This dissertation consists of three essays that investigate the important issues involved with corporate governance across different institutional contexts. Chapter 2 and Chapter 4 bring together agency theory and institutional perspective and examine how various institutions affect companies’ governance and how institutions affect firm value. Chapter 3 compares institutional development and the effect on firm governance choice from a transaction cost economics perspective. These studies contribute to the research in corporate strategy by identifying the appropriate contingencies for multiple theoretical perspectives in corporate strategy and linking institutions with firm strategy and firm value through combination of multiple theoretical perspectives.

All three essays are multi-country and multi-industry studies. Chapter 2 draws on 884 publicly listed firms with concentrated ownership in seven Asian countries and examines the effect of corporate governance on firm value during the 1997 Asian financial crisis. The results of the multivariate analysis show that higher ownership concentration tends to be associated with higher firm value, and can be partially substituted by country institutional development. The effect of the largest shareholder’s excess control on firm value is conditioned on country-level institutional development. Finally, higher firm value is associated with more control by nondominant blockholders.
Chapter 3 recognizes different governance modes in the private participation projects in emerging economies and conceptualizes them as modes of transactions between the state and the private entity. Using data on 2550 private participation projects in the infrastructure industries in 94 emerging economies, we find that firms self-select private participation modes. The survival differences across modes of private participation arise as a function of transaction uncertainty embedded in the institutional environment. Private entities in countries with more uncertainty tend to choose internal or hybrid modes as opposed to market governance form. The results also show that projects that face more uncertainty and choose to adopt market governance are less likely to survive. However, this relationship is not found among privatized projects that adopt internal or hybrid governance. This indicates that firms may control the environmental uncertainty through internal arrangements.

Chapter 4 examines foreign firms issuing initial public offering (IPO) in the U.S. and answers the following questions: Is there a valuation difference between U.S. domestic IPOs and international IPOs? How do foreign IPOs compensate for information asymmetry and risk in the U.S.? How is valuation of foreign IPOs related to firm characteristics, industry, and home country effect? From 205 pairs of matched foreign and U.S. companies that issued IPOs in the U.S. from 1992 to 2005, U.S. companies have had more managerial ownership reduction than foreign companies during IPO. Additionally, foreign companies more culturally distant from the U.S. show more managerial ownership reduction during IPO. Managerial ownership change, home country political risk and industry risk are signals to investors to evaluate IPOs.
DEDICATION

Dedicated to my parents Huiying Jiang and Yanhua Chen, and to John Karnes

whose support is invaluable in completing this document
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I wish to thank Jay Barney, Mona Makhija, Mike Peng, and Oded Shenkar for their advice and encouragement that helped me tremendously throughout the program. I also thank the seminar participants at Ohio State University for their valuable comments on my work. This work would not have been possible without the financial support of the Fisher College of Business, the Department of Management and Human Resources, and Center of International Business Education and Research.
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CHAPTER 1

INTRODUCTION

Institutions are the “humanly devised constraints that structure human interaction” (North, 1990, p.3). Developed by societies to create order, institutions provide the rules of the game and organizations are the players bound by these rules (North, 1990). The institutional perspective emphasizes the influences of the context surrounding organizations that shape their behavior (Scott, 1995; Wan, 2005), and suggests that one cannot understand business strategy if one does not understand the context (Meyer and Nguyen, 2005). Most theoretical models have been developed from industrialized economies (Meyer, 2004). However, there is considerable variation among different economies concerning their progress in institutional development. For business strategy research to make a lasting contribution, there is a need to consider the extent to which theories developed from strategy in developed economies are suited to different institutional contexts (Wright, Filatotchev, Hoskisson, and Peng, 2005). The institutional contexts examined in this dissertation include development of legal and regulatory institutions, political institutions, and institutional underdevelopment linked with transaction uncertainty.
Theorists and empiricists in international management have been focusing their attention on corporate governance as a tool to gauge the level of corporate development. Corporate governance deals with the ways in which investors of corporations assure themselves of getting a return on their investment (Shleifer and Vishny, 1997). Why is research on corporate governance in different institutional contexts important? Because of the idiosyncrasy of institutional environments, research in this area enriches our understanding of corporate governance from research on developed countries. Many authors point to corporate ownership and governance systems as key elements in restructuring in emerging economies (Carney and Gedajlovic, 2001; Estrin, 2002; Frydman, Gray, Hessel, and Rapaczynski, 1999; Meyer, 2004; Young, Peng, Ahlstrom, and Bruton, 2002). External governance mechanisms are likely to be less effective in emerging economies since the lack of strong legal frameworks has allowed a large increase in opportunism, rent shifting, bribery, and corruption (Nelson, Tilley, and Walker, 1998). Important contextual factors, such as levels of government involvement, ownership patterns, and enforcement of laws (Filatotchev, Buck, and Zhukov, 2000; Khanna and Palepu, 2000; La porta, Lopez-De-Silanes, Shleifer, and Vishny, 2002; Peng, 2003) contribute to explanations of strategic decisions and the value of firms. Specific research questions raised in this dissertation include: How do ownership and control structures impact firm value during an exogenous crisis? Under what circumstances do transaction parties choose certain governance modes but not others? What corporate governance mechanisms affect valuation of foreign IPO in the U.S.? And how do institutional contexts interact with or affect firm ownership and governance structure?
Economic shocks have greatly increased the uncertainty and risk of doing business and making investments (Hoskisson, Eden, Lau, and Wright, 2000). An economic shock provides a research opportunity to evaluate corporate governance since the shock may trigger greater investor awareness of weaknesses in corporate governance (Rajan and Zingales, 1998). Chapter 2 studies corporate governance in East Asia during the 1997 Asian financial crisis and finds support that the economic shock amplified problems associated with certain governance structures. In the case of this economic shock, some ownership and governance structures prove to be more detrimental to firm value.

The widespread adoption of a free-market system by emerging economy governments and comprehensive changes introduced to the formal rules raise important issues for the strategies adopted by private enterprises (Filatotchev, Dyomina, Wright, and Buck, 2001; Hoskisson et al., 2000). Private participation is one means of placing pressure on former state owned enterprises to affect major governance changes when they adapt to the competitive pressures of a market-based and open economy. Private participation also means an increasing number of joint ventures between the private entity and the state with subsequent restructuring and adaptation to market-based practices. This investment has been facilitated by broad economic liberalization and privatization (Doh, 2000; Ramamurti, 2000). Chapter 3 examines private participation in infrastructure projects in emerging economies, and discusses how institutional contexts affect private entities choice of governance modes and how different governance modes affect the survival of private participation projects.
At the same time as domestic economies are developing, companies are also seeking capital abroad. Chapter 4 focuses on foreign companies issuing initial public offerings (IPOs) in the U.S. Macroeconomic stabilization, a precondition for external financial assistance, has been particularly difficult to achieve in emerging economies. The pace of political change has not been uniform across the emerging market economies. Political risk in the home country may hamper the ability of these companies to secure capital from the U.S. market. In order to increase the value of their IPO, there are certain corporate governance mechanisms that foreign companies can adopt to signal management quality to the investors in the U.S.

What affects governance structures across different institutional contexts? How do corporate governance mechanisms affect firm value? In this dissertation, three major theoretical perspectives were used to advance the understanding of corporate governance in different institutional contexts:

**An Institutional Perspective**

While the rise of new institutionalism has been found throughout the social sciences since the 1970s, the institutional perspective as a leading perspective in management strategy research is more recent (Wan and Hoskisson, 2003; Wright et al., 2005). The institutional perspective addresses the embeddedness of firms in a nexus of formal and informal institutions (Aguilera and Jackson, 2003). Perspectives derived to examine the institutional forces have both economic (Coase, 1998; North, 1990) and sociological orientations (DiMaggio and Powell, 1983; Scott, 1995). Since institutions provide the rules of the game and organizations are the players bound by these rules
(North, 1990), an institutional perspective is an applicable paradigm for explaining firm behavior (Shenkar and Von Glinow, 1994).

Weak regulatory institutional environments in emerging economies produce conditions favorable to opportunistic investment strategies (Carney and Gedajlovic, 2002). Corporate governance research from an institutional perspective will deepen our understanding of how institutional development affects mechanisms of corporate governance (Aguilera and Jackson, 2003; Peng, 2003; Schneper and Guillen, 2004). Despite a growing consensus that “institutions matter”, comparative institutional analysis of corporate governance remains in its infancy (Aguilera and Jackson, 2003). The contribution of chapters 2, 3 and 4 is their explicit examination of how various institutions affect and interact with companies’ ownership and governance structure (See figure 1). Chapter 2 studies different corporate ownership and control structures and analyzes these structures under various institutional environments. Chapter 3 links institutional underdevelopment with transaction uncertainty and examines the effect on governance choice in private participation projects. Chapter 4 compares corporate governance mechanisms between U.S. and non-U.S. companies and among companies from countries with different political institutions. These studies contribute to the research from institutional perspective by directly linking institutions with firm strategy.

**An Agency Theory Perspective**

Agency theory suggests several insights on firm strategy. Agency theory, when applied to the conflict between controlling and minority shareholders, proposes that controlling shareholders gain private benefits through expropriation of minority
shareholders (La Porta, Lopez-de-Silanes, and Shleifer, 2000), especially under the situation of high exogenous uncertainty generated by economic shocks. Chapter 2, by studying corporate governance during an external shock, identifies the appropriate contingencies for agency theory and institutional perspective to exhibit validity. We show how institutional perspective compliments agency theory through a comparative study of governance structures that differ between institutional environments.

The condition of information asymmetry between managers and external investors creates a context wherein opportunistic behavior of managers is an important consideration in an investor’s valuation of the company. This consideration determines the signals utilized by investors to evaluate management quality of the company (Cohen and Dean, 2005). Since the information asymmetry between non-U.S. firms and U.S. investors may be bigger, foreign IPOs may have higher risks than U.S. firms (Burgman, 1996). Chapter 4 investigates the risks associated with foreign IPOs in the U.S., such as agency conflicts, transparency and disclosure concerns, and other corporate governance problems. Using agency theory, we study mechanisms that affect how information flows and agency problems are handled. We determine how these factors impact valuation of the IPO. We also extend agency theory by answering the following question: What corporate governance mechanism compensates for uncertainty and information asymmetry associated with foreign IPOs?

A Transaction Cost Economics Perspective

Transaction cost economics studies the firm behavior through a contractual or exchange-based approach (Williamson, 1975). Little is known about governance
structures for transactions in emerging economies (Hoskisson et al., 2000). In emerging economies where property rights are defined by official discretion rather than the rule of law, enforcement costs will be high (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997). Chapter 3 studies governance choice of private entities from the institutional perspective and transaction cost economics and explores how the choice of a governance mode is limited by institutional constraints. Uncertainty in the institutional environment leaves market governance subject to costly haggling and maladaptiveness, and increases the relative attractiveness of hierarchies and hybrids (Williamson, 1985). Chapter 3 examines exchange between private entities and the state through the lens of opportunistic behavior and incentive alignment in transactions emphasized in transaction cost economics. This study also extends transaction cost analyses beyond the usual consideration of incentive conflicts by suggesting that different privatization modes used to organize transactions differ in their capacity to align actions of the transaction partners through processes. We suggest that private entities recognize the differences with the state and self-select the governance mode that better facilitates transactions in private participation projects.

Business strategy research with a focus on institutional contexts is challenging conventional wisdom in academic thinking and theories in significant ways (Wright et al., 2005). Different institutional contexts call into question the application of the theories originating in developed economies (Narayanan and Fahey, 2005). This research is conducive for integration of several theoretical perspectives by identifying the
appropriate contingencies for transaction cost economics, agency theory, and institutional perspective to exhibit validity. While research on strategy beyond developed economies has grown, coverage of countries and regions has been uneven (Wright et al., 2005), and there are greater problems regarding access to data (Estrin and Wright, 1999; Tan and Peng, 2003). Using company data from a wide range of countries, this research examines a large dimension of the heterogeneity of institutional contexts. Investors have identified corporate governance as a key factor affecting their willingness to invest in an institutional environment (Gibson, 2003). Implementing effective corporate governance is a major issue in economies for development. Theoretically and empirically, this dissertation is dedicated to advance our understanding of corporate governance across different institutional contexts that best serve organizational functioning.
Figure 1.1 Structure of the Following Chapters
CHAPTER 2

CORPORATE GOVERNANCE DURING AN EXOGENOUS CRISIS

2.1 Introduction

Corporate governance deals with the ways in which investors of corporations assure themselves of getting a return on their investment; and ownership concentration is, along with legal protection, one of two key determinants of corporate governance (Shleifer and Vishny, 1997). However, only since the late 1990s have researchers begun to systematically address corporate governance problems that accompany concentrated ownership (Morck, 2000). In corporations with concentrated ownership, good corporate governance protects minority shareholders’ interests. What ownership structure represents high quality of corporate governance? Is concentrated ownership associated with better quality of corporate governance? How do control mechanisms impact firm value during an exogenous crisis? These questions are crucial for understanding corporate governance issues stemming from ownership concentration.

More than 70 years ago, Berle and Means (1932) advanced a hypothesis suggesting that as firms grow larger, concentrated ownership and control will inevitably be replaced by diffused ownership. However, on a worldwide basis, the Berle and Means (1932) hypothesis has turned out to be largely supported only in the United States and the
United Kingdom. Empirically, diffused ownership “is actually an exception rather than the rule around the world” and “most corporations around the world [outside the U.S. and U.K.] are controlled by a family or the state, characterized by concentrated ownership” (La Porta, Lopez-de-Silanes, and Shleifer, 1999: 498). Consequently, there is value in investigating firms outside the Anglo-American world when advancing research on large firms which tend to have concentrated ownership and control (Carney and Gedajlovic, 2002). Firms in Asia\(^1\) are widely known to have such a tendency (Chen, 2001; Phan, 2001). Prior to the 1997 financial crisis, concentrated ownership and control (often in the hands of families) in large firms were widely regarded as contributing to the Asian economic growth (also known as the “miracle”). However, since the 1997 crisis, this pattern of ownership and control, often in the hands of the same families owning and controlling the same assets, has often been harshly criticized as evidence of “crony capitalism” (Backman and Butler, 2003). What exactly is the role of concentrated ownership and control in corporate governance then?

Demsetz (1983, p. 384) argues that the ownership structure of the firm that “emerges is an endogenous outcome of competitive selection in which various cost advantages and disadvantages are balanced to arrive at an equilibrium organization of the firm”. Accordingly, Demsetz conclude that there should be no relation between ownership structure and firm value. Evidence supportive of Demsetz’s (1983) arguments has been provided by Demsetz and Lehn (1985) and Demsetz and Villalonga (2001).

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\(^1\) In this article, “Asia” does not include China and Japan where concentrated ownership and control in the hands of families are not extensive. In China, most large firms are state-owned and the role of families is minimal (Peng, 2004). In Japan, there is a large percentage of professional managers and relatively little concentration of ownership and control (Claessens et al., 2000).
Because the ownership structures are a likely result of endogenous decisions, an equilibrium is reached between ownership and firm value. However, an exogenous crisis breaks the equilibrium since shareholders and managers were not able to foresee the shock and adjust ownership structures or control mechanisms accordingly. Thus, a financial crisis offers an opportunity to study the valuation effects of ownership and control structure since the crisis represents an exogenous shock to individual firms. Values tend to decline the most in those firms with poor corporate governance during that time as a result of investors flying to firms with better quality of corporate governance.

La Porta et al. (1999) argue that the conflict between blockholders (large controlling shareholders) and minority shareholders is the primary corporate governance problem associated with concentrated ownership. Corporate governance research in this stream tends to be driven by a single, agency perspective dealing with the diverging interests of blockholders and minority shareholders; whereas the strategy analysis of corporate governance focusing on the resource providing role by blockholders is largely ignored. While agency theory dominates corporate governance research, additional (and perhaps contrasting) theoretical perspectives are needed to explain blockholders’ resource, service, and strategy roles (Daily, Dalton, and Cannella, 2003). Resource-based view provides a theoretical foundation for the large controlling shareholders’ resource providing role in corporate governance. Rather than focusing on the monitoring role of corporate governance mechanisms, resource-based view points out that broader corporate

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governance factors may be a source of competitive advantage (Barney, 2001). In addition, since weak regulatory institutional environment produces conditions favorable to opportunistic investment strategies (Carney and Gedajlovic, 2002), corporate governance research from an institutional perspective will deepen our understanding of how institutional development affects mechanisms of corporate governance (Aguilera and Jackson, 2003; Peng, 2003; Schneper and Guillen, 2004).

