	RL	JE	Φ		DA	Overall Governance
		μ	Med	σ	μ	Med	σ					μ	N		
Peru	4.28	7.58	4.40	26.97	17.95	17.01	7.04	-1.50	14.92	2.5	6.75	6.57	146	24.98	-1.57
Philippines	-9.66	-4.81	8.96	28.90	23.79	21.80	9.61	-2.00	12.94	2.73	4.75	7.93	1137	35.68	-2.06
Portugal	6.22	8.47	11.50	22.90	15.42	15.32	4.62	0.28	24.85	8.68	5.5	6.07	554	35.48	0.15
Singapore	-2.93	1.64	-7.15	35.03	19.68	17.50	7.52	0.61	26.38	8.57	10	7.45	3594	25.70	0.56
South Africa	4.98	9.12	3.17	31.46	21.72	21.83	6.31	-0.15	23.07	4.42	6	6.46	2251	17.83	-0.23
Spain	9.43	11.95	18.80	24.86	18.62	18.19	4.71	0.31	25.3	7.8	6.25	5.25	1322	34.54	0.25
Sri Lanka	-4.04	-0.91	-4.41	25.95	21.03	19.35	6.36	-1.34	16.3	1.9	7	4.27	175	24.49	-1.37
Sweden	10.72	14.88	16.76	31.46	23.20	19.60	7.94	1.10	28.98	10	10	3.53	2015	26.03	1.07
Switzerland	7.21	9.03	4.57	20.68	16.13	15.33	3.93	1.22	29.96	10	10	3.60	2057	26.77	1.21
Thailand	-6.67	3.60	0.35	50.93	32.48	27.51	14.14	-0.78	20.17	6.25	3.25	5.06	2490	51.09	-0.84
Turkey	-1.02	16.25	-4.39	67.83	54.13	51.71	14.98	-1.06	18.13	5.18	4	8.33	1292	25.87	-1.17
UK	4.28	5.66	13.70	17.35	15.03	14.71	4.23	1.00	28.44	8.57	10	2.16	20816	22.48	0.99
USA	7.57	9.41	18.37	20.32	16.33	16.73	5.94	0.86	27.61	10	10	2.44	83635	30.78	0.88
Venezuela	-9.40	-1.18	-19.51	44.67	45.00	32.08	34.96	-0.87	17.89	6.37	6.5	6.82	18	15.76	-1.01

TABLE 13 Pearson Correlations

	(a.)	(b.)	(c.)	(d.)	(e.)	(f.)	(g.)	(h.)	(i.)	(j.)	(k.)	(l.)	(m.)
(a.) R	1												
(b.) Return Volatility	-0.173 (0.000)	1											
(c.) External Governance	0.065 (0.168)	-0.362 (<.0001)	1										
(d.) GG	0.069 (0.147)	-0.350 (<.0001)	0.997 (<.0001)	1									
(e.) RL	0.062 (0.191)	-0.269 (<.0001)	0.918 (<.0001)	0.913 (<.0001)	1								
(f.) JE	0.030 (0.528)	-0.396 (<.0001)	0.827 (<.0001)	0.796 (<.0001)	0.686 (<.0001)	1							
(g.) Closely-Held	-0.037 (0.442)	0.202 (<.0001)	-0.516 (<.0001)	-0.526 (<.0001)	-0.428 (<.0001)	-0.443 (<.0001)	1						
(h.) DA	-0.049 (0.297)	0.193 (<.0001)	-0.129 (0.006)	-0.103 (0.029)	-0.020 (0.679)	-0.275 (<.0001)	0.064 (0.180)	1					
(i.) Overall Governance	0.060 (0.205)	-0.378 (<.0001)	0.999 (<.0001)	0.997 (<.0001)	0.920 (<.0001)	0.832 (<.0001)	-0.539 (<.0001)	-0.147 (0.002)	1				
(j.) GDPPCG	0.445 (<.0001)	-0.158 (0.001)	-0.001 (0.986)	0.000 (0.996)	-0.020 (0.666)	0.017 (0.720)	-0.080 (0.090)	-0.020 (0.673)	-0.002 (0.967)	1			
(k.) World Return	0.535 (<.0001)	-0.067 (0.157)	0.000 (0.998)	0.000 (1.000)	0.000 (1.000)	0.000 (1.000)	0.022 (0.646)	-0.094 (0.046)	0.001 (0.982)	0.255 (<.0001)	1		
(l.) Log (BM)	0.017 (0.717)	0.010 (0.830)	0.080 (0.090)	0.075 (0.112)	0.036 (0.450)	0.073 (0.124)	0.078 (0.101)	-0.046 (0.327)	0.070 (0.140)	-0.027 (0.563)	0.062 (0.186)	1	
(m.) Size	0.009 (0.854)	-0.119 (0.011)	0.241 (<.0001)	0.240 (<.0001)	0.259 (<.0001)	0.254 (<.0001)	-0.371 (<.0001)	0.016 (0.743)	0.253 (<.0001)	-0.021 (0.652)	0.000 (0.994)	-0.054 (0.254)	1