In response to Daily et al.’s (2003) advocate to enrich corporate governance research with alternative perspectives, this paper investigates corporate governance mechanisms from multiple theoretical perspectives, namely, agency theory, resource-based view, and institutional perspective, and identify appropriate contingencies for each of the theories. We examine three firm attributes related to corporate governance: (1) ownership concentration of the largest controlling shareholder, (2) the excess of the largest shareholder’s control over ownership, and (3) control by nondominant blockholders. A leading question which drives our efforts is: What ownership and control structures are associated with higher firm value during an exogenous crisis?

2.2 Theory and hypotheses

2.2.1 High ownership concentration

The agency problem between shareholders and managers identified by Jensen and Meckling (1976) and Fama and Jensen (1983) may be constrained by having a controlling shareholder, because large owners have both the interest and power to
monitor managers, thus inhibiting managerial opportunism and reducing agency costs. However, the large investors represent their own interests, which do not necessarily coincide with the interests of minority shareholders (Shleifer and Vishny, 1997). Agency theory, when applied to the conflict between controlling shareholders and minority shareholders, proposes the idea of private benefits of control through expropriation of minority shareholders (La Porta et al., 2000) and focuses on reducing private benefits that controlling shareholders extract from the companies.

While some studies suggest that firm performance first increases, then declines, and finally rises as ownership concentration increases (e.g. Morck et al, 1988),

indicating that private benefits of control occurs when there is a medium level of ownership concentration, these studies are based on firms in America where firms with concentrated ownership are substantially fewer than firms in East Asia (except in Japan). Indeed, 10% ownership of a U.S. firm is often considered sufficient for control, and with a 10% cutoff, only 20% of large American firms have concentrated ownership, whereas the number of firms with concentrated ownership in Hong Kong, Singapore, and South Korea are 90%, 95%, and 60%, respectively (La Porta, Lopez-de-Silanes, and Shleifer, 1999). It is possible that previous findings on blockholder ownership in the United States, based on a relatively low level of ownership and control by large shareholders, may not be generalizeable to an environment where ownership concentration is more prevalent. In countries where ownership concentration is especially profound, the controlling shareholder has unique incentive structures and capabilities to provide resources and

---

3 Morck et al (1988) found Tobin’s Q first increases when management ownership increases to 5%, then decreases as ownership increases to 25% range, and increases again at higher ownership levels.
influence firm strategy, which may represent high quality of corporate governance in a turbulent environment.

During an exogenous crisis when the stock market crashes, the ownership structure is exogenous and maintaining a large ownership forces the controlling shareholder to be not well diversified in wealth. In this case, control involves private costs to the controlling shareholder (Dyck and Zingales, 2004). A dropping firm value increases the private costs to the controlling shareholder, which may motivate him/her to keep firm values. This interest of the controlling shareholder to maximize firm values is aligned with that of minority shareholders. In contrast, lower concentrated ownership, which involves less private costs to the controlling shareholder in a financial crisis, is less likely to provide such an incentive scheme. As the ownership stake increases, the controlling shareholder may have greater incentives to provide vital resources and adopt appropriate strategies to keep firm values. The benefits that arise from the substantial collocation of decision rights and wealth effects that come with large block ownership (Holderness, 2003), are shared with the minority shareholders. The minority shareholders recognize that expropriation of firm value is more likely in companies with less concentrated ownership, and thus will fly to other firms with better corporate governance. Agency theory proposes stock options as a mechanism to align the interests of managers and shareholders (Jensen and Murphy, 1990). We argue that the same rationale applies to aligning the interests of the large controlling shareholder and the minority shareholders. Specifically, when the large shareholder has more concentrated ownership during an exogenous crisis, he/she tends to be more motivated to formulate strategies with crucial
resources in order to keep firm value. Thus, concentrated ownership may represent better corporate governance.

Concentrated ownership not only gives the controlling shareholder incentives to formulate appropriate strategies, but also offers him/her power to execute them during a period of environmental turbulence. The power associated with the concentration of ownership in the hands of these individuals can help protect the organization from harmful environments (Fischer and Pollock, 2004), because substantial ownership provides the controlling shareholder with the authority necessary to focus full attention, capabilities, and resources on leading the company.

The 1997 Asian financial crisis triggered greater investor awareness of weaknesses in corporate governance in the region and led many of them to pull out (Rajan and Zingales, 1998). The environmental turbulence thus magnifies the consequence of low quality of corporate governance; and firm values plummet the most in firms with bad corporate governance. While almost all firm values experienced some drop during the crisis, the scale of such drop is not equal. We propose that firms with more concentrated ownership will suffer less drop in value. Such an effect holds only when ownership is exogenous and not an endogenous decision by blockholders. A crisis provides an external shock to firms and makes their ownership structures exogenous.

Accordingly, we hypothesize:

**Hypothesis 1a. Higher ownership concentration is positively related to firm value during an exogenous crisis.**
The controlling shareholder’s ability to extract private benefits may be affected by country-specific institutions, which are the “humanly devised constraints that structure human interaction” (North, 1990, p.3). The institutional perspective addresses the embeddedness of firms in a nexus of formal and informal institutions (Aguilera and Jackson, 2003). Despite a growing consensus that “institutions matter”, comparative institutional analysis of corporate governance remains in its infancy (Aguilera and Jackson, 2003).

Various mechanisms of corporate control may be classified as internal or external (Walsh and Seward, 1990). Both external and internal mechanisms act to increase quality of corporate governance (Rediker and Seth, 1995). Internal corporate governance includes control mechanisms inside the firm. The most widely noted external mechanism is the market for corporate control (Jensen, 1989). Another external mechanism is formal institution on shareholder protection. By providing legal and regulatory regimes, institutional development imposes external governance mechanisms on corporate governance. Nevertheless, even in some of the most advanced countries, external governance mechanisms do not work perfectly (Jensen, 1993). In emerging economies with a more erratic formal institutional environment (Wright et al., 2005), more restricted product markets (Khanna and Palepu, 1997), and weaker formal regulatory regimes (La Porta et al. 1998), external governance mechanisms are likely to be less effective. Following Rediker and Seth’s (1995) proposition that firm performance depends on the efficiency of a bundle of governance mechanisms, we argue that external control mechanism may substitute for internal mechanisms in contributing to the quality of
corporate governance. An institutional setting with strong protection of shareholder rights requires less internal control mechanisms to formulate and execute strategies, because the bundle of external and internal governance mechanisms is still efficient to keep firm values. Since we have identified ownership concentration as an internal mechanism to increase quality of corporate governance during a crisis, we expect ownership concentration to be partially substituted by external mechanism — institutional development. In other words, ownership concentration is relatively less important in improving corporate governance in an environment with more developed legal and regulatory institutions.

**Hypothesis 1b:** The positive effect of ownership concentration on firm value is weaker in countries with more developed legal and regulatory institutions during an exogenous crisis.

### 2.2.2 No excess control over ownership?

The excess of control over ownership happens when the largest shareholder has more control rights than ownership rights (cash flow rights). The primary theory critical of excess control over ownership is agency theory. Jensen and Meckling (1976) argue that the tendency of controlling shareholders such as families pursuing their private benefits at the expense of minority shareholders increases when the controlling shareholder owns less equity since he/she does not bear the full cost of the actions. Large shareholders might try to treat themselves preferentially at the expense of other investors and their ability to do so is especially great if they have excess control rights (Shleifer and Vishny, 1997). Minority shareholders reorganize the poor quality of corporate
governance and discount the value of the remaining shares, which would cause a fall in the firm value. As Jensen and Meckling (1976: 313) point out: “prospective minority shareholders will realize that owner-managers’ interests will diverge somewhat from theirs, hence the price which they will pay for shares will reflect the monitoring costs and the effect of the divergence between owner-manager’s interest and theirs.” During a financial crisis, minority shareholders may recognize the expropriation from the large shareholder whose control rights are in excess of cash flow rights. As a result, minority shareholder may vote with feet and invest elsewhere with better quality of corporate governance.

Anecdotal evidence from the 1997 East Asian crisis suggests that expropriation of minority shareholders was prevalent (Mitton, 2002). Controlling shareholders often establish private firms to obtain private benefits by transferring resources from the public firm they control. Some times controlling shareholders simply remove resources from the firm, leading to a new term – “tunneling” (Bae, Kang, and Kim, 2002; Johnson, La Porta, Lopez-de-Silanes, and Schleifer, 2000). Lemmon and Lins (2003) show that during the 1997 Asian financial crisis, having a significant degree of control provides a condition for expropriation of minority shareholders, which causes conflicts between the controlling shareholder and minority shareholders. With high control rights, controlling shareholders might sell firm assets to themselves or to related parties at below-market prices, or spin off the most profitable part of a public firm, merging it with another private firm of theirs, leaving the public firm a shell of its former self (Chang and Hong, 2000). As such, the largest shareholder’s excess control may be detrimental to firm value when their
ownership is relatively low, since they bear a low cost of firm value loss but gain from private benefits. Expropriation of minority shareholders may not be easily observed in an economic boom, however, during an economic downturn, large shareholders may become more desperate to extract firm resources to protect their own wealth. Accordingly we hypothesize:

**Hypothesis 2a:** The excess of the largest shareholder’s control over ownership is negatively related to firm value during an exogenous crisis.

Whereas agency theory is appropriate to conceptualize the agency problems associated with the excess of control over ownership, additional theoretical perspectives are needed to explain controlling shareholder’s resource provision roles. Proponents of resource-based view address controlling shareholder’s contribution as boundary spanners of the organization and its environment (Dalton, Daily, Johnson, and Ellstrand, 1999; Hillman, Cannella, and Paetzold, 2000). An important role controlling shareholders play in corporate governance is provision of resources. Especially when a firm is facing an exogenous crisis, controlling shareholders who have access to unique resources outside of the organization will have competitive advantages to enhance firm performance, and even survival. Access to resources in emerging economies is in the form of not only financial resources but also networks such as business groups. A business group is “a set of firms which, though legally independent, are bound together by a constellation of formal and informal ties and are accustomed to taking coordinated action” (Khanna and Rivkin, 2001: 47). In emerging economies, business groups play a great role in shaping *de facto*
corporate governance since each controlling shareholder’s ability to contribute to strategy is enhanced by a combination of strategically related ties in the business group (Johnson, McMillan, and Woodruff, 2002; Peng, 2003).

Around the world, the excess of control over ownership is usually achieved through pyramid structures\(^4\) in which one firm is controlled by another firm, which may itself be controlled by some other entity, and so forth (Faccio, Lang, and Young, 2001; Lins, 2003). With a pyramid structure, the controlling shareholder controls multiple corporations, each becoming a member of an informal business group. Members of such a business group in the pyramid chain may provide each other with useful information, access to finances and technologies, and important social interactions (Khanna and Rivkin, 2001). An exogenous crisis, characterized by a turbulent environment and high level of unpredictable change, places considerable information processing demands on corporate leaders (Carpenter and Fredrickson, 2001; Wiersema and Bantel, 1992). With excess control, the controlling shareholder is able to utilize the related ties in the business group, obtain timely information, and provide crucial resources to firm strategic decision making in a turbulent environment. In addition, the controlling shareholder is more likely to enhance information processing through broader social interactions in a business group. Such social interactions effectively broaden the schemata or knowledge structures that the controlling shareholder use in advising management, so that he/she is not only more

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\(^4\) A pyramid structure occurs when a controlling shareholder such as a family controls other firms through a chain of ownership. In other words, a blockholder owns and controls a firm through another firm. Through such pyramiding, it is common for a firm’s ultimate shareholders to have formal control rights that are greater than ownership (cash-flow) rights. For example, a family owns 50% of the shares of Company X, which owns 40% of Company B, which in turn owns 30% of Company C. The family ends up with 6% (50% x 40% x 30%) of the ownership (cash-flow) rights of C but 30% of its control rights (Faccio et al., 2001: 56)
likely to identify appropriate alternatives to current strategies, but also more willing to change current strategies in order to maintain the organization’s fit with the changing environment (Carpenter and Westphal, 2001). The connections to a business group through the largest shareholder’s excess control over ownership may be value-enhancing attributes, as they help construct a network by including in the control chain multiple companies, which can create synergy and leverage the limited supply of high-quality resources (Guillen, 2000), and can also encourage adoption of alternative strategies that better fit a turbulent environment (Hambrick, Geletkanycz, and Fredrickson, 1993).

Proposing different corporate governance mechanisms as a bundle, Rediker and Seth (1995) suggest that the impact of one mechanism might be insufficient to increase firm performance. Although the largest shareholder’s excess control may enhance his resource provision role in corporate governance during a crisis, it may not be sufficient to contribute to firm value because of his incentive to expropriate minority shareholders predicted by agency theory. Only when the largest shareholder’s opportunistic behavior is constrained, will his/her excess control be sufficient to increase firm value. Since the quality of corporate governance is affected by the institutional environment the firm is embedded in (Peng, 2004), formal institutional development may be an external mechanism that constrains largest shareholder’s opportunistic behavior. From an institutional perspective, expropriation of minority shareholders is more likely to be constrained in a more developed legal and regulatory institution. Wolfenzon (1999) shows that such schemes as owners controlling the subsidiary without owning a substantial fraction of its cash flow rights are more attractive when the protection of
investors is weaker, indicating the institutional contingency favorable for the controlling shareholder to expropriate minority shareholders.

In some studies where expropriation of minority shareholders through blockholder’s excess control is found (Claessens, Djankov, and Lang, 2000; Lemmon and Lins, 2003), the effect of institutional environment on corporate governance has not been considered. Other studies indicate that expropriation of minority shareholders is made easier where rules and regulations fail to address the financial maneuvers of the blockholder and the legal systems are more prone to corruption (Hoskisson et al., 2000).

The attributes of easier access to financial and technological resources and broader social interactions associated with the largest shareholder’s excess control, when combined with external mechanisms of better legal and regulatory institutions, form an efficient bundle of corporate governance mechanisms. In other words, the excess of the largest shareholder’s control, by itself, may not be sufficient to enhance corporate governance, but when conditioned on a more developed institutional environment, may increase firm value.

**Hypothesis 2b:** The excess of the largest shareholder’s control over ownership, conditioned on more developed legal and regulatory institutions, is positively related to firm value during an exogenous crisis.

### 2.2.3 Control by nondominant blockholders

It is hard to know if an ownership structure has economically significant consequences if we know little about the parameters of control. Besides the largest
shareholder’s excess control, another factor that affects firm control mechanisms is control by nondominant blockholders. However, such a potentially key issue has hardly been raised, much less investigated, in the literature (Holderness, 2003). The agency theory rationale for a relationship between nondominant blockholders and firm performance is one of control (Dalton, Daily, Certo, and Roengpitya, 2003). When there exists only one large shareholder, control of the firm remains with the single blockholder with little “check and balance.” On the contrary, when there are multiple large owners, nondominant blockholders’ holdings are sufficiently large to encourage them to actively monitor firms’ decision makers and ensure that the firm is being managed in the best interests of all shareholders. As a result, expropriation of firm value by the largest shareholder will be hard to execute. The existence of multiple blockholders thus acts as an internal mechanism to monitor corporate control, enhancing the quality of corporate governance.

Agency theory identifies the monitoring role of nondominant blockholders in firms’ decision making. Resource-based view complements agency theory by emphasizing the resource provision role of multiple blockholders (Barney, 2001; Peng, 2004). Nondominant blockholders have not only incentives to monitor firm control, but also competitive advantages in securing resources for the firm. In Asia, the vast majority of large, publicly traded firms are family owned and controlled (Carney and Gedajlovic, 2002; Claessens et al., 2000). A single family’s ability to provide resources for the firm, especially during a financial crisis, may be limited. For instance, a founding family owner may be committed to the survival of the firm, however, since a disproportionate share of
his or her wealth is invested in the company, the family-owned firm may be short of capital when unusual financial chaos happens. However, nondominant blockholders can possess a wider variety of precious resources. If a bank is also one of the blockholders of the firm, the firm may then have privileged access to capital, information and other services (Thomsen and Pedersen, 2000), which represent valuable and rare resources during a crisis.

In addition, both agency theory and resource-based view are consistent with the view presented in the top management team literature (Boeker, 1992; Haleblian and Finkelstein, 1993; Hambrick and Mason, 1984) and board of directors literature (Carpenter and Westphal, 2001) that exposure to different beliefs through greater diversity of backgrounds and experiences can facilitate adaptation in a turbulent environment by stimulating debate about the feasibility of strategic alternatives. Nondominant blockholders, as a group, can make meaningful contributions to corporate strategy by providing diverse insights to the debate on firm strategy and monitoring the largest controlling shareholder to implement the strategic choices. In general, research shows that “functional diversity has positive effects on group performance” (William and O’Reilly 1998: 100). Thus, by engendering debate about firm’s current strategy and facilitate adaptation to environmental changes (Wiersema and Bantel, 1992), nondominant blockholders with diverse strategic experience and control of firm decision making, are likely to contribute to firm value.

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Bank ownership is illegal in the United States and generally avoided in the United Kingdom, but plays an important role in many other countries.
**Hypothesis 3a:** Control by nondominant blockholders is positively related to firm value during an exogenous crisis.

La Porta et al. (1999) find that poorer legal protection of shareholder rights is associated with smaller and more illiquid capital markets, thus supporting the view that private finance could be a vital and scarce resource in these countries. Firms in countries with less developed institutions lack external resources in the factor market, and thus need more internal provision of resources from blockholders. In countries where the external market for corporate control does not operate effectively because of a lack of formal market-supporting institutions, internal resource provision from nondominant blockholders may play a more important role in corporate governance during an exogenous crisis.

Legal and regulatory institutional development improves the market for corporate control and the protection of minority shareholders. Recent research finds that cross-country differences in the scale and scope of expropriation systematically varies according to the differences in minority shareholder protection afforded by legal and regulatory institutions (Dyck and Zingales, 2004). Countries in emerging economies with weaker formal regulatory regimes tend to have less effective external governance mechanisms. Thus, more of the responsibility of monitoring the controlling shareholder and providing vital resources will need to be shouldered by internal mechanisms such as control by nondominant blockholders. From an institutional perspective, we expect the role of internal mechanisms to be partially substituted by external mechanism—

26
institutional development—in corporate governance. Accordingly, we hypothesize the role of nondominant blockholders to be relatively less important in more developed institutional environment.

**Hypothesis 3b:** The positive effect of control by nondominant blockholders on firm value is weaker in countries with more developed legal and regulatory institutions during an exogenous crisis.

### 2.3 Methodology

#### 2.3.1 Data

Our primary data sources are (1) Asian Corporate Governance Archival Data Center (which primarily draws on Worldscope and World Bank data sources) and (2) Worldscope Database. Ownership data is collected for the year 1996, one year before the 1997 Asian financial crisis. Ownership of each company is traced to its ultimate owner. How much cash flow rights share, in percentage of total outstanding shares the owner has, is identified (see Claessens et al., 2000). A 5% control rights share cutoff is used to assure that the largest shareholder has concentrated ownership and control. Firms in seven Asian countries, Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan and Thailand, are included in this study. After excluding firms with missing data, we have 884 firms in the sample.

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6 Previous studies using this data source have appeared in reputable journals such as the *American Economic Review* (Faccio et al., 2001) and *Journal of Financial Economics* (Claessens et al., 2000).
**Dependent variable**

*Firm value.* The 1997 Asian financial crisis was triggered in Thailand in July 1997 and spread over other Asian countries very quickly. The dependent variable, firm value, is measured by cumulative stock return (buy and hold return) during the crisis from July 1, 1997 to December 31, 1997 (or the last trading day of the year). This measure captures the immediate effect of the crisis. A stock market-based performance measure is used as the performance indicator for three reasons. First, unlike performance measures based on accounting data, market-based performance measures are not influenced by firm-specific financial reporting idiosyncrasies. Second, for a cross-country study such as ours, using stock market data eliminates the problems with accounting data which could be distorted by different accounting and tax systems across countries. Third, the use of a market-based performance measure is consistent with an important principle in corporate governance – that is, a firm should maximize its *market* value (De Miguel, Pindado, and de la Torre, 2004). Data of stock returns are obtained through Worldscope.

**Independent variables**

*Ownership concentration (Concentration).* Ownership concentration is measured through the fraction of shares owned by the largest controlling shareholder. This measure has been used in Europe (Gorton and Schmid, 2000; Thomsen and Pedersen, 2000). It is appropriate to measure ownership concentration by fraction of cash flow rights owned by the largest shareholder in East Asia, because most studies (e.g. Claessens et al., 2000) find a large percent of cash flow rights in the hands of the largest blockholder in that region.
The excess of control over ownership (Excess control). The excess of control over ownership is measured as the difference between cash flow rights and control rights of the largest controlling shareholder.

Control by nondominant blockholders (Control by nondominant). Control by nondominant blockholders is measured as the percentage of control by non-largest blockholders over control by all the multiple blockholders.

Institutional development (Institution). Institutional development is measured by La Porta et al.’s (1998) index for judicial efficiency, rule of law, and corruption.7 Judicial efficiency is the assessment by an independent organization, Business International Corporation, of “the efficiency and integrity of the legal environment as it affects business” (La Porta et al., 1998, p.1124). Corruption and the rule of law are assessment by another independent organization, International Country Risk Services. Corruption is the extent of corruption in the government, particularly the extent to which businesses have to pay bribes, and the rule of law is the law and order tradition in the country (La Porta et al., 1998). All of these measures are calculated well before the Asian financial crisis. La Porta et al.’s (1998) index has been widely used in cross-country studies (e.g., Dyck and Zingales, 2004; Schneper and Guillen, 2004). Raw numbers for each country and the standardized numbers are presented in Table 1. The transformation of the standardized numbers prevents variance of any item from driving the scale (Kogut and Zander, 2003). The standardized numbers are then summed to form a scale score following Kogut and Zander (2003), as a measure for institutional development. Shown

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7 The index runs from 1 to 10, with 10 indicating the most efficient judicial system, rule of law, and least corruption.
in Table 1, Singapore and Hong Kong have a relatively higher level of institutional
development and Indonesia has a relatively lower level.

Control variables

Size. We control for firm size before the crisis, measured as the natural log of the
firm’s market capitalization in 1996.

Debt-to-equity ratio. Debt pressure may have an effect on corporate governance
(Jensen, 1989). Firms with a high leverage ratio may experience more difficulties during
economic downturns since highly leveraged firms might have more difficulty obtaining
external financing during a crisis. Therefore, the debt-to-equity ratio in 1996 is controlled.

Market-to-book ratio. Another factor that might affect stock returns is market-to-
book ratio. It is measured as the market value of equity divided by the book value of
equity in 1996.

Firm risk (Beta). Risky firms generally have a high default risk and are therefore
more vulnerable to external shock (Baek, Kang, and Park, 2004). We would expect
riskier firms to experience a larger drop in firm value. Firm risk is measured by beta,
computed by regressing a firm’s monthly stock return on the corresponding country index
return in 1996.

Accounting transparency (ADR). In general, foreign firms with a listed American
Depository Receipt (ADR) have higher disclosure quality. Thus, we include an ADR
dummy to examine whether increasing accounting transparency leads to better stock
price performance during the crisis.
Industry and country controls. We include dummy variables for 12 broad industries, as in Campbell (1996). Country effects are controlled by including six country dummy variables.

2.3.2 The model

We use ordinary least square regression (OLS) to examine the relation between firm ownership and control structure and firm value. The three independent variables that represent ownership and control structures are included. In order to test the moderating effect of institutional development, we then interact the institution variable with the other three independent variables (See Figure 1). The same models are used with firm value in the year 1996 as the dependent variable to test the effect of ownership and control on firm value before the crisis. Multicollinearity does not appear to be a significant problem, because the average variance inflation factor is less than 10. Heteroskedasticity is corrected using robust (Huber-White-Sandwich) standard errors.

2.3.3 Results

Table 2 provides the correlation matrix and descriptive statistics for the variables. Table 3 shows the result of the regressions (STATA 8.0). The independent variables are fit into Model 1 to test Hypotheses 1a, 2a, and 3a. Then each of the three independent variables interacts with the institution variable in Models 2, 3, and 4 separately to test Hypotheses 1b, 2b, and 3b respectively.

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8 These models are not reported due to space constraints. They can be requested from the authors.
Hypothesis 1a is supported. Higher ownership concentration is associated with better stock return during the crisis. An addition of 10% more shares owned by the largest shareholder increases stock return by approximately 3% from Model 1. Hypothesis 1b is also supported. The interaction of ownership concentration and institution dummy is negative and significant in Model 2, indicating that the positive effect of ownership concentration on firm value is weaker in countries with more developed institutions.

Hypothesis 2a is not supported. The variable, excess control, is not significant in Model 1. A possible explanation is that the positive effect of superior control on firm value in countries with more developed institutions and the negative effect in countries with less developed institutions cancel each other out. This interpretation can be further substantiated by the significant and positive sign for the interaction term in Model 3, which supports Hypothesis 2b. The interaction of excess control and institution has a positive effect on firm value, indicating that institutional development is a necessary condition for the largest shareholder’s excess control to increase firm value.

Hypothesis 3a is supported in Model 1. More control by nondominant blockholders increases firm value. Hypothesis 3b is not supported. The interaction term in Model 4 is not significant. In other words, institutional development has no moderating effect on the relation between control by nondominant blockholders and firm value, indicating that control by nondominant blockholders has a strong positive effect on firm value across countries and the effect of the external mechanism from institutional development is fairly small.
Consistent with what Lemmon and Lins (2003) find, in the models using firm value in the year 1996 as the dependent variable, the ownership and control variables are not significant. It indicates that ownership and control do not affect firm value without an external shock.

Overall, our findings suggest that higher ownership concentration represents higher quality of corporate governance during an exogenous crisis, which increases firm value on a larger scale in countries with less developed formal institutions than in countries with more developed formal institutions. More control by nondominant blockholders represents higher quality of corporate governance during a crisis across countries with different levels of formal institutional development. The effect of the largest shareholder’s excess control on the firm value is conditioned on the level of institutional development in a country.

2.4 Discussion

Overview of findings

Although agency theory focuses on the conflicting interests of controlling shareholders and minority shareholders when ownership is concentrated (Shleifer and Vishny, 1997), the perspective developed in this article suggests how and when ownership concentration can help align the interests of the controlling shareholder and minority shareholders.

While the proposition “Institutions matter” is hardly controversial, an interesting direction is to probe into how they matter (Aguilera and Jackson, 2003; Peng, 2003). Our
findings suggest that institutional development works as an external mechanism in corporate governance. Ownership concentration, an internal mechanism to increase the quality of corporate governance, can be substituted by strong institutional development, which means ownership concentration is less important when the external mechanisms are more effective.

Focusing on the controlling shareholder’s incentive to expropriate minority shareholders, agency theory is critical of the largest shareholder’s excess control over ownership. However, such a perspective has not addressed whether the controlling shareholder may access valuable resources and exercise control effectively. We suggest considering largest shareholder’s excess control and external institutional development as an efficient bundle of corporate governance mechanisms. Our findings suggest that when the controlling shareholder’s incentive to expropriate firm value is constrained by more developed formal institutions, excess control provides the largest shareholder with superior control to access unique resources more effectively during an exogenous crisis. Barney (2001) suggests that broader corporate governance factors may be a source of competitive advantage. Our study recognizes the situation—excess control combined with more developed institutions—when the resource provision role of the controlling shareholder may emerge as a competitive advantage in corporate governance.

Finally, prior research on ownership concentration has not specifically examined the role of nondominant blockholders in corporate governance. Our findings are consistent with both agency theory and resource-based view in that control by nondominant blockholders provides a check on the controlling shareholder, and also
broadens the firm’s resource access and knowledge base. The hypothesized effect is consistent at different levels of institutional development, which implies that control by nondominant blockholders is a strong indicator of good corporate governance.

Contributions, limitations, and future directions

Contributions. There has been a great surge of work on corporate governance in East Asia after the 1997 financial crisis. However, most of the work has been empirical without grounding in and development of underlying theory (Shleifer and Wolfenzon, 2002). While agency theory dominates corporate governance research, our study integrates additional theoretical perspectives to explain blockholders’ resource, service, and strategy roles. It contributes to the literature by (1) explicitly analyzing the relationship between controlling shareholders and minority shareholders, (2) eliminating the endogeneity problem by studying corporate governance during an external shock, (3) identifying the appropriate contingencies for agency theory, resource-based view, and institutional perspective to exhibit validity, and (4) empirically substantiating predictions brought together by various theoretical perspectives.

The evidence of differences in legal rules (La Porta et al., 1998) starts to focus on the impact of legal institutions on minority shareholders protection. Our study suggests that internal mechanisms of corporate governance can be substituted by legal and regulatory protection for shareholders. More specifically, our study joins the recent work of La Porta et al. (1998, 1999, 2000), Schneper and Guillen (2004), and others in sketching the contours of a cross-country, institution-based theory of corporate governance. Different from previous studies on the Asian financial crisis that find
decreasing firm value when control rights of the largest shareholder exceed cash flow ownership (e.g., Lemmon and Lins, 2003), our study proposes that excess control of the largest shareholder, when conditioned on better external control mechanisms, may increase firm value. As such, this study adds to the existing literature on ownership structure by examining corporate governance mechanisms under different institutional environments. The institutional perspective enriches the debate on the role of concentrated ownership and control, by suggesting that findings from numerous previous single-country studies may need to be qualified with an explicit discussion on the enabling and constraining forces of the institutional frameworks.

**Limitations and future directions.** Although our focus on the formal legal and regulatory institutions – largely influenced by La Porta et al. (1998) – is a useful first step, it is important to note that institutions also include numerous other formal and informal aspects such as competition policies and cultural and societal norms (Aguilera and Jackson, 2003; ; Peng, 2003, 2004; Schneper and Guillen, 2004). These dynamics thus necessitate our expansion to capture some of these complexities in future attempts to measure aspects of institutional frameworks. While this study uses cash flow rights of the largest shareholder, other studies tend to focus on the fraction of shares owned by a firm’s management (Demsetz and Lehn, 1985; Himmelberg, Hubbard, and Palia, 1999). Constrained by data, our study is limited in its measurement of ownership structure, and future research using different measurement would give a more robust result.
2.5 Conclusion

Despite the Berle and Means (1932) hypothesis on the “inevitability” of the diffusion of ownership when firms grow large, most large firms outside the Anglo-American world, especially those in East Asia, have “stubbornly” continued to concentrate ownership and control in the hands of blockholders. In the seven Asian countries that we study, firms seem to benefit from concentrated ownership and control during an exogenous crisis. Institutional perspective predicts that institutional development can substitute for ownership concentration in enhancing quality of corporate governance. Resource-based view, combined with institutional perspective, predicts the differences of institutions in how the largest shareholder’s excess control affects firm value. Agency theory and resource-based view both predict that control by nondominant blockholders can enhance quality of corporate governance during an exogenous crisis. Dealing with such complex dynamics, our study shows that a single theoretical perspective is not sufficient to study corporate governance issues. A strong, “take home” message this article suggests is that different theoretical perspectives complement each other to provide a better and sounder account of the mechanisms of corporate governance.

From a policy standpoint, our findings have important implications for corporate governance reforms in East Asia (and perhaps elsewhere). Calls for reforms in the aftermath of the 1997 Asian financial crisis made by Western advisors and media as well as international organizations such as the International Monetary Fund and the World Bank (heavily influenced by the Anglo-American model) to reduce ownership concentration, professionalize management, and break pyramid structures need to be
embraced with caution. Our findings suggest that concentrated ownership and control may actually indicate high quality of corporate governance during an exogenous crisis. Our findings also suggest that excess control over ownership and external institutional development may form a bundle of efficient corporate governance mechanisms, and the benefits of having excess control may outweigh the potential costs when external mechanisms of corporate governance are more efficient. In conclusion, reforms may be needed, but actions need to be substantiated by an in-depth understanding of the complex dynamics associated with concentrated ownership structure.