The table above presents the correlation coefficients for the key variables based on the 41 sample countries from1994 to 2004. **R** is the real term US dollar return; **World Return** is the value-weighted average return of the world portfolio; **Return Volatility** is the standard deviation of daily market return multiplied by the square root of 250. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **GG** is the good government index, equal to the sum of a country's corruption index, risk of expropriation index, and risk of contract repudiation index; **RL** is the rule of law index; **JE** is the level of judicial efficiency**;** all from La Porta et al. (1998). **Closely-Held** is the percentage of closely-held shares, with a higher rank indicating a higher inside ownership; **DA** is the value-weighted debt to assets ratio in a country; **Log(BM)** is the logarithm of value-weighted book to market ratio; all obtained from Worldscope. **GDPPPCG** is the per capita GDP growth in U.S. dollar; **Size** is the logarithm of a country's market capitalization; both from the World Bank WDI online database. All numbers are rounded.

TABLE 14 Determinants of Shareholder Returns – Governance Mechanisms

The table provides the panel data regression results using the clustering procedure in Petersen (2007). The dependent variable is the annual US dollar return in real terms retrieved from Datastream. Φ is the decile rank of the percentage of closely-held shares; **DA** is the value-weighted debt assets ratio; both from Worldscope. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **GG** is equal to 1 if country's good government index is above sample median and 0 otherwise; **RL** is equal to 1 if country's rule of law index is above sample median and 0 otherwise; **JE** is equal to 1 if country's judicial efficiency is above sample median and 0 otherwise, all from La Porta et al. (1998). **World Return** is the value-weighted world return, **Log(BM)** is the logarithm of value-weighted book to market ratio, and **Size** is the logarithm of country's market capitalization; these three variables are used to capture the risk factors as identified in Fama and French (1992). The sample period is 1994 to 2004. t-Statistics are reported under each coefficient. All numbers are rounded.

	External Governance	GG	RL	JE	Overall Governance
Intercept	-9.022	-8.629	-5.877	-9.660	-0.529
	(-0.98)	(-0.88)	(-0.62)	(-0.98)	(-0.55)
Φ	4.395	3.402	2.919	3.864	
	(1.34)	(1.10)	(0.89)	(1.25)	
Φ^2	-0.457	-0.320	-0.303	-0.355	
	(-1.50)	(-1.11)	(-0.97)	(-1.23)	
Φ *	1.677*	2.309	1.520	2.378	
External Institution	(1.90)	(1.11)	(0.78)	(1.16)	
Φ^2 *	-0.217*	-0.343	-0.237	-0.379	
External Institution	(-1.80)	(-1.17)	(-0.86)	(-1.29)	
Overall Governance					2.199**
					(2.52)
DA	-0.023	-0.014	-0.017	-0.011	
	(-0.18)	(-0.10)	(-0.12)	(-0.08)	
World Return	1.027***	1.027***	1.028***	1.026***	1.027***
	(11.76)	(11.75)	(11.76)	(11.76)	(11.72)
Log(BM)	-0.830	-0.459	-0.614	-0.350	-1.727
	(-0.41)	(-0.22)	(-0.30)	(-0.16)	(-1.04)
Size	-0.044	-0.037	-0.041	-0.031	-0.054
	(-0.47)	(-0.41)	(-0.44)	(-0.36)	(-1.00)
Adj-R^2	0.298	0.296	0.295	0.297	0.295
Sample Size	444	444	444	444	444