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9 This is similar to the caution we need to embrace when dealing with other theoretically and intuitively sensible but empirically ambiguous suggestions in reforming corporate governance in emerging economies, such as appointing outside directors to corporate boards (Peng, 2004).
Figure 2.1 Firm Ownership and Control Structure and the Interaction with Institutions

Ownership concentration

Excess control over ownership

Control by nondominant blockholders

Development of legal and regulatory institutions

Firm value during an exogenous crisis
<table>
<thead>
<tr>
<th>Country</th>
<th>Judicial efficiency Standardized value (Raw score)</th>
<th>Rule of law Standardized value (Raw score)</th>
<th>Corruption Standardized value (Raw score)</th>
<th>Institutional Development * Standardized value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>1.042 (10)</td>
<td>0.804 (8.22)</td>
<td>1.033 (8.52)</td>
<td>2.879</td>
</tr>
<tr>
<td>Indonesia</td>
<td>-1.39 (2.5)</td>
<td>-1.613 (3.98)</td>
<td>-1.839 (2.15)</td>
<td>-4.842</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.718 (9)</td>
<td>-0.017 (6.78)</td>
<td>0.519 (7.38)</td>
<td>1.22</td>
</tr>
<tr>
<td>Singapore</td>
<td>1.042 (10)</td>
<td>1.003 (8.57)</td>
<td>0.898 (8.22)</td>
<td>2.943</td>
</tr>
<tr>
<td>South Korea</td>
<td>-0.255 (6)</td>
<td>-0.832 (5.35)</td>
<td>-0.419 (5.3)</td>
<td>-1.506</td>
</tr>
<tr>
<td>Taiwan</td>
<td>-0.012 (6.75)</td>
<td>0.975 (8.52)</td>
<td>0.280 (6.85)</td>
<td>1.243</td>
</tr>
<tr>
<td>Thailand</td>
<td>-1.147 (3.25)</td>
<td>-0.319 (6.25)</td>
<td>-0.473 (5.18)</td>
<td>-1.939</td>
</tr>
</tbody>
</table>

* An equally weighted measure consisting of the three components of standardized value in previous columns


Table 2.1: Country Institutional Development
<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Stock return</td>
<td>-0.4</td>
<td>0.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Concentration</td>
<td>24.84</td>
<td>12.6</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Excess control</td>
<td>5.084</td>
<td>7.74</td>
<td>-0.04</td>
<td>-0.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Control by nondominant</td>
<td>0.248</td>
<td>0.22</td>
<td>0.01</td>
<td>-0.31</td>
<td>-0.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Institution</td>
<td>0.784</td>
<td>2.51</td>
<td>0.16</td>
<td>0.08</td>
<td>-0.1</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Size</td>
<td>12.39</td>
<td>1.49</td>
<td>0.06</td>
<td>-0.1</td>
<td>-0.06</td>
<td>0.04</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Debt to equity</td>
<td>120.9</td>
<td>360</td>
<td>-0.09</td>
<td>-0.02</td>
<td>-0.03</td>
<td>-0.01</td>
<td>-0.13</td>
<td>-0.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Market to book</td>
<td>1.924</td>
<td>2.01</td>
<td>-0.05</td>
<td>0.04</td>
<td>-0.02</td>
<td>0.11</td>
<td>0.09</td>
<td>0.21</td>
<td>0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Beta</td>
<td>0.93</td>
<td>0.88</td>
<td>-0.21</td>
<td>-0.02</td>
<td>-0.06</td>
<td>0</td>
<td>-0.06</td>
<td>0.14</td>
<td>-0.01</td>
<td>-0.004</td>
<td>-0.01</td>
</tr>
<tr>
<td>10. ADR</td>
<td>0.09</td>
<td>0.29</td>
<td>0.08</td>
<td>-0.04</td>
<td>-0.05</td>
<td>-0.01</td>
<td>0.23</td>
<td>0.24</td>
<td>-0.03</td>
<td>-0.004</td>
<td>-0.01</td>
</tr>
</tbody>
</table>

Table 2.2 Variance Covariance Matrix
a. Standard errors are heteroscedasticity-consistent robust.
b. Industry dummy variables and country dummy variables are included in the models but are not reported due to space constraints.

* p < 0.05; ** p < 0.01; *** p < 0.001

Table 2.3 The Effect of Ownership Concentration, Excess Control over Ownership, and Control by Nondominant Blockholders on Firm Value

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration H1a (+)</td>
<td>0.003**</td>
<td>0.004***</td>
<td>0.003**</td>
<td>0.003**</td>
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<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
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<tr>
<td>Excess control H2a (-)</td>
<td>0.001</td>
<td>0.001</td>
<td>0.0004</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Control by nondominant H3a (+)</td>
<td>0.12*</td>
<td>0.129**</td>
<td>0.115*</td>
<td>0.113*</td>
</tr>
<tr>
<td></td>
<td>(0.050)</td>
<td>(0.050)</td>
<td>(0.050)</td>
<td>(0.052)</td>
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<td>Institution</td>
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<td>(0.016)</td>
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<tr>
<td>Concentration × Institution H1b (-)</td>
<td>-0.001***</td>
<td></td>
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<td>(0.0004)</td>
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<tr>
<td>Excess control × Institution H2b (+)</td>
<td>0.001*</td>
<td></td>
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<tr>
<td></td>
<td>(0.0005)</td>
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<tr>
<td>Control by nondominant × Institution H3b (-)</td>
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<td>Debt-to-equity</td>
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<tr>
<td>Market-to-book</td>
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<tr>
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<td>-0.0583***</td>
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<td>(0.032)</td>
<td>(0.032)</td>
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<tr>
<td>Constant</td>
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<td>-0.170</td>
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<td>0.3216</td>
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CHAPTER 3

MODES AND SURVIVAL OF PRIVATE PARTICIPATION PROJECTS

3.1 Introduction

Privatization connotes the transfer of assets, functions, and responsibilities from government to private hands, or, any form of private participation in government owned enterprise or operations (Doh, 2000; Ramamurti, 1992). Private participation in infrastructure is a relatively new phenomenon in the developing world (World Bank, 1999). This investment has been facilitated by broad economic liberalization and privatization (Doh, 2000; Ramamurti, 2000). Research on privatization in emerging economies has investigated the causes and trends of privatization (Ramamurti, 1992), the effects of country characteristics on privatization (De Castro and Uhlenbruck, 1997; Ramamurti, 2003) and the nature of privatization methods (Djankov, 1999). However, prior research on privatization does not recognize the different modes of private participation, and implicitly assumes that there is one relatively uniform and simplistic

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10 This paper studies private participation of infrastructure industries: energy, telecommunications, transport, water and sewerage. These industries constitute a majority of privatizations in recent years (approximately $75 billion of the $123 billion in emerging markets privatization from 1990 to 1996, according to the World Bank).
mode of privatization, thereby overlooking a major source of variation in the observed results of privatization (Zahra, Ireland, Gutierrez, and Hitt, 2000).

However, not all private participation is the same. Conceptually, there are at least three modes of private participation. Traditionally, the ownership and control rights of state-owned enterprises (SOEs) rest with the government. The first private participation mode is acquisition – private entities acquire ownership and control rights from the government. This is the most straightforward and thus most widely used conceptualization of “privatization.” However, there are other modes of private participation. In the second mode, the government can retain its ownership rights, while releasing control rights of SOEs to private entities. In other words, the government awards a management control to private entities. Third, the government and private entities can set up public-private partnerships by jointly investing, owning, and managing these “mixed enterprises” – or joint ventures (Boardman and Vining, 1989). In this article, we focus on private participation of infrastructure industries around the world – energy, telecommunications, transport, and water and sewerage. In these politically sensitive industries, straightforward private acquisition consists of a minority of the private participation projects and public-private joint venture is the most widely used private participation mode.

Drawing from transaction cost economics (TCE), we suggest that the particular private participation project can be viewed as a transaction between the government and the private entities. Straightforward acquisition can be viewed as a market transaction. Managerial contracts can be conceptualized as an internal transaction – that is, the private
entities in charge of the management of the “privatized” SOEs are viewed as internal units of the government which help accomplish economic goals set by the government. Finally, public-private joint ventures can be viewed as a hybrid. Two questions thus arise: (1) Under what circumstances do transaction parties choose certain modes of private participation but not others? (2) How do the odds of survival of the private participation projects differ among different modes of private participation?

The purpose of this article, therefore, is to address these two important but previously little explored questions. We accomplish this (1) by extending TCE which has a historical emphasis on transactions between private entities to cover transactions between public and private sectors, and (2) by drawing on a large database on 2500 projects in 94 countries around the world amassed by the World Bank.

Overall, this article departs from the literature in two ways. First, Research examining investment project governance structures generally considers the distribution of ownership between two or more private parties (e.g. Hennart, 1993) without examining the relative ownership shares of states and private entities. We study three major governance structures in private participation projects that manifest three different distributions of ownership and control between states and private entities. Second, we utilize a large dataset consisting private participation projects in 94 emerging economies and measure the transaction uncertainty in these countries. We explore attributes of institutional environments and argue that different modes of private participation vary systematically in their governance structure to respond in a coordinative manner to uncertainty in the institutional environments.
3.2 Theory and hypotheses

3.2.1 Transaction cost economics

Ronald Coase formulated his ideas on transaction costs and their effects on coordination in markets and firms (Coase, 1937). As with Coase, Chester Barnard’s (1938) analysis of adaptation within internal organizations initiated later research on organizational adaptation to changed circumstances. While Coase’s disciples focused on the boundary of the firm by assessing factors that impacted the make-or-buy decision, those who followed Barnard focused primarily on intra-organizational coordination. Research in the tradition of Barnard accumulated on the design attributes of complex organizations comprising multiple, interdependent subunits that enable them to achieve coordinated adjustments to changes in their environment (Daft, 2001; Galbraith, 1977; Gulati, Lawrence, and Puranam, 2005).

Both Hayek (1945) and Barnard (1938) hold that the central problem of economic organization is coordination. Whereas Hayek locates coordination in the market, it was the coordination of internal organization on which Barnard focused attention (Williamson, 1991). We extend this tradition of research initiated by Barnard and Hayek to the private participation context and explore the governance structure of different private participation modes. We combine Hayek and Barnard’s coordination concepts and examine the ability to generate coordinated responses across units, whether it is within or across firm boundaries. When applied to private participation projects in emerging economies, transaction concerns both the state and the private entity to coordinate in the uncertain environment.
In TCE research, scholars have studied two different modes of organizing entities: firms can either “make” (internal transaction) or “buy” (market transaction) component necessary to complete their product mandates (Coase, 1937; Williamson, 1975). In recent years, scholars have expanded this dichotomous choice to focus on other hybrid forms of organization—alliance—that are an intermediate form between make and buy (Dyer and Singh, 1998; Williamson, 1991). For this study, our unit of analysis is the governance structure in transactions between the state and the private entities, which could be internal governance, market governance or hybrid.

**TCE and uncertainty**

TCE focuses on “transactions and the costs that attend completing transactions by one institutional mode rather than another” (Williamson, 1975: 1). The two main dimensions of transactions, according to TCE, are asset specificity and uncertainty. Williamson (1975) defined uncertainty in terms of the inability of decision makers to specify a complete decision tree. Transaction uncertainty exists to the degree that transactions are unstandardized or unpredictable. The greater the level of such uncertainty, the greater the amount of information that an organization has to process and thus the higher the cost.

As discussed by Williamson (1985) and North (1990), institutions are developed by societies to create order and reduce uncertainty in promoting economic exchange and coordination. Institutions are the “humanly devised constraints that structure human interaction” (North 1990, p. 3). Investigation of firms in emerging economies should be addressed within a framework that takes account both of institutional constraints and firm
strategy (Child and Tsai, 2005). In emerging economies, the level of uncertainty can be
magnified because stable institutions have not yet fully developed, while the old order is
being eroded at the same time (Peng, 2003). As a new phenomenon in emerging
economies, private participation in infrastructure faces unstable institutional
environments. Factors such as the randomness of the market and institutional
environments, or the unpredictable discretion of the government increases the uncertainty
in transactions between the private entity and the government (Choi, Lee, and Kim, 1999).
Institutional underdevelopment is a hallmark of emerging economies (Meyer and Peng,
2005; Wright et al., 2005), and the level of institutional development varies considerably
among emerging economies (De Castro and Uhlenbruck, 1997). This has important
implications for the design and implementation of privatization programs (Ramamurti,
2000).

**TCE and asset specificity**

The effect of uncertainty on the choice of governance form is conditional: in the
presence of asset specificity, increases in uncertainty will increase the costs of the
transaction between parties (Williamson, 1985). Asset specificity refers to the degree to
which the assets used in support of the transaction can be redeployed to alternative uses
three types of asset specificity: (1) site specificity, (2) physical asset specificity, and (3)
human asset specificity. Site specificity refers to the situation whereby successive
production stages that are immobile in nature are located close to one another. Physical
asset specificity refers to transaction-specific capital investments that tailor processes to
particular exchange partners. Human asset specificity refers to transaction-specific know-how accumulated by transactors through longstanding relationships.

In this study, two parties—the private entity and the SOE are locked into the transaction in the infrastructure project because both the physical assets and the human assets invested in the new project are specified to a non-trivial degree. When the state itself retain a block of shares in the private participation project, it results in “mixed enterprises” or “public-private partnerships” (Boardman and Vining, 1989). If the project fails, assets invested by the private entity will not be redeployed to alternative uses without sacrifice of productive value because the state may simply change to other partners. When private entities have a high level of participation in the project, they invest in physical assets such as machineries which are specialized to the project they embarked on. Human assets specialization is also high since dedicated engineers and managers get involved in the project and develop experience working with the SOE to accumulate specialized information and know-how. Private entities develop specialized knowledge of managing such a public-private partnership by investing specified physical and human assets in the infrastructure projects.

### 3.2.2 Modes of private participation

Private participation projects can be classified into three categories according to the transaction between the government and the private entities. In a managerial contract, a private entity takes over the management of a project whereas the ownership still resides with the government. This is viewed as an internal governance structure. Straightforward acquisition where a private entity buys an equity stake in a state-owned
enterprise can be viewed as a market transaction. Finally, public-private joint ventures can be viewed as a hybrid. These three modes of private participation are summarized in Figure 1.

**Internal governance**

The main change introduced by private participation in emerging economies is in governance arrangements (Ramamurti, 2000). Ownership and control are among the most fundamental reflections of influential governance forms. Ownership rights refer to the locus of authority for making strategic choices (Jensen and Meckling, 1976). Owners generally have the authority to decide the firm’s strategic goals, develop its competitive strategy, and allocate its resources through internal transactions. Private control of former SOEs through managerial contracts is a private participation mode that internalizes transactions between the state and the private entities. In this mode of private participation, a private entity takes over the management of part of a state-owned enterprise while ownership remains with the state and investment decisions are made within the SOE hierarchy, which is a distinguishing feature of internal organization (Williamson, 1991). Through the managerial contract, the state and the private entity resolve transaction disputes internally in the SOE.

**Hybrid**

In another mode of private participation, a private entity and the state form an alliance and operate a greenfield facility, which they both have ownership claims in. In this form of governance, both parties to the transaction maintain autonomy but are bilaterally dependent. The state and the private entity jointly invest in the project, they
learn a great deal about which investment terms and conditions may be most effective, efficient, and viable in economic, political, and social terms (Doh, Teegen, and Mudambi, 2004), which helps them to adapt to each other’s management style in a coordinative manner. Coordination in hybrid is not made unilaterally (as with market governance), or by fiat (as with internal governance), but require mutual consent (Williamson, 1991). This governance form foresees unanticipated disturbances, provides a “tolerance zone” within which misalignments are absorbed, requires information disclosure when adaptation occurs, and provides for arbitration (prior to resorting to the courts) in the event of disagreement (David and Han, 2004).

**Market governance**

When SOEs’ property is acquired by a private entity, the state relinquishes both ownership and control rights, and the private entity obtains both rights of the project. Although this private participation mode avoids political interference in management’s decision making with a clearly defined property rights (Boycko, Shleifer, and Vishny, 1993), given the politically sensitive nature of private ownership of infrastructure (Vernon, 1971), the private firm cannot totally avoid transactions with the state. Newly privatized firms in emerging economies often find it necessary to seek financial, technological, and managerial resources and capabilities from more richly endowed firms (Hitt, Dacin, Levitas, Arregle, and Borza, 2000) which may be SOEs or firms partially owned by the state. And often time, the private entity only acquires part of the SOE’s assets, resulting in transactions between the private entity and the rest of the SOE after private participation.
3.2.3 Choice of governance modes

Countries vary in the relative influence of authoritative planning vs. market governance of transactions in domestic resource allocation (Murtha and Lenway, 1994), which translate into differences in uncertainty in post-privatization environments. Without uncertainty, even highly specialized assets may be protected contractually (Mahoney, 1992). However, in emerging economies with a more erratic formal institutional environment (Wright et al., 2005), more restricted product markets (Khanna and Palepu, 1997), and weaker formal regulatory regimes (La Porta et al., 1998), the level of uncertainty is high and transactions between the private entities and the government will be costly. There are “rational economic reasons” (Williamson, 1985: 52) for private entities to choose the means of governing transactions that minimize transaction costs.

Some recent extensions of transaction cost economics interacting transaction cost economics and institutional theory (Martinez and Dacin, 1999) and introducing governance inseparability and unanticipated changes as constraints on firm choice (Argyres and Liebeskind, 1999) are relevant to an understanding of strategies in emerging economies. Some theorists argue that institutional perspective is the most applicable paradigm for explaining firm behavior in emerging economies (Shenkar and Von Glinow, 1994). In the post-privatization era in emerging economies, the institutional environment tends to be unstable and uncertain. Opportunistic behavior, normally reduced by contract law or trust, is much more likely under such circumstances (Hoskisson et al., 2000). In countries with less developed institutions, the formal
institutional structure is ambiguous, turbulent, and poorly-enforced (Peng, 2000), and the transaction between the government and the private entity faces unanticipated changes of formal institutions. The government may behave opportunistically and put the private entities’ investment at risk. In market governance structure, transactions between the private entity and the state becomes market based and private entities do not interact with the government on management decision making and do not have frequent information exchanges with the state regarding requirement and political terms. Uncertainty in the institutional environment renders market governance subject to costly haggling and maladaptiveness, and increases the relative attractiveness of hierarchies and hybrids (Williamson, 1985). When the private entity chooses internal or hybrid governance structure, information exchange and feedback with the state are facilitated by the organization, which reduces uncertainty in the product market and formal regulation. Since the market sacrifices cooperation when compared with the hierarchy and the alliance (Williamson, 1991), rational private entities are more likely to choose internal governance and hybrid structure in private participation projects to better coordinate with the state when uncertainty is high in the institutional environment.

**Hypothesis 1:** Private entities facing higher transaction uncertainty in the private participation projects are more likely to choose internal governance (managerial contract) or hybrid (public-private joint venture) over market governance (acquisition).

Asset specificity often provides an opportunity for opportunism. The essential element of the decision as to whether internal or external governance will be more
efficient is the extent to which the parties invest in durable, nonmarketable assets to facilitate a transaction (Williamson and Ouchi, 1981). Before private participation, the state has to satisfy multiple political claims in managing SOEs, which may result in significant deviation from market-based efficiency (Zahra et al., 2000). At the onset of privatization, this template may still be deeply embedded and the state may retain many features conflicting with the management of a market system (Makhija, 2004). Moreover, privatization researchers note that deals in developing countries are likely to include post-privatization conditions such as some form of government presence after privatization (De Castro and Uhlenbruck, 1997). Transaction-specific investment made by the private entities provides opportunities for the government to behave opportunistically and limits the ability of the market to govern exchange (Williamson and Ouchi, 1981). Private entities, protecting themselves against being hold up by the government, may tend to internalize transactions with the government when making high specific investment in the private participation projects.

The economics literature focuses on efforts of incentive alignment, and the problem of avoiding or mitigating opportunism is a central theme in the design of group incentives (Holmstrom and Milgrom, 1994). According to the knowledge-based theory of the firm, whether a firm performs activities in-house or through market contracts depends on whether doing so makes the generation and exploitation of knowledge more efficient (Conner and Prahalad, 1996; Grant, 1996; Kogut and Zander, 1996). Transaction parties learn to use their knowledge in a sophisticated way to respond to conflicts (Shenkar and Zeira, 1992). Coff (2003) argues that the risk of opportunism increases along with
knowledge intensity and cannot be analyzed separately. We argue that besides guarding against opportunism of the state, specified human assets invested by private entities in developing knowledge in the project is also an important factor in governance choice in private participation projects.

The state will not be able to learn to operate efficiently in a market system overnight. In structuring the process of market liberalization and private ownership in previously state-controlled sectors, governments face a challenging range of options as they seek to balance political, social, and economic goals in determining the extent and pace of reform (Doh, 2000). Some have argued that SOEs are not disciplined by the fear of bankruptcy because SOEs have access to bailout money from the treasury, which is referred to as the “soft budget constraint” (Majumdar, 1998). Private entities, however, are disciplined by threats of bankruptcy (Hanke, 1987), thus have every incentive to choose the governance mode that best facilitates the coordination with the government to improve performance of the projects. When the private entities make more asset-specific investments, private entities’ higher levels of participation in the projects and expansion of the scope of asset specific operations requires them to seize competitive opportunities and make profits out of their investments. However, private entities may lack the knowledge of cooperating with the state efficiently. It is of the private entities’ interest to facilitate transactions with the government at a low cost when they have high asset-specific investments. Compared with market governance, internal governance and hybrid may better facilitate coordination between private entities and the government through frequent information exchange and interaction in management decisions. By
communicating internally in the SOE or a joint venture with the SOE, private entities may learn to facilitate transactions with the state more efficiently and reduce conflicts with the state in transactions. The perspective of mitigating opportunistic behavior of the state and that of facilitating knowledge generation of cooperating with the state are consistent in predicting that:

**Hypothesis 2**: Private entities with higher asset specificity in the private participation projects are more likely to choose internal governance (managerial contract) and hybrid (public-private joint venture) over market governance (acquisition).

### 3.2.4 Survival of private participation projects

Privatization is a natural experiment allowing us to examine how corporate governance mechanisms evolve and affect firm performance (Denis and McConnell, 2003). Because of the long time horizon, economies of scale and scope and highly political nature of the environment, infrastructure projects will be especially sensitive to a country’s institutional environment (Henisz, 2002; Spiller, 1993). Private participation modes influence the performance of private participation projects by influencing transaction between the state and the private entity. Private participation projects with residual state ownership internalize transactions between the state and the private entities. They have advantages to gain insights into the requirement, environments, and operations of enterprises (Doh et al., 2004) under an uncertain environment, thus coordination between the private entity and the state is enhanced in the post-privatization environment. McKnight et al. (2003) also suggests that residual state ownership of privatized
enterprises provides risk assurance to investors when these SOEs float shares. On the other hand, by including a private entity as a subunit, the SOE also learns to take actions through which a private sector template can be institutionalized within its managerial ranks (Johnson, Smith, and Coding, 2000), thus gradually adapt to market-based efficiency when cooperating with the private entities over management decisions.

Combining state and private ownership in a hybrid governance structure also facilitates coordination between private entities and the state. After decades of reform, the market institutions in emerging economies are still inadequate, although improving. The turbulent environment and inadequate institutions add to the general uncertainty to private entities. Blurring the government-private boundary through hybrids can make it easier for private entities to get credit from the bank in an environment unfriendly to private ownership (Peng and Jiang, 2005). Forming alliances with large SOEs can also help private entities to get access to a larger pool of suppliers and customers in the existing networks, which would have cost a lot more if they try to set up the network from scratch (Peng and Jiang, 2005).

Market governance was seen as a quick and simple way to create private owners in emerging economies. However, private owners themselves do not necessarily lead the private participation projects to a smooth adaptation to the uncertain environment, and institutional underdevelopment in corporate governance often has led to disappointing results (Filatotchev, 1997). Privatization depends a lot on formal institutional frameworks centered on laws and regulations, which are influenced by other reforms, such as the ownership, tax, and administrative reforms (Johnson et al., 2002; Peng, 2000). The less
developed the institutions, the greater uncertainty in transactions between the private entity and the government, and the greater information processing requirements and adaptation pressure on privatization projects. Compared with developed market, emerging market institutions tend to be more uncertain, with economic, social, and political instability (Hitt et al., 2000). The firm may be able to, at least partially, control uncertainty generated by environmental chaos through certain internal arrangements (Akerlof, 1970), thus increase the odds of survival under uncertainty. Privatization through market governance creates the possibility for corporate governance by private actors, but within a context with no established mechanisms to provide credible information to new owners (Spicer, McDermott, and Kogut, 2000), thus creating problems for post-privatization management. It is likely that some form of hierarchical governance mechanism will supplement the market mechanism to manage coordination between parties, whereas market governance will be least capable of facilitating coordination in transactions between the private entity and the government. We expect the survival of private participation projects with market governance to be most adversely affected by uncertain institutions.

**Hypothesis 3:** Transaction uncertainty has more adverse effects on the survival of private participation projects with market governance (acquisition) than on the survival of private participation projects with internal governance (managerial contract) or hybrid (public-private joint venture).
Having both parties in one firm increases the incentive to be efficient in carrying out transactions and decreases the incentive for opportunistic parties to “hold up” transactions (Williamson, 1975, 1985). Also, disputes between parties can be resolved by the organization when they occur within a firm, whereas in market transactions, a party can use the law and legal system to hold up activities, thus making them less efficient (Argyres and Liebeskind, 1999; Klein, Crawford, and Alchian, 1978). In private participation projects, as product development proceeds, agreement between the private party and the government on what to do at each option point may not be automatic. This can result in haggling, which can raise costs, delay the project, or even kill it. A private entity that invests specific physical and human assets in the project is at high risk of any opportunistic hold-ups from the SOE. By having private entities and the SOE work within an organization (under integration or joint venture), such costly haggling can be avoided, since conflicts can be settled inside the organization rather than through court battles (Conner and Prahalad, 1996).

Masten, Meehan, and Snyder (1991) provided the other link between transaction cost economics and the knowledge-based view and argued that firms should integrate to take advantage of a decrease in internal organization costs. That is, a firm should organize activities within itself not so much because of the fear of hold-ups in dealing with partners but because of the ease with which the activities can be performed within the firm. Such a focus on internal organization is most effective when the asset specificity in question is human rather than physical or site. Masten and his colleagues (1991) argue that two parties should integrate because it may be cheaper to perform their joint activity
within a firm even if there were no possibility of haggling when each works autonomously. Conner and Prahalad (1996) also agreed that even in the absence of opportunism, transaction costs still exist in knowledge-based transactions. Because knowledge is often tacit and often embedded in organizational routines and specific human assets, it is difficult to duplicate and is acquired largely through personal experience, such as learning by doing or by observing. Shenkar and Zeira (1992) show that in the context of joint ventures, learning processes is addressed in terms of the human agents and organizational life cycle; managers learn how to “extract” the required information from the joint venture partner and reduce conflict. Knowledge is often “sticky”--difficult and costly to transfer, often requiring frequent interaction to “unstuck” (Von Hippel, 1994). Thus, if the private entities invest specific human assets to develop knowledge required in the projects, they may have to interact with the state often so as to obtain knowledge during the process of project development. Hierarchical control may have distinct advantages over market control in terms of exploiting the asset interdependencies that can lead to a sustainable advantage (Conner and Prahalad, 1996). When private entities invest specific human assets in the project that develop shared language and routines, tighter coordination between existing know-how and incoming knowledge can be achieved through hierarchical control than through market control.

These two perspectives delineate distinct yet complementary aspects of the effect of governance mode. Both views, however, suggest that when asset specificity is high, transactions between the private entity and the government may be better off being organized within a firm rather than through the market.
Hypothesis 4: Private entity’s asset specificity has more adverse effects on the survival of private participation projects with market governance (acquisition) than on the survival of private participation projects with internal governance (managerial contract) or hybrid (public-private joint venture).

3.3 Data and methodology

3.3.1 Data

We acquired a data set of projects in emerging economies drawn from the World Bank’s Private Participation in Infrastructure (PPI) Database. Country development data are collected from United Nations statistics division. Data on transaction uncertainty is from the Heritage Foundation’s Economic Freedom report, which grades 161 countries on aspects of institution conditions. The projects reached closure during the period 1984-2003. Closure occurs when private entities agreed to a legally binding agreement to invest funds or provide services. A total of 174 out of 2782 projects have missing data and thus are excluded. After further excluding 58 data points with missing data on institutional development, we have 2550 projects from 94 emerging economies in the data set.

Private participation is classified into three categories in the original database: managerial contracts, joint venture projects, and acquisitions. Projects under managerial contract are coded as having an internal governance mode. A total of 652 out of 2550 projects are of this type. There are 1350 public-private joint venture projects in our data
and they are considered as hybrid mode of private participation since both the
government and the private entity has ownership claim on the projects. In the rest 548
acquisition projects, a private entity buys an equity stake in a SOE, and they are
recognized as market governance projects.

3.3.2 Variables

Survival

Projects status is identified as under construction, operational, concluded,
canceled, and distressed (see Appendix 1 for more explanation) in the original data set.
We code projects under construction, operational and concluded as “survived projects”.
In distressed projects, the government or the operator has either requested contract
termination or are in international arbitration. Distressed projects and canceled projects
are considered as “failed projects”. There are altogether 138 out of the 2550 projects that
have failed, and 2412 projects that have survived until the data was collected. The
dependent variable: survival of the private participation projects is coded 1 if the project
is identified as survived and 0 if the project is cancelled or distressed.

Uncertainty

David and Han (2004) found that there is great disparity in how uncertainty has
been measured. While there is some clustering around common measures, it seems that
the variable serves as rather large tents, under which a wide variety of transaction
characteristics have been subsumed (David and Han, 2004). We measure transaction
uncertainty following Doh et al (2004)’s measure of institutional development. We
average three variables in Economic Freedom report: the extent of state intervention in the economy, the extent of capital flows and foreign investment, and the extent of regulation. These variables represent how stable government regulations are and how developed regulatory and formal institutions are. Each variable is reported on a five-point scale. A higher score represents a low level of institutional development and indicates higher transaction uncertainty in that country. Data for year 2003 is used since our private participation projects data ends in 2003.

**Asset specificity**

In managerial contracts, asset specificity is measured as the percentage of the former SOE’s equity controlled by the private entity. In public-private joint ventures, asset specificity is measured as the percentage of the former SEO’s equity owned and controlled by the private entity. When the SOE is acquired into private hands, asset specificity is the percentage of the SOE equity owned and controlled by the private entity.

**Control variables**

Market-supporting institutions may become stronger over time because of cumulative reforms undertaken with individual privatization transactions (Ramamurti, 2000). Given the institutional development over time, recent privatization projects may be less likely to fail. There is a possibility that newly privatized projects, although still under construction now, might have problems in the future given enough time of observation. Since we can only observe projects status till 2003, there might be a failure
bias towards earlier privatized projects. It is also possible that new technologies arise over time that lower the transaction costs present in markets (David and Han, 2004). We control for the years lapsed from when the projects were set up till 2003 to reduce this problem.

Other control variables include payment to the government, and countries’ economic development measured as per capita GDP in logarithm. A dummy variable is included to control for projects with banks loan or syndication. Four primary sectors of infrastructure—namely, transport, energy, telecommunication, and water and sewerage sectors—are controlled. Six geographic areas: East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, South Asia and Sub-Saharan Africa are also controlled.

3.3.3 Analysis techniques

In strategic management research, we often wish to draw conclusions about the superiority of the strategy compared to alternatives so that we can aid managers with their business decisions (Shaver, 1998). However, a difficulty in making such assessments is that firms purposely choose their strategies based on their capabilities and environmental conditions (Shaver, 1998). A firm’s governance choice is inseparable from its environment and its firm characteristics, which obligate a firm to choose certain governance arrangement. Since private entities self-select the strategies we observe, these strategic organization decisions are not random, and are endogenous to the expected performance outcomes. Likewise, private entities self-select private participation modes that result in a higher possibility of survival. Therefore, if we observe some firms
choosing one private participation mode and other firms choosing different modes, it would not appear that one strategy unconditionally leads to superior performance. Empirical estimates of strategy performance that do not correct for this problem may be misleading (Masten, 1993).

Econometric techniques to correct for endogeneity arising from discrete strategy choices have been available since the 1970’s (Heckman, 1979). Many of these econometric estimators were developed in the context of labor economics. Nonetheless, the econometric problems in that field are structurally similar to problems of strategic management (Hamilton and Nickerson, 2003).