TABLE 15 Determinants of Shareholder Returns – Governance Mechanisms and Economic Development

The table provides the panel data regression results using the clustering procedure in Petersen (2007). The dependent variable is the annual US dollar return in real terms retrieved from Datastream. Φ is the decile rank of the percentage of closely-held shares; **DA** is the value-weighted debt assets ratio; both from Worldscope. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **GG** is equal to 1 if country's good government index is above sample median and 0 otherwise; **RL** is equal to 1 if country's rule of law index is above sample median and 0 otherwise; **JE** is equal to 1 if country's judicial efficiency is above sample median and 0 otherwise, all from La Porta et al. (1998). **GDPPCG** is the per capita GDP growth in US dollars; **World GDPPCG** is the value-weighted per capita GDP growth in the world; both from the World Bank. **World Return** is the value-weighted world return, **Log(BM)** is the logarithm of value-weighted book to market ratio, and **Size** is the logarithm of country's market capitalization; these three variables are used to capture the risk factors as identified in Fama and French (1992). The sample period is 1994 to 2004. t-Statistics are reported under each coefficient. All numbers are rounded.

	External Governance	GG	RL	JE	Overall Governance
Intercept	-39.527**	-39.516***	-37.580***	-42.058***	-24.018***
	(-4.12)	(-3.94)	(-4.09)	(-4.38)	(-4.77)
Φ	6.261**	4.761*	3.658	5.789**	
	(2.08)	(1.68)	(1.31)	(2.09)	
Φ^2	-0.560*	-0.350	-0.245	-0.421	
	(-1.98)	(-1.30)	(-0.91)	(-1.60)	
Φ *	2.521***	3.706**	4.467***	4.109**	
External Institution	(3.45)	(2.04)	(2.79)	(2.31)	
Φ^2 *	-0.327***	-0.546**	-0.645***	-0.657**	
External Institution	(-3.19)	(-2.12)	(-2.84)	(-2.58)	
Overall Governance					2.134**
					(2.42)
GDPPCG	3.281***	3.228***	3.330***	3.283***	3.181***
	(6.67)	(6.61)	(6.70)	(6.75)	(6.55)
World GDPPCG	9.144***	9.303***	9.098***	9.148***	9.423***
	(3.44)	(3.55)	(3.42)	(3.47)	(3.56)
DA	-0.030	-0.014	-0.000	-0.007	
	(-0.35)	(-0.15)	(-0.00)	(-0.07)	
World Return	0.530***	0.525***	0.532***	0.528***	0.525***
	(3.62)	(3.61)	(3.63)	(3.63)	(3.60)
Log(BM)	0.239	0.803	0.685	1.119	-0.611
	(0.12)	(0.39)	(0.34)	(0.51)	(-0.38)
Size	0.045	0.052	0.013	0.063	-0.015
	(0.63)	(0.71)	(0.18)	(0.88)	(-0.40)
Adj-R^2	0.415	0.411	0.413	0.413	0.409
Sample Size	444	444	444	444	444

TABLE 16 Determinants of Shareholder Returns – Internal Governance Mechanisms for the Sub-samples of High/ Low External Governance

The table provides the panel data regression results using the clustering procedure in Petersen (2007). The dependent variable is the annual US dollar return in real terms retrieved from Datastream. Country-year observations with higher than median value of External Governance form the **High External Governance sub-sample**, the remaining country-year observations form the **Low External Governance sub-sample**. Φ is the decile rank of the percentage of closely-held shares; **DA** is the value-weighted debt-asset ratio; both from Worldscope. **External Governance** is the principle factor retained from factor analysis of external institutional factors, defined in Table 1; **GDPPCG** is the per capita GDP growth in US dollars; **World GDPPCG** is the value-weighted per capita GDP growth in the world; both from the World Bank. **World Return** is the value-weighted world return, **Log(BM)** is the logarithm of value-weighted book to market ratio, and **Size** is the logarithm of country's market capitalization; these three variables are used to capture the risk factors as identified in Fama and French (1992). The sample period is 1994 to 2004. t-Statistics are reported under each coefficient. All numbers are rounded.