To test our hypotheses, we use a switching regression model\(^{11}\) (Hamilton and Nickerson, 2003; Shaver, 1998). We estimate this model in two steps. First, we estimate a multinomial logit model to predict the choice of private participation mode (internal, hybrid or market governance) and construct the inverse Mills ratio terms. It is difficult in many strategy data sets to find instrumental variables that affect strategy choice but not performance (Hamilton and Nickerson, 2003). We use country’s economic development as an instrument since it is likely to affect firm choice of private participation mode but may be unlikely to directly affect project survival. In the second step, we estimate the private participation mode—survival equations via Logit model, including the inverse Mills ratio to obtain unbiased estimates of coefficients. White’s robust test is used to correct heteroskedasticity.

\(^{11}\) In labor economics, the term “switching” refers to individuals switching between sectors, such as union vs. non-union jobs (Hamilton and Nickerson, 2003).
3.3.4 Results

Table 1 summarizes the variables, and Table 2 reports the results for first-stage multinomial model. The base category is acquisition mode (market governance) of private participation, so that the coefficients is interpreted as affecting the odds of choosing contract (internal governance) or joint venture (hybrid), relative to the odds of choosing acquisition (market governance). Our instrumental variable—country’s economic development—does affect private participation mode: firms in more developed economies tend to choose market governance over internal governance. Transaction uncertainty appears to increase the odds of choosing internal governance and hybrid opposed to market governance, indicating that firms self select modes of private participation according to the level of uncertainty in the institutional environment, thus supporting Hypothesis 1. Hypothesis 2 is also supported. Asset-specific investment by private entities increases the odds of choosing internal governance and hybrid opposed to market governance, indicating that firms do self select modes of private participation given their firm characteristics.

The results for second-stage switching regression model are presented in Table 3. We regress the survival of the privatized projects on the transaction uncertainty and other control variables. The switching regression model is estimated separately in each subsample of private participation mode.

To test hypothesis 3, we compare the coefficients of uncertainty across the column models for three different governance modes. From Table 3, we find the coefficient for uncertainty is not different from zero for internal governance or hybrid at
5% level. The coefficient for transaction uncertainty is -4.9 and significant at 5% level for market governance. This means transaction uncertainty has more adverse effects on survival of private participation projects with market governance than with internal governance or hybrid, supporting hypothesis 3. Given that standard deviation of uncertainty is 0.488, this finding means one standard deviation higher in transaction uncertainty will increase the odds of failure by 11 times \((4.9 \times 0.488 = 2.4, e^{2.4} = 11)\).

To test hypothesis 4, we compare the coefficients of private participation across the column models for three different governance modes. From Table 3, we find the coefficient for asset specificity is not different from zero for internal governance or hybrid. The coefficient for asset specificity is -0.184 and significant at 5% level for market governance. It means asset-specific investment has more adverse effects on survival of private participation projects with market governance than with internal governance or hybrid, supporting hypothesis 4. Specifically, for those private entities that choose market governance, a 10% increase of asset-specific investment will increase the odds of failure by 6 times \((e^{1.84} = 6)\).

### 3.4 Discussion

Private entities gain control in privatization through different governance modes. North (1990) argues that institutional rules develop upon path-dependent projectories. One source of path dependency in institutional change is that the conformity to public sector template is likely to continue in the newly privatized projects and there is great level of transaction uncertainty in terms of how institutions change. This creates the
necessity for the private participation projects to adopt the governance mode that facilitates transactions between the state and the private entities in an uncertain institutional environment. In this study, we found that private participation projects in an institutional environment with higher level of uncertainty self-select internal or hybrid governance structure rather than market governance structure. Private entities with higher level of asset specific investments are also likely to choose internal or hybrid governance structure. Finally, we show that higher transaction uncertainty and asset specificity have more adverse effects on the survival of private participation projects with market governance than those with internal or hybrid governance. These findings imply that private participation projects may control transaction uncertainty and negative effect related with asset specificity through certain internal arrangements, but not through market governance.

3.5 Conclusion

Transaction cost economics has emphasized opportunistic behavior and incentive alignment in transactions. However, in addition to incentive conflict, failures of transaction may arise because parties read and react to signals differently, even though their purpose is to achieve a timely and compatible combined response (Gulati et al., 2005; Williamson, 1991). Three contributions emerge in our study. First, we extend transaction cost analyses beyond the usual consideration of incentive conflicts. We focus on the limitations in governance structure to post-privatization circumstances. The novelty of our approach lies in suggesting that different privatization modes used to
organize transactions between the government and the private entity differ in their capacity to align actions through processes. We suggest that private entities recognize the differences and self-select the governance mode that better facilitates transactions with the government.

Second, we recognize level of institutional development as a factor of uncertainty in post-privatization environments. Rather than treating uncertainty as a trigger to opportunistic behavior as in transaction cost economics, we treat institutional uncertainty as a pressure on coordination in transactions. Environment is a source of uncertainty to organizational sub-units which have important implications for the design of governance structure. We extend transaction cost economics by suggesting that uncertainty in the institutional environments requires the design a governance mode that better facilitates coordination in transactions.

Third, we provide a timely guide to privatization process in emerging economies. We suggest that there are differences in the ability to facilitate transactions among private participation projects with different governance modes. We argue that in order for a private participated project to survive, the private entities need to choose a governance mode that best facilitates transactions with the state in an uncertain institutional environment and when they have high asset specific investments. Our results generally support this argument. The marginal effect of transaction uncertainty and asset specificity are most adverse on private participation projects with market governance which least facilitates transactions. Although we are unable to detect any difference between internal governance and hybrid mode of private participation in terms of the effects of
environmental uncertainty, our results recommend a caution for choosing market governance structure in an environment with high transaction uncertainty.

Our study taps into an important and current issue in emerging economies: transactions between the government and private entities in the post-privatization era. We investigate governance modes of private participation projects in emerging economies. Our study is at the level of aggregates such as “arms-length” or “internal transaction”. Future research on coordination within or between firms needs to be conducted at a level of detail that enables us to distinguish the actual coordination mechanisms used to manage transactions. We hope that future research will challenge and extend what we have found here. Doing so will help ensure that research in this area ultimately contributes to the understanding of how these private participation projects evolve in the future.
Figure 3.1 Modes of Private Participation

Examples

- Managerial contract: A private entity takes over the management of a state-owned firm
  - Puebla Airport, Managerial contract in Mexico, 2000

- Joint venture project: A state-private joint venture builds and operates a new facility
  - Dapeng Power Plant, Joint venture project in China, 1994

- Acquisition project: A private entity buys an equity stake in a state-owned firm
  - Elektrarny Opatovice, acquisition project in Czech Republic, 1997
Table 3.1 Descriptive Statistics

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</table>

a. The base category is market governance (acquisition).
b. Numbers in the brackets are robust standard errors.
† p<0.01; * p < 0.05; ** p < 0.01; *** p < 0.001

Table 3.2 Multinomial Logit Regression of Private Participation Mode Choice

73
<table>
<thead>
<tr>
<th>Model 1 (Market governance)</th>
<th>Model 2 (Internal governance)</th>
<th>Model 3 (Hybrid)</th>
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<td><strong>Asset specificity</strong></td>
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<td>0.009</td>
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<td>(0.074)</td>
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<td>(2.314)</td>
<td>(0.443)</td>
<td>(0.784)</td>
</tr>
<tr>
<td><strong>East Asia and Pacific</strong></td>
<td>2.618†</td>
<td>0.058</td>
</tr>
<tr>
<td>(1.372)</td>
<td>(0.905)</td>
<td>(0.911)</td>
</tr>
<tr>
<td><strong>Europe and Central Asia</strong></td>
<td>9.898*</td>
<td>-0.860</td>
</tr>
<tr>
<td>(3.392)</td>
<td>(0.841)</td>
<td>(0.684)</td>
</tr>
<tr>
<td><strong>Latin America</strong></td>
<td>6.790*</td>
<td>-0.422</td>
</tr>
<tr>
<td>(3.001)</td>
<td>(1.601)</td>
<td>(0.590)</td>
</tr>
<tr>
<td><strong>South Asia</strong></td>
<td></td>
<td>-0.249</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sub-Saharan Africa</strong></td>
<td>-0.955</td>
<td>1.658</td>
</tr>
<tr>
<td></td>
<td>(1.08)</td>
<td></td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>1.789</td>
<td>5.24*</td>
</tr>
<tr>
<td></td>
<td>(1.820)</td>
<td>(2.633)</td>
</tr>
<tr>
<td>correction for self-selection</td>
<td>11.307**</td>
<td>-0.096</td>
</tr>
<tr>
<td></td>
<td>(4.066)</td>
<td>(1.434)</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>524</td>
<td>633</td>
</tr>
<tr>
<td>Wald chi2</td>
<td>44.67***</td>
<td>33.87**</td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.1433</td>
<td>0.1159</td>
</tr>
</tbody>
</table>

a. In model 1, variable Sub-Saharan Africa and South Asia are dropped since they predict survival perfectly, 24 observations are not used.
b. In model 2, variable South Asia is dropped due to collinearity, 19 observations are not used.
c. Numbers in the brackets are robust standard errors.

† p<0.01; * p < 0.05; ** p < 0.01; *** p < 0.001

Table 3.3 Survival of Private Participation Modes
Survived projects:

- **Under construction** projects for which assets are being built
- **Operational projects** that have started providing services to the public
- **Concluded projects** for which the contract period has expired and was neither renewed nor extended by either the government or the operator.

Failed projects:

- **Canceled projects** from which the private sector has exited in one of the following ways:
  - Selling or transferring its economic interest back to the government before fulfilling the contract terms.
  - Removing all management and personnel from the concern
  - Ceasing operation, service provision, or construction for 15 percent or more of the license or concession period, following the revocation of the license or repudiation of the contract
- **Distressed** projects where the government or the operator has either requested contract termination or are in international arbitration.

Source: Private participation in infrastructure database, World Bank.

**Appendix 3.1: Status of Infrastructure Projects**
CHAPTER 4

VALUATION OF FOREIGN INITIAL PUBLIC OFFERING IN THE U.S.

4.1 Introduction

While there is a growing literature on the impact and consequences of foreign firms’ methods of entry into the U.S. market, few studies have examined the characteristics of foreign firms raising capital for the first time in the U.S. In the last decade, increasing numbers of foreign firms have made first offers of equity in the U.S. An initial public offering (IPO) is one of the more critical junctures in the development of a firm (Daily, Certo, and Dalton, 2003). While the decision to enter the U.S. market through IPO presents many exciting opportunities for the continued growth and prosperity of the foreign firms, there are also firm level risks associated with foreign IPO in the U.S., including agency conflicts, transparency and disclosure concerns, and other corporate governance problems. That will affect the value of the IPO. In light of these issues, the goal of this paper is twofold: first, to examine the strategic decision of foreign firms on corporate governance mechanisms when entering the U.S. market through IPO; and second, to investigate how characteristics of the foreign firms, their industry and home country affect valuation of the foreign IPO.
Most of previous research on IPO has focused on U.S. domestic firms. Some of the earlier studies on foreign listing have studied U.S. firms listing abroad and used samples from a single country (Foerster and Karolyi, 1993). Consequently, their conclusions may not be globally generalizable. Recent research on international equity offering has started to examine U.S. firms issuing equity in multiple markets (Chaplinsky and Ramchand, 2000), the difference between foreign firms listed in the U.S and foreign firms not listed in the U.S (Doidge, Karolyi, and Stulz, 2004), and the impact of U.S. listing on foreign firms’ home market (Foerster and Karolyi, 1999). However, comparison of U.S. IPO and foreign IPO, especially foreign IPO from emerging economies, is relatively less explored. Information asymmetry may be very serious in foreign firms that issue equity in the U.S. market for the first time since the U.S. investors may not be familiar with the foreign firms. Gaining a better understanding of valuation of foreign IPO is important since such understanding would further delineate how corporate governance affects firm value. Three research questions arise: (1) How do foreign IPO firms compensate for information asymmetry and risk in the U.S.? (2) How does cultural distance between home country and the U.S. affect corporate governance mechanisms? (3) What corporate governance mechanisms affect valuation of foreign IPO in the U.S.?

We conduct this research on growing important issues about corporate governance and foreign IPOs and contribute to the literature by explicitly comparing corporate governance mechanisms in foreign IPO firms from various institutional environments. By focusing on a single issuing market (the U.S.), we control for host country effect that could obscure the home country factors of interest. This study extends
previous research on IPO in several major respects. First, while the economic impact of political institutions is generally accepted, the answer to the question of which institutions matter, how they influence business are not very clear (Henisz, 2000). From an institutional perspective, this study explores the effect of country-level political institutions on firm-level agency relationship and seeks to answer the question of how political institutions affect valuation of IPO. Second, research on governance factors and their effect on IPOs have ignored the endogeneity problem of firms’ self selection of governance mechanisms (Beatty and Zajac, 1994; Filatotchev and Bishop, 2002). We address this problem by investigating the managerial decision of foreign firms on corporate governance mechanisms when entering the U.S. market through IPO and linking the managerial decision with valuation of IPO. This study contributes to the growing body of knowledge concerning corporate governance mechanisms by providing a broad picture of the precedent and consequence of governance decisions.

4.2 Theory and hypotheses

4.2.1 Valuation of IPO and underpricing

Among firms that transition from private to public ownership, the original shareholders sell equity to an investment banker, who then sells the stock to first-day investors (Certo, Covin, Daily, and Dalton, 2001). These investors have to bear the risk of the economic activities of investing in the IPO firms and require a risk premium to bear this risk. This premium is manifested as underpricing, which is the wealth that accrues to the first-day investors when the initial offer price is less than the first-day
stock closing price. When the value of the equity increases during the first day of public trading, the appreciation in value benefits the first-day investors rather than the original shareholders who sold their equity (Tinic, 1988). Thus, underpricing can be viewed as unretained wealth for the original shareholders who sold their equity to the investment banker at a price below where it is valued by the investor market (Certo et al., 2001). The presence of underpricing, from the perspective of original shareholders of the foreign firms who sell their equity in the U.S market, represents capital uncollected by the foreign IPO firms.

The literature abounds with various hypotheses to explain the observed underpricing in IPOs (Tinic, 1988). Explanation based on investment bankers argues that low initial offer prices make it easier to find investors for IPOs. When an investment banker offers many underpriced stocks, investors will engage in more transactions with that investment banker in the future (Loughran and Ritter, 2001). A similar line of reasoning claims that underwriters intentionally underprice the securities to their large customers and links underpricing with the underwriter’s reputation (Carter and Manaster, 1990; Ritter, 1984). Unlike these hypotheses, models developed by Baron (1982) and Rock (1986) are based on information asymmetry explanations of underpricing. Baron’s (1982) model assumes that investment bankers have more information about the investor’s demand for the securities than the issuers. His model predicts larger underpricing for IPOs that are subject to greater uncertainty in terms of their market demand. Rock’s (1986) model assumes two groups of investors in the market—the
informed investors and uninformed investors, and argues that IPOs are offered at discounts to keep the uninformed investors in the market.

Several of theoretical explanations of underpricing focusing on investment bankers in the finance literature can be extended to examine corporate governance of the IPO firms and information asymmetry between foreign firms and U.S. investors. A firm’s cost of capital depends crucially on the firm’s governance, which is defined broadly as the set of mechanisms that affect how the information flows and agency costs problems are handled, and therefore, how they impact firm value (Stulz, 1999). Firms with poor governance are those in which information asymmetry and agency costs are problematic. Such firms will find it hard to signal to the market about the quality of management and more expensive to raise funds in IPO. The corporate governance system affects the cost of capital and, therefore, valuation of IPO through both the internal controls, such as effective management incentive compensation plans, and external elements in the market. One useful way to “bond” managers to not take excessive private benefits and to signal high quality of management is to list the firm’s stock on an exchange that imposes high legal and regulatory costs than the firm’s primary exchange (Coffee, 1999, 2002).

However, information problems and adverse selection might stem from the fact that, though management has good information about the projected cash flows, it cannot credibly signal investors (Stulz, 1999). Due to the lack of information on the foreign firms, such IPOs are at a greater disadvantage in signaling in the U.S. market.

The extent of information asymmetry between foreign firm managers and the U.S. investors can be reduced by a number of governance-related signals that may potentially
enhance firm value. The literature has identified a number of signals such as top management team legitimacy (Cohen and Dean, 2005), and board structure and characteristics (Certo et al., 2001). Nevertheless, those researchers considered governance factors to be exogenous firm characteristics, whereas in the context of initial public offerings it would be natural to suggest that the governance system may be an outcome of the IPO’s strategic decisions (Beatty and Zajac, 1994; Filatotchev and Bishop, 2002). As Hermalin and Weisbach (2003) point out, the question of governance choice and function must be answered simultaneously. Studies show that ownership structures plays a very important role in corporate governance (La Porta et al., 1999). Treating ownership structure change as endogenous, we investigate how managerial ownership change could be an outcome of the foreign firm’s strategic decision, and how this change would affect valuation of foreign IPO in the U.S.

4.2.2 The strategic decision to change managerial ownership structure

Before the IPO, private firms usually have a high managerial ownership structure. The ownership structure change during IPO is related to firm strategic choices, and the corporate governance characteristics observed may be an endogenous strategic decision (Filatotchev and Bishop, 2002). Going from private to public, firms have to make a strategic decision how much managerial ownership share needs to be reduced to introduce more capital from the stock market. Does the nationality of IPO firms affect this strategic decision? Much of the research on international management has studied national differences in subsidiary ownership decisions (Hennart and Larimo, 1998). Roth and O’Donnell (1996) depicts the headquarter-subsidiary relationship in agency terms.
and argues headquarters cannot give up all decision rights to the subsidiaries since the interests of subsidiaries may not always be aligned with those of the multinational corporations (MNCs) as a whole. We do not deal with subsidiary ownership preferences of MNCs, but the literature on entry-mode choice has implications on the ownership structure of foreign firms entering the U.S market through IPO. To identify national traits that are theoretically relevant for the purpose of explaining differences in ownership preferences, one should initially understand the determinants of ownership. The literature on entry-mode choice maintains that the choice of ownership levels is linked to how much control the firm desires (Anderson and Gatignon, 1986). Studies on subsidiary ownership argue that greater the control desired by the parent firm, greater the degree of subsidiary ownership (Erramilli, 1996). Similarly, we argue that greater control desired by managers of the IPO firms results in less degree of managerial ownership reduction during IPO.

Agency theorists have recognized that managers and public investors have divergent interests (Jensen and Meckling, 1976). Cultural distance, defined as the difference between the national cultural characteristics of the home and of the target countries, may intensify conflicts between managers and potential investors. Potential interest conflict with public investors after IPO may increase manager’s desire to keep control \textit{ex ante}. In a manner similar to Erramilli (1996), who argues that high cultural distance should lead to a greater propensity for high control in subsidiaries, we propose that how much control managers of IPO firms desire is a function of the extent of differences in values, customs, and behavior between managers and potential public
investors. Compared with U.S. domestic firms, the interest conflict in foreign IPO firms may be more severe since the managers in foreign firms are more likely to have different values and customs from U.S. public investors. Thus, managers of foreign IPO firms tend to search for ways to obtain control during IPO since cultural distance may increase their interest conflicts with the U.S. investors.

Firms that go from being private to public are in great need of capital. Foreign firms may need to change their managerial ownership structure to facilitate raising capital in the U.S, which results in a reduction of managerial ownership out of the total shares in the foreign IPO firms. However, because of the *ex post* agency conflicts between managers and potential investors, managers worry that ownership reduction may decrease their control of the firm, and thus may desire to keep more share of the firm to maintain control. Managers in foreign firms are likely to have less managerial ownership reduction during IPO when they foresee the divergent interests with U.S. investors and desire control in the firm.

As cultural distance increases, there are more challenges for organizational control because information about agent becomes more difficult to obtain (Roth and O'Donnell, 1996). The greater the cultural distance between the home base of the IPO firms and the United States, the more likely values on management may differ between managers and U.S. investors. Managers of foreign firms from a culturally distant country are more eager to keep control of the IPO firm *ex ante*, thus are likely to have less managerial ownership reduction during IPO.
**Hypothesis 1a:** Foreign firms are likely to have less managerial ownership reduction out of total shares than U.S. firms during IPO.

**Hypothesis 1b:** Foreign firms based in more culturally distant countries from the U.S are likely have less managerial ownership reduction out of total shares during IPO.

### 4.2.3 The signaling effect of change in managerial ownership structure

Information asymmetry may lead to a “lemons problem” where the uninformed investors end up with the less successful IPOs. In the process of an IPO, the firm is subjected to a set of agency relationships and information asymmetry concerning the “true” value of the firm (Filatotchev and Bishop, 2002). We argue that the costs related to information asymmetry manifest themselves in terms of underpricing. Several information asymmetry-based explanations (Leland and Pyle, 1977; Rock, 1986) suggest a positive relationship between the uncertainty surrounding an IPO and subsequent underpricing since that is the premium for investors to bear the risk of the economic activities of investing in the IPO firms.

When firms raise new equity capital, they are required to reveal certain information about their operation, such as the size of the firm, the line of business in which it is involved, and evidence of past performance. Potential investors use these observable characteristics of the firm to assess uncertainty associated with their investment (Downes and Heinkel, 1982). However, there is information about other characteristics of the firm which cannot be easily reported or observed but which might be useful in valuing the firm (Downes and Heinkel, 1982). One key characteristic is the quality of management. The condition of information asymmetry between managers and potential IPO investors
creates a context wherein opportunistic behavior of managers is an important consideration in investor’s valuation of IPO, and thereby determines the signals utilized by investors to gauge economic value (Cohen and Dean, 2005). Since the information asymmetry between foreign firms and U.S. investors may be bigger, foreign firms may have higher uncertainty than purely domestic firms (Burgman, 1996). What signals could foreign firms utilize to compensate for this information asymmetry and uncertainty when they enter the U.S. market through IPO?

In addition to the purpose of obtaining control, another consideration of the manager’s strategic decision to keep more ownership share during IPO is related to manager’s personal wealth. If managers expect a return on their stock options in the future, they may increase their stock during IPO in order to increase their personal wealth. While stock-options impose risk on management, managers’ risk of not getting the desired return on stock option is negatively related to their personal efforts and talents (Sanders and Boivie, 2004). Accordingly, the risk associated with firm performance is lower for a high-quality manager than it is for a low-quality manager (Wiseman and Gomez-Mejia, 1998). The quality of management of the foreign firms is hard to observe for potential U.S. investors, and managers have more information on management quality than the potential investors. Non-U.S. firms face difficulties in convincing U.S. shareholders that these shareholders can expect to receive a sufficiently high expected cash flow to make it worthwhile to buy the equity. It is therefore possible for a firm to have good projects but be unable to finance them because its managers cannot convince shareholders that these projects are worthwhile (Stulz, 1990). Less reduction on
managerial ownership out of total shares during IPO may be a signal to indicate good quality of management. Managerial ownership change signals the market how confident the managers are about future performance of the firm. If managerial ownership is reduced in a large scale, it signals that the management quality is poor and managers do not want to risk their personal wealth. If managerial ownership is not reduced very much or even is increased, it signals good quality of management since managers are confident to tie their personal wealth with future firm performance. As such, less managerial ownership reduction compensates for the information asymmetry and uncertainty surrounding a foreign IPO, thus reduces underpricing.

Roll (1986) suggests that managers driven by hubris may overestimate the value of a firm. This may be the case in foreign IPOs, since entering into the U.S market indicate that these non-U.S. firms, led by their managers, have “made it”, thus possibly causing managers’ overconfidence. It is possible that managers keep more ownership during IPO due to an overestimation of the firm’s future growth. However, stock options do not only indicate manager’s expectation of return based on ex ante quality of management, but also gives managers incentives to increase firm performance in the future. Smith and Stulz (1985) argue that shareholders can reduce the likelihood of managers passing up valuable risky projects by increasing the convexity of the relation between managers’ wealth and firm performance. Since managerial ownership increases the sensitivity of managerial wealth to firm performance (Guay, 1999), it works as a mechanism to align the objectives of managers and shareholders and reduces uncertainty related with IPO. Stock-based incentives are observable corporate governance
mechanisms that vary across firms (Sanders and Boivie, 2004). Less reduction of managerial ownership out of total stock during IPO signals potential investors that the uncertainty associated with principal-agent problems may be reduced.

To reduce agency costs, IPO firms may adopt signals that are difficult to imitate for lower quality firms, in order to communicate their expected value to potential investors (Filatotchev and Bishop, 2002). These idiosyncratic signals are associated with corporate governance characteristics of IPO firms. Managers who have less ownership reduction out of total shares not only signal that they have tremendous confidence in the firm before IPO but also signal that their objectives will aligned with the investors after IPO. This signal compensates for information asymmetry between the principal and agents and \textit{ex ante} uncertainty when foreign firms enter the U.S. market through IPO, thus reducing the cost of IPO manifested in terms of underpricing.

\textit{Hypothesis 2: Managerial ownership reduction out of total shares is positively related to foreign IPO underpricing.}

4.2.4 The signaling effect of home country political risk

While the economic impact of political institutions is generally accepted, the question of how institutions matter is only beginning to be unpacked (Henisz, 2000). Kadiyala and Subrahmanyam (2002) argue that even if a publicly available price is available from the home market, it may be difficult for US investors to ascertain the true value of the foreign firm if the home country does not have transparent accounting standards. However, they found that firm valuation is not significantly different for
issuers from emerging markets and for issuers from developed markets. We argue that a more refined examination of home country political institution effect from institutional perspective is necessary to study valuation of foreign IPO in the U.S.

An institutional perspective is an applicable paradigm for explaining firm behavior (Shenkar and Von Glinow, 1994). The institutional perspective addresses the embeddedness of firms in a nexus of formal and informal institutions (Aguilera and Jackson, 2003) and the effect of the institutions on firm behavior (Carney and Gedajlovic, 2002). Political institutions are important to managers and investors, since the risk that a sovereign government unexpectedly changes the “rules of the game” will affect the stability of the market (Butler and Joaquin, 1998; Simon, 1984), and may negatively affect the value of the firm. Political institutions influence such core elements of investor’s decision-making as the choice of where to invest (Henisz, 2004). Political risk is often defined as the risk of adverse consequences arising from political events (Kobrin, 1979). Investors may therefore have less incentive to invest in an environment with high political risk. Research on foreign entry has studied risks associated with host countries (e.g. Dunning, 1998; Ghoshal, 1987; Kogut, 1989) and risks of home country as an effect on firm’s decision of international portfolio diversification (e.g. Burgman, 1996). Political risk has been found to play an important role in the market. Countries that have weak control on corruption, less stable government, or weak protection against expropriation of investment have higher political risks and reduce the capital available to the market (Lesmond, 2005).
Henisz and Zelner (2001) found that political institutions that fail to constrain political actors’ arbitrary behavior dampen the incentive for investors to deploy capital. In order to attract capital, foreign firms in such an institution with high political risk need to offer a discounted IPO to increase the investors’ incentive to provide capital. In Rock’s (1986) model, uninformed investors face adverse selection because informed investors do not subscribe to a new issue that they suspect is overpriced, leaving the entire issue to uninformed investors. Thus the typical share must be offered at a discount in order for uninformed investors to earn a return. Higher political risk would therefore negatively impact domestic and foreign firms (Brewer, 1993). For this reason, a signaling hypothesis predicts a higher risk premium for firms from countries with higher political risk. The less stable government and weak protection against expropriation associated with risky home environment may increase uncertainty for future performance of these foreign firms. High home country political risk sends a negative signal in evaluating foreign IPO, and the higher underpricing discount is the cost born by the firm in order to signal its higher quality effectively.

**Hypothesis 3:** Foreign firms’ home country political risk is positively related to IPO underpricing.

### 4.2.5 The signaling effect of industry risk

High-technology firms are the embodiment of risk; their product cycles are relatively short and they are tasked with quickly establishing market position (Carpenter, Pollock, and Leary, 2003). Foreign IPOs already face a significant amount of risk, and
the nature of high-tech adds another layer of risk to the foreign firms. Valuation problems may be more severe in industries that rely on human capital and intangible assets (Reuer, Shenkar, and Ragozzino, 2004). In high-tech industries, there will be greater uncertainty concerning the value of the IPO, as the values of key resources are not adequately reflected in a codified form such as a financial statement. Information asymmetries between insiders and new investors are greater for high-tech firms than for other firms (Espenlaub, Goergen, and Khurshed, 2001). Consistent with signaling theory, to overcome the asymmetric information problem associated with high-tech firms, the issuer of high-tech IPO signals the true value of the firm by offering shares at a discount. Thus, high-tech firms are likely to have higher underpricing during IPO.

**Hypothesis 4a:** Foreign firms in a high-technology industry will have higher IPO underpricing than those not in a high-technology industry.

Proposing different corporate governance mechanisms as a bundle, Rediker and Seth (1995) suggest that the impact of one factor might be insufficient to affect valuation of firm performance. There may be factors at the firm level that interact with industry risks and influence valuation of IPO. The risky nature of high-technology firms may increase the likelihood that firm governance will include a particular type of investor: the venture capitalists (Carpenter et al., 2003). Venture capitalists (VCs) are financial intermediaries that specialize in raising capital from a variety of institutional and wealthy private investors to invest in high-risk, but high-potential companies. Unlike other intermediaries, VCs also actively participate in strategic-decision making, such as placing
directors on the board, and providing valuable resources via their network of contacts (Van den Berghe, 2002). The strategic support role of the VCs is typically beneficial to firm performance. High-tech foreign IPO firms that are backed by venture capitalists send a signal that they are likely to grow rapidly and have high potential, thus reducing the risks associated with high-tech IPOs and therefore IPO underpricing.

**Hypothesis 4b:** The positive relationship between foreign IPO of high-technology firms and underpricing will be weaker when the foreign IPO is backed by venture capitalists.

### 4.3 Methodology

#### 4.3.1 Data

The IPO data for this study are obtained from Securities Data Corporation (SDC) from 1992 through 2005. There are all together 556 foreign IPOs in the U.S. during that time. 299 firms with incomplete information on managerial ownership are deleted from the sample. We obtain firm assets, debt and sales from COMPUSTAT, and further exclude firms with missing value on these variables. As a result, out sample contains 205 foreign IPOs from 34 countries. Israel, with 46 IPOs, has the largest number of firms in our sample. There is no significant difference between the dropped data and our sample in terms of underpricing. So, dropping data because of missing value is not likely to cause bias in our analysis.
We follow Chaplinsky and Ramchand (2000) and match foreign IPO with U.S. domestic IPO by time and industry. We first match the U.S. firms on the same date of IPO issuance with each foreign firm, then match by industry. If there is no matching U.S IPO on the same issuance date, we find one with the closest date. We have 205 U.S domestic IPOs.

We first make a univariate analysis and compare foreign IPOs with matched U.S. domestic IPOs. We then turn to a multivariate analysis to test the hypotheses.

**Dependent variable**

We measure valuation of IPO by underpricing. Underpricing is calculated as the difference between the closing price on the first day of trading and the offer price, expressed as a percentage of the offer price (Certo et al., 2001).

**Independent variable**

Hofestede’s cultural indices are of particular interest to this study. They have been extensively used in international business research, particularly in the area of entry-mode choice (Agarwal and Ramaswami, 1992; Erramilli, 1996; Kogut and Singh, 1988). We measure cultural distance between home country and the U.S following Kogut and Singh (1988).

Managerial ownership reduction is measured as managerial share out of total shares before IPO minus managerial ownership share at the issue of IPO. The percentage of the mean of managerial ownership reduction out of total shares is 17.99 in the
combined sample and 15.63 in the foreign IPO sample. The maximum is 99.19 and the minimum is -33.3 in both samples.

We get political risk indices from Euromoney. The indices range from 8.09 (Russian Federation) to 25 (Switzerland). We multiple this number by -1 so that a bigger number indicates higher political risk.

High tech industries, such as pharmaceutical, Biotech instrument, software/communication are recognized by SDC. We code high-tech industries as 1 and non high-tech industries as 0. IPOs backed by venture capitalists are coded as 1 and IPOs without venture capitalists are coded as 0.