	Sub-Sample: High External Governance			Sub-Sample: Low External Governance		
	Internal: Φ	Internal: DA	Internal: Φ & DA	Internal: Φ	Internal: DA	Internal: Φ & DA
Intercept	-27.395***	-12.934	-26.465**	-45.483**	-33.027***	-44.025*
	(-3.09)	(-1.66)	(-2.78)	(-2.44)	(-3.98)	(-2.03)
Φ	7.154**		7.218**	3.151		2.990
	(2.30)		(2.36)	(0.54)		(0.48)
Φ^2	-0.802**		-0.806**	-0.177		-0.165
	(-2.51)		(-2.58)	(-0.37)		(-0.33)
DA		-0.052	-0.040		0.012	-0.030
		(-0.31)	(-0.24)		(0.12)	(-0.24)
GDPPCG	2.202***	2.008***	2.202***	3.408***	3.452***	3.410***
	(3.80)	(3.45)	(3.83)	(5.28)	(5.59)	(5.30)
World GDPPCG	6.200*	6.444*	6.239*	11.635**	11.355**	11.614**
	(2.07)	(2.04)	(2.07)	(2.43)	(2.43)	(2.44)
World Return	0.667***	0.661***	0.664***	0.453	0.457	0.453
	(4.88)	(4.52)	(4.74)	(1.66)	(1.68)	(1.65)
Log(BM)	2.780*	1.104	2.814*	-3.109	-3.147	-3.268
	(1.86)	(0.77)	(1.92)	(-0.69)	(-0.72)	(-0.71)
Size	0.006	0.003	0.009	4.450	4.633*	4.399
	(0.08)	(0.07)	(0.12)	(1.55)	(1.78)	(1.49)
Adj-R^2	0.504	0.492	0.504	0.380	0.378	0.380
Sample Size	230	230	230	214	219	214

TABLE 17 Determinants of Shareholder Returns – The Effect of Bank Financing

	External Governance	Overall Governance	External Governance	Overall Governance
Intercept	-38.752***	-26.059***	-40.275***	-28.478***
	(-3.97)	(-5.14)	(-4.23)	(-5.18)
Φ	5.516*		4.933*	
	(1.82)		(1.65)	
Φ^2	-0.523*		-0.485*	
	(-1.85)		(-1.78)	
Φ * External Institution	2.454***		3.638***	
	(3.29)		(3.87)	
Φ^2 * External Institution	-0.322***		-0.434***	
	(-3.11)		(-4.01)	
Overall Governance		2.229**		4.203**
		(2.61)		(2.53)
GDPPCG	4.460***	4.408***	4.458***	4.404***
	(7.04)	(6.97)	(7.19)	(7.10)
GDPPCG	-2.184***	-2.240***	-2.166***	-2.233***
*BankD	(-2.90)	(-2.95)	(-2.93)	(-2.99)
BankD	6.520***	6.264***	6.852***	6.525***
	(3.13)	(3.24)	(3.29)	(3.35)
World GDPPCG	8.414***	8.664***	8.414***	8.656***
	(3.06)	(3.16)	(3.05)	(3.15)
DA	-0.028		-0.031	
	(-0.30)		(-0.34)	
World Return	0.556***	0.551***	0.557***	0.552***
	(3.71)	(3.70)	(3.70)	(3.70)
Log(BM)	0.293	-0.654	-0.093	-0.952
	(0.15)	(-0.41)	(-0.05)	(-0.61)
Size	0.028	-0.010	0.051	0.008
	(0.37)	(-0.21)	(0.73)	(0.19)
Emerging Dummy			6.118*	4.540
			(1.70)	(1.36)
Adj-R^2	0.425	0.420	0.427	0.421
Sample Size	444	444	444	444

The table above provides the panel data regression results using the clustering procedure in Petersen (2007). The dependent variable is the annual US dollar return in real terms retrieved from Datastream. Φ is the decile rank of the percentage of closely-held shares; **DA** is value-weighted debt-asset ratio; both from Worldscope. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external factors; both defined in Table 1. **BankD** is a dummy variable equal to 1 if a country is classified as bank-financed by Demirguc-Kunt and Levine (1999). **GDPPCG** is the per capita GDP growth in US dollars; **World GDPPCG** is the value-weighted per capita GDP growth in the world; both from the World Bank. **World Return** is the value-weighted world return, **Log(BM)** is the logarithm of value-weighted book to market ratio, and **Size** is the logarithm of country's market capitalization; these three variables are used to capture the risk factors as identified in Fama and French (1992). **Emerging Dummy** is a dummy variable equal to 1 if the country is classified as an emerging market country in that year by the World Bank. The sample period is 1994 to 2004. t-Statistics are reported under each coefficient. All numbers are rounded.

TABLE 18 Determinants of Risk – Effect of External Governance & Overall Governance

This table provides regression results of risk measures on governance mechanisms. **Return Volatility** is the dependent variables in Panel A, which is the annualized standard deviation of daily returns. **Standard Deviation of Residuals from the Fama-French (1992) Three Factors Model** is the dependent variable in Panel B. **DA** is the value-weighted debt assets ratio, from Worldscope. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external institutional factors, both defined in Table 1. **Emerging Dummy** is a dummy variable that takes the value of one if the country is classified as such by the World Bank and zero otherwise. **MACVAR** is the first principal component of five proxies for macroeconomic variability: (1) the standard deviation of firms' earnings per share scaled by total assets per share in a country for a year, (2) the standard deviation of firms' accounting returns on equity in a country for a year, (3) the standard deviation of firms' accounting returns on assets in a country for a year, (4) the standard deviation of the residuals from a regression of annual gross domestic product growth rates on a time index over the sampling period, and (5) the standard deviation of yearly average exchange rates (US$ to local currency). The sample period is 1994 to 2004. t-Statistics are reported under each coefficient. All numbers are rounded.

	External Governance	Overall Governance	External Governance	Overall Governance
	Panel A: Return Volatility		Panel B: Standard Deviation of Residuals from Fama-French Three Factors Model	
Intercept	17.557***	22.764***	25.789***	28.712***
	(3.24)	(17.25)	(3.64)	(10.43)
Governance	-4.516***	-4.408***	-7.278***	-7.362***
	(-3.46)	(-3.88)	(-3.78)	(-3.90)
DA	0.197		0.119	
	(1.34)		(0.56)	
Emerging Dummy	-1.132	-0.931	-5.396	-4.981
	(-0.65)	(-0.59)	(-1.15)	(-1.06)
MACVAR	3.270*	4.459**	1.261	1.318
	(1.69)	(2.65)	(0.38)	(0.41)
Adj-R^2	0.183	0.212	0.408	0.418
Sample Size	444	444	41	41

TABLE 19 Determinants of Shareholder Returns - Alternative Return Measures

This table provides the panel data regression results using the clustering procedure of Petersen (2007). **Nominal U.S. dollar Returns and Real US dollar Excess Returns (Real return minus 3-months T-bill rate)** are the dependent variables, retrieved from Datastream. **GDPPCG** is the per capita GDP growth (USD), from World Bank. **World GDPPCG** is the value-weighted per capita GDP growth in the World, from World Bank. Φ is decile rank of closely-held shares percentage from Worldscope, the higher rank indicates higher ownership. **DA** is value-weighted debt assets ratio, from Worldscope. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external institutional factors, both defined in Table 1. **World Return** is the value-weighted world return, **Log(BM)** is the logarithm of value-weighted book to market ratio, and **Size** is the logarithm of country's market capitalization; these three variables are used to capture the risk factors as identified in Fama and French (1992). **Inflation** is US inflation rate, from Datastream. The sample period is 1994 to 2004. t-Statistics are reported under each coefficient.

	Nominal Return (in USD)		Real Excess Return (in USD)	
	External Governance	Overall Governance	External Governance	Overall Governance
Intercept	-45.625***	-31.302***	-48.992***	-33.180***
	(-4.04)	(-3.76)	(-4.98)	(-6.41)
Φ	5.936*		6.562**	
	(1.93)		(2.15)	
Φ^2	-0.529*		-0.584**	
	(-1.82)		(-2.05)	
Φ *External Institution	2.515***		2.624***	
	(3.36)		(3.46)	
Φ^2 *External Institution	-0.323***		-0.345***	
	(-3.07)		(-3.22)	
Overall Governance		2.162**		2.008*
		(2.42)		(1.95)
GDPPCG	3.304***	3.200***	3.464***	3.356***
	(6.33)	(6.25)	(6.47)	(6.37)
World GDPPCG	8.723***	8.927***	11.751***	12.041***
	(3.29)	(3.39)	(4.42)	(4.54)
DA	-0.022		-0.051	
	(-0.26)		(-0.55)	
World Return	0.591***	0.593***	0.446***	0.442***
	(4.27)	(4.31)	(2.97)	(2.97)
Log(BM)	0.293	-0.503	0.499	-0.388
	(0.15)	(-0.30)	(0.22)	(-0.21)
Size	0.043	-0.015	0.052	-0.012
	(0.60)	(-0.38)	(0.70)	(-0.31)
Inflation	4.600	5.027		
	(1.30)	(1.42)		
Adj-R^2	0.416	0.411	0.409	0.403
Sample Size	444	444	444	444