Control variables

The existence of a traded price should substantially reduce the information asymmetry between investors and management (Kadiyala and Subrahmanyam, 2002). Firms that issue IPO in the U.S may have traded in their home market or some other market. The previous trading history provides information for IPO in the U.S. Whether or not an IPO is the original one (that is, the firm never issued IPO before) may also affect ownership structure change during the U.S IPO. An original IPO is in a great need for capital and is more likely to reduce managerial ownership in order to have more shares available in the market. A dummy variable that recognizes the original IPO is controlled for as an exogenous factor that affects change of ownership share during IPO.

Observable characteristics of the foreign firms are used by outsiders to assess uncertainty associated with their investment (Downes and Heinkel, 1982). To control for
these observable firm characteristics, we include firm assets, debt and sales (in thousand dollars) at the year of IPO in the set of the control variables.

The hotness of the IPO market also needs to be controlled. Ritter(1984) found that same industry groups of stock were overvalued (hot issues) during certain periods. The industry sectors with most presentation in this sample are manufacturing industries. We control for the number of IPOs in the same industry in the issuing year. We also control for industry risk, measured by the standard deviation of underpricing of the IPOs in the same industry and same year.

There are possible confounding effects between industries and the exchanges in which they are listed. If high technology stocks tend to list on Nasdaq, then differences across exchanges may actually be the result of differences across industries (Foerster and Karolyi, 1993). We include both industry and exchange dummies, and also market index for each IPO date.

We control for home country economic factors at the year of IPO, which are GDP per capita and market capitalization as the percentage of GDP. Home countries are categorized into 12 geographic regions, and 11 region dummies are included.

Other firm effects include: offer price, logarithm of share size, whether the IPO is an American depository receipt (ADR) or a common share, and whether the firm is issuing IPO simultaneously outside of the U.S.
4.3.2 The model

The hypotheses are tested using the foreign IPO sample with 205 foreign firms and the combined sample with 410 firms respectively. In the combined sample, a dummy variable is included indicating whether the IPO is foreign or U.S domestic.

We use two stage least squares (2SLS) to examine valuation of IPO underpricing. We estimate managerial ownership structure change in the first stage regression with the exogenous factors (see Figure 1). The exogenous factor for foreign IPO sample is cultural distance. The exogenous factors for the combined sample are cultural distance and whether or not it is a foreign IPO. The estimated value of managerial ownership change is then fit into the second stage regression in each sample to predict underpricing. We cluster IPO firms according to different exchanges they are listed: American Exchange, Nasdaq, New York Stock Exchange, Over-the-counter, and Small market capitalization.

4.3.3 Results

Table 1 shows the univariate comparison between foreign firm data and matched U.S. domestic firm data. There is no significant difference between the two groups in terms of underpricing, refuting the perception that foreign firms have more uncertainty than domestic firms and should have more underpricing. However, this may be explained by less managerial ownership reduction out of total shares associated with foreign IPO shown in the same table. Foreign firms may compensate for higher uncertainty through a managerial ownership structure change that indicates higher management quality. This can be further supported in the multivariate analysis. It is also shown that foreign firms have higher total assets, long-term debt, and sales than domestic firms, indicating that in
the same industry, foreign IPOs are issued by bigger and more established firms, whereas domestic IPOs are issued by smaller companies.

Table 2 provides the correlation matrix and descriptive statistics for the variables. Table 3 shows the first stage regression and Table 4 shows the second stage regression on underpricing using the predicted value of managerial ownership reduction from the first stage regression.

Hypothesis 1a is supported at the 5% significance level. In Model 1 of Table 3, the dummy variable of foreign firm is significant and negatively related with managerial ownership reduction, indicating foreign firms have less managerial ownership reduction during IPO. Hypothesis 1b is also supported. Cultural distance variable is significant in Model 2 of Table 3 and is negatively related with managerial ownership reduction, indicating firms from more culturally distant countries tend to have less managerial ownership reduction when issuing IPO in the U.S.

To test the factors affecting underpricing, the estimated variable from first stage—managerial ownership change—is fitted into the second stage regression models. Model 5 in Table 4 show that managerial ownership reduction, foreign firm’s home country political risk and high technology are all positively related to foreign IPO underpricing, supporting hypothesis 2, 3, and 4a. In Model 4, managerial ownership reduction is positively related to underpricing at 0.1% significance level, further supporting the results from our univariate analysis that foreign firms compensate for high uncertainty through less managerial ownership reduction. Hypothesis 4b is supported in Model 6 of Table 4. The interaction term of high technology and venture capitalist back is significant and
negative, indicating a moderating effect of venture capitalist on the relation between high
technology and IPO underpricing.

4.4 Discussion

Managers may keep their ownership in order to keep control of an IPO firm. Our
results indicate that managerial ownership structure change is an endogenous strategic
decision made by managers during IPO. In order to keep control, foreign firms will have
less managerial ownership reduction than U.S. domestic firms and foreign firms based in
a country culturally more distant from the U.S. will have less managerial ownership
reduction during IPO. By controlling this endogenous strategic decision, the relation
between managerial ownership structure change and valuation of IPO can then be studied
without self-selection problem.

Managers may keep their ownership during an IPO according to their assessment
of firm value, which signals good quality of the firm and aligned interests with the
investors. This corporate governance mechanism adopted by foreign firms compensates
for uncertainty associated with foreign IPO and information asymmetry between
principal and agent. Our finding of the positive relation between managerial ownership
reduction and underpricing supports our theoretical perspective that higher managerial
ownership reduction signals a higher risk associated with the IPO and result in a higher
risk premium for investors manifested as underpricing.

Home country political risk and industry risk also affect valuation of foreign IPO.
Home country political risk and industry risk both signal risks embedded in the

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environment and creates uncertainty in future firm performance. Investors bear higher risk investing in firms with higher country-level and industry-level risk and require a premium manifested in terms of underpricing. We find that the risk associated with high-tech industry may be reduced when the IPO firm is backed by venture capitalists. Venture capitalists may provide corporate governance mechanisms that increase quality of management (Van den Berghe, 2002), thus moderates the relation between industry risk and valuation of IPO.

4.5 Conclusion

Influential studies on principal-agent problems, beginning with Jensen and Meckling (1976), often tout the benefits of corporate governance mechanisms in increasing valuation of the firm. This study enriches previous research on corporate governance and IPO in several major respects. First, we study if there is more underpricing in foreign IPO than U.S. domestic IPO because of uncertainty and information asymmetry and answer the question: what corporate governance mechanism compensates for uncertainty and information asymmetry associated with foreign IPO? We seek to address the gap in the literature that mainly focuses on single country analysis by testing if there is valuation difference in IPOs from different countries. We find that if foreign IPO firms adopt certain corporate governance mechanism to compensate for the uncertainty and information asymmetry, then they are not more underpriced than U.S. domestic IPO. Our finding extends previous research on single country IPO by
suggesting that foreign firms can adopt corporate governance mechanisms to increase valuation of IPO.

Second, studies have examined the effect of listing in the U.S on a foreign firm’s stock return in their home market (e.g. Miller, 1999). Rather than comparing the same firm in different markets, this paper studies different IPO firms in the same country market. Our study of IPO in the U.S. controls for host country effect that could obscure the home country factors of interest to this study. Nations differ in political risk, which affects the stability of their markets (Simon, 1984). Foreign firm’s home country political risk signals U.S. investors the external corporate governance mechanisms associated with the firm, thus, affects valuation of the foreign IPO.

Third, research on governance factors and their effect on IPOs have ignored the endogeneity problem of firms’ self selection of governance mechanisms (Beatty and Zajac, 1994; Filatotchev and Bishop, 2002). Our study considers the exogenous factor on managerial ownership structure change. We first analyze managers’ desire for control associated with their decision on ownership structure change, and then link this decision with valuation of IPO. It contributes to the growing body of knowledge concerning corporate governance mechanisms by providing a broad picture on the precedent and consequence of governance decisions.

Forth, our study of foreign IPO from country-, industry-, and firm-level provides an extensive view of corporate governance. Rediker and Seth (1995) criticize the single-level analysis of corporate governance mechanism and propose different corporate governance mechanisms may interact with each other. Our study of the country effect on
firm-level strategic decision of governance mechanism, and the interaction of high-tech industry with firm-level venture capitalist support integrate factors in these three levels and extend previous research that mainly focuses on single level analysis.

There are some limitations in this study. A lot of foreign IPOs had to be excluded in our sample due to missing information on the firms. Although we compared the dropped data with data kept in our sample and found no serious bias, dropping data still limits our sample size. Future research including larger datasets may provide robust tests on our findings.

Besides Kogut and Singh’s measurement of cultural distance, there are other measurements such as Ronen and Shenkar’s (1985) cultural blocs. Since this study controls for geographic area dummies of the foreign firms, using Ronen and Shenkar’s cultural blocs measure may result in too many dummy variables and multicollinearity. Future research measuring cultural distance differently may provide more insights on the study.

Other than managerial ownership structure change, there are other firm-level governance mechanisms that may compensate for uncertainty and information asymmetry associated with foreign IPOs. Future research on firm-level governance mechanisms such as selection of underwriter, structure of board of directors will further our understanding of how IPO firms self select corporate governance mechanisms and how they affect valuation of IPO.
Figure 4.1 Two Stage Model of Valuation of IPO

First stage

- Cultural distance
- Managerial ownership change of a foreign IPO
- Industry risk
- Political risk

Second stage

- Valuation of IPO

Figure 4.1 Two Stage Model of Valuation of IPO
<table>
<thead>
<tr>
<th></th>
<th>Foreign IPOs (N=205)</th>
<th>Domestic IPOs (N=205)</th>
<th>Difference</th>
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<td>Underpricing Mean (Std. dev)</td>
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</tr>
<tr>
<td>Managerial ownership reduction Mean (Std. dev)</td>
<td>15.63 (14.35)</td>
<td>19.57 (13.91)</td>
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<tr>
<td>Total assets (MM$) Mean (Std. dev)</td>
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<tr>
<td>Long term debt (MM$) Mean (Std. dev)</td>
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<tr>
<td>Sales (MM$) Mean (Std. dev)</td>
<td>281.57 (59.37)</td>
<td>94.22 (18.44)</td>
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* p < 0.05; ** p < 0.01

Table 4.1 Comparison of Foreign IPOs and Matched U.S. Domestic IPOs
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<td>19. Mkt cap of GDP</td>
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Table 4.2 Descriptive Statistics and Correlation Matrix in Foreign Sample
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<th>Model 1 (combined sample)</th>
<th>Model 2 (foreign sample)</th>
<th>Model 3 (foreign sample)</th>
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<td>-6.35</td>
</tr>
<tr>
<td></td>
<td>(3.44)</td>
<td>(3.93)</td>
<td>(3.9)</td>
</tr>
<tr>
<td>No. of IPO in the same industry</td>
<td>0.01</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Std. of underpricing same industry</td>
<td>-0.03</td>
<td>-0.04</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.05)</td>
<td>(0.05)</td>
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<tr>
<td>Listed companies at home country</td>
<td></td>
<td>-0.002</td>
<td>-0.002</td>
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<tr>
<td></td>
<td></td>
<td>(0.002)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Mkt capitalization of GDP at home</td>
<td></td>
<td>-0.02</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Original IPO</td>
<td></td>
<td>3.69</td>
<td>3.84</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3.86)</td>
<td>(3.83)</td>
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Table 4.3 First Stage Regression on Managerial Ownership Reduction
Table 4.3 continued

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<tbody>
<tr>
<td>Exchange</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
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<tr>
<td>Geographic region</td>
<td>Included</td>
<td>Included</td>
<td>Included</td>
</tr>
<tr>
<td>Constant</td>
<td>29.41</td>
<td>31.82</td>
<td>25.29</td>
</tr>
<tr>
<td></td>
<td>(30.53)</td>
<td>(41.04)</td>
<td>(40.81)</td>
</tr>
<tr>
<td>N</td>
<td>410</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Prob&gt;F</td>
<td>0.000***</td>
<td>0.001***</td>
<td>0.0003***</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.1763</td>
<td>0.1798</td>
<td>0.194</td>
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a. Numbers in the brackets are robust standard errors.

* p < 0.05; ** p < 0.01; *** p < 0.001
<table>
<thead>
<tr>
<th></th>
<th>Model 4 (combined sample)</th>
<th>Model 5 (foreign sample)</th>
<th>Model 6 (foreign sample)</th>
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<tbody>
<tr>
<td>Foreign firm</td>
<td>8.73</td>
<td>(8.14)</td>
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<tr>
<td>Managerial Ownership Reduction (predicted)</td>
<td>0.71*** (0.09)</td>
<td>1.14* (0.36)</td>
<td>0.97* (0.35)</td>
</tr>
<tr>
<td>Political risk</td>
<td>3.45* (1.24)</td>
<td>3.44* (1.12)</td>
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</tr>
<tr>
<td>High tech</td>
<td>6.98* (2.28)</td>
<td>17.49† (7.45)</td>
<td>20.74* (6.41)</td>
</tr>
<tr>
<td>Venture backed</td>
<td>-1.86 (3.24)</td>
<td>-4.48 (5.37)</td>
<td>21.69** (3.6)</td>
</tr>
<tr>
<td>High tech × Venture backed</td>
<td>-39.59** (5.33)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log GDP</td>
<td>2.77 (2.03)</td>
<td>0.59 (7.63)</td>
<td>-0.95 (6.51)</td>
</tr>
<tr>
<td>Simultaneous offering</td>
<td>3.75 (2.71)</td>
<td>2.95 (5.3)</td>
<td>3.48 (5.67)</td>
</tr>
<tr>
<td>Asset</td>
<td>0.93 (0.5)</td>
<td>0.76 (0.58)</td>
<td>0.84 (0.52)</td>
</tr>
<tr>
<td>Debt</td>
<td>-18.86** (3.67)</td>
<td>1.89 (5.31)</td>
<td>-3.68 (4.51)</td>
</tr>
<tr>
<td>Sales</td>
<td>3.29 (3.15)</td>
<td>0.62 (2.2)</td>
<td>-1.22 (2.34)</td>
</tr>
<tr>
<td>Offerprice</td>
<td>2.44* (0.56)</td>
<td>2.85† (1.09)</td>
<td>2.8* (0.95)</td>
</tr>
<tr>
<td>Log share size</td>
<td>-0.42 (2.63)</td>
<td>3.23 (2.51)</td>
<td>2.85 (2.44)</td>
</tr>
<tr>
<td>No. of managers</td>
<td>-0.34 (0.6)</td>
<td>-1.98 (2.25)</td>
<td>-1.4 (2.15)</td>
</tr>
<tr>
<td>ADR</td>
<td>-15.9* (5.11)</td>
<td>-7.33 (7.12)</td>
<td>-7.81 (7.24)</td>
</tr>
<tr>
<td>No. of IPO in the same industry</td>
<td>0.02 (0.05)</td>
<td>-0.07 (0.12)</td>
<td>-0.08 (0.12)</td>
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<tr>
<td>Std. of underpricing same industry</td>
<td>0.39** (0.08)</td>
<td>0.47** (0.07)</td>
<td>0.49** (0.07)</td>
</tr>
<tr>
<td>Listed companies at home country</td>
<td>0.003 (0.008)</td>
<td>0.003 (0.007)</td>
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<tr>
<td>Mkt capitalization of GDP at home country</td>
<td>0.18 (0.08)</td>
<td>0.18 (0.08)</td>
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Continued

Table 4.4 Second Stage Regression on Underpricing
Table 4.4 continued

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<tr>
<td>Exchange</td>
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<td></td>
</tr>
<tr>
<td>Geographic region</td>
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<td>Constant</td>
<td>-83.32</td>
<td>-66.54</td>
<td>-42.37</td>
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<tr>
<td></td>
<td>(61.28)</td>
<td>(82.37)</td>
<td>(73.02)</td>
</tr>
<tr>
<td>N</td>
<td>410</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Prob&gt;F</td>
<td>0.000***</td>
<td>0.000***</td>
<td>0.000***</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.1411</td>
<td>0.1947</td>
<td>0.2599</td>
</tr>
</tbody>
</table>

a. Numbers in the brackets are robust standard errors.

† p<0.01; * p < 0.05; ** p < 0.01; *** p < 0.001
References


Galbraith JR. 1977. *Organization design*. Addison-Wesley: Reading, MA