TABLE 20 Determinants of Shareholder Returns – Alternative Growth Measures

This table provides the panel data regression results using the clustering procedure of Petersen (2007). **Real U.S. dollar Returns** is the dependent variables, retrieved from Datastream. **GDP Growth** is the GDP growth (USD), from World Bank. **EPS Growth** is the value-weighted earnings per share growth, from Worldscope. **World GDPPCG** is the value-weighted per capita GDP growth in the World, from World Bank. Φ is decile rank of closely-held shares percentage from Worldscope, the higher rank indicates higher ownership. **DA** is value-weighted debt assets ratio, from Worldscope. **External Governance** is the principle factor retained from factor analysis of external institutional factors; **Overall Governance** is the principle factor retained from factor analysis of internal & external institutional factors, both defined in Table 1. **World Return** is the value-weighted world return, **Log(BM)** is the logarithm of value-weighted book to market ratio, and **Size** is the logarithm of country's market capitalization; these three variables are used to capture the risk factors as identified in Fama and French (1992). The sample period is 1994 to 2004. t-Statistics are reported under each coefficient. All numbers are rounded.

	GDP Growth (in USD)		EPS Growth (in USD)	
	External Governance	Overall Governance	External Governance	Overall Governance
Intercept	-41.795***	-27.230***	-11.007	-2.456
	(-4.31)	(-5.19)	(-1.40)	(-1.13)
Φ	5.935*		4.521	
	(1.92)		(1.28)	
Φ^2	-0.555*		-0.480	
	(-1.91)		(-1.49)	
Φ * External Institution	2.837***		2.35*	
	(4.06)		(1.97)	
Φ^2 * External Institution	-0.348***		-0.28*	
	(-3.48)		(-1.93)	
Overall Governance		3.343***		4.073**
		(3.54)		(2.26)
DA	-0.007		-0.019	
	(-0.08)		(-0.14)	
Economic Development	3.014***	2.928***	0.022*	0.023*
	(6.53)	(6.36)	(1.70)	(1.78)
World GDPPCG	9.372***	9.648***		
	(3.47)	(3.58)		
World Return	0.530***	0.523***	1.008***	1.007***
	(3.60)	(3.57)	(11.35)	(11.36)
Log(BM)	-0.375	-1.269	-0.368	-1.429
	(-0.18)	(-0.72)	(-0.20)	(-0.89)
Size	0.023	-0.027	-0.021	-0.039
	(0.32)	(-0.64)	(-0.22)	(-0.76)
Emerging Dummy			5.048	5.103
			(1.41)	(1.54)
Adj-R^2	0.406	0.401	0.311	0.307
Sample Size	444	444	437	437

TABLE 21 Determinants of Shareholder Returns – Geometric Average Returns

This table provides the OLS cross-sectional regression results using the geometric average returns as the dependent variable. **Geometric Return** is retrieved from Datastream. **GDPPCG(m)** is the average of per capita GDP growth (USD), from World Bank. **Overall Governance** is the principle factor retained from factor analysis of internal & external governance factors, defined in Table 1. **Return Volatility(m)** is average of the annualized standard deviation of daily returns, retrieved from Datastream. t-Statistics are reported under each coefficient. All numbers are rounded.

	Geometric Average Return
Intercept	2.189 (0.83)
Overall Governance	3.713*** (4.78)
GDPPCG(m)	1.164** (2.20)
Return Volatility(m)	-0.084 (-0.94)
Adj-R^2	0.537
Sample Size	41