GOVERNMENTAL-OWNER POWER IMBALANCE AND PRIVATIZATION

A Dissertation

by

KEHAN XU

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2010

Major Subject: Management

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Approved by:

Chair of Committee, Laszlo Tihanyi
Committee Members, Michael Hitt
                         Lorraine Eden
                         Allan (Haipeng) Chen
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ABSTRACT

Governmental-Owner Power Imbalance and Privatization. (August 2010)

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Privatization is defined as the sale of state-owned assets by governmental agencies to private investors (e.g., Megginson, Nash, Netter, & Poulsen, 2004; Villalonga, 2000). Research on privatization has focused on privatization techniques (e.g., share issue privatization or voucher privatization), social welfare, governmental commitments to economic development, and varieties of outcomes of privatizations. Most prior studies from the financial economics perspective take privatization as a natural research context to examine the function of capital markets, the impact of national institutional settings, and the differences between partial privatization and initial public offerings. Very little research, however, has examined the determinants of privatization from an organizational perspective.

This dissertation proposes that privatization decisions of state-owned enterprises (SOEs) are influenced by different interests in governmental agencies. Using the resource dependence theory, I studied the power relationships of SOEs and their governmental owners. Four panel databases of 206 pharmaceutical firms across eight years in China were combined to answer the research question of this dissertation: What is the role of power imbalance between different governmental owners in the privatization of an SOE? The results suggest that organizational effectiveness and efficiency of an SOE increase

the likelihood of its privatization. Results also show that provincial governmental owners are more likely to privatize SOEs if they can successfully attract foreign direct investment projects. Furthermore, the likelihood of privatization increases with the power asymmetry between the provincial government and the central government but decreases with the degree of the defense mechanism used by SOEs.

DEDICATION

To my parents, who worked hard and sacrificed so that I can have the opportunity that they have never had.

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Pursuing a Ph.D. has been a long journey for me. Many individuals have supported me through the years. I would like to briefly acknowledge those individuals who have supported me along the way, providing me the knowledge and capabilities needed for this endeavor.

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I must acknowledge the intellectual stimulation from Dr. Rajan Varadarajan and Dr. Alina Sorescu. To me, marketing strategy is a closely related field to strategic management. I really appreciate their help and encouragement during my learning process.

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CHAPTER I

INTRODUCTION AND RESEARCH OBJECTIVES

Modern business enterprises are contested living entities that face organizational and political pressures and influences (Henisz & Macher, 2004). From the perspectives of finance and economics, a firm's value can be evaluated by the cash flow it provides to its shareholders (Fama & Jensen, 1983). From an open system's perspective (Seashore & Yuchtman, 1967), a firm is an integrated vehicle that is characterized by intersecting interests of different groups of resource providers and actors (Schneper & Guillen, 2004).

State-owned enterprises (SOEs) have attracted scholarly attention for more than two decades (e.g., Megginson & Netter, 2001; Uhlenbruck & De Castro, 2000; Shleifer & Vishny, 1994, 1997, 1998; Zahra, Ireland, Gutierrez, & Hitt, 2000). Across different disciplines in social science (e.g., economics, finance, international business, strategic management), in general scholars agree that SOEs play important roles in economies worldwide (e.g., D'Souza, Megginson, & Nash, 2007). The definition of SOE that is generally accepted by researchers states that government authorities remain tightly in control of the firms' corporate governance and strategy by directly holding controlling shares and also serving as members of the board of directors (Estrin & Perotin, 1991; Shleifer & Vishny, 1994). Taken from the open system's view (e.g., Ocasio, 1997; Scott, 1992; Spender, 1996), SOEs were established as the extended systems of government agencies to facilitate the central-planning mechanism in their countries. Hence SOEs, as open systems, not only make products and other factors of production, but also sustain dynamic relationships with governmental planning authorities.

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This dissertation follows the style and format of the *Academy of Management Journal*.

Privatization is defined as the sale of state-owned assets by governmental agencies to private investors (e.g., Megginson, Nash, Netter, & Poulsen, 2004; Villalonga, 2000). Privatization, as a substantial organizational phenomenon, adds an interesting perspective to the understanding of strategic behaviors of SOEs and motivations of their governmental owners.

As the incremental asset-restructuring action taken by the Thatcher administration in the United Kingdom (U.K.) in the 1980s, the first wave of privatization accounted for over 10% of the U.K.'s gross domestic product (GDP) and took about 12 years to complete (Megginson, 2007). By the end of 2007, over half of the state assets were privatized worldwide, with cumulative proceeds approaching $1.5 trillion (Megginson, 2007). Between 1987 and 1999, the total amount of the exchange value of privatization between formal state owners and private investors was about US $860 billion worldwide (Gibbon, 1998). By the end of fiscal year 1999, the annual revenue of privatized formal SOEs worldwide exceeded $1 trillion (Jones, Megginson, Nash, & Netter, 1999). Recent evidence also shows that privatization programs involved $410 billion from 1990 to 2003 through 7,860 transactions in emerging markets (Kikeri & Kolo, 2005).

In addition to its significant economic value, privatization is of theoretical interest because of the in-depth insight that it adds into the long-standing academic debate of whether firms without exclusive control by governmental owners perform better. Because government authorities pursue multiple political and social objectives rather than focusing on profit maximization, political intervention distorts the strategic objectives of firms (e.g., Perotti, 1995; Shleifer & Vishny, 1994). Agency theorists also state that government authorities have control rights but not cash flow rights, so government

authorities have no incentive to monitor organizational performance (e.g., Fama, 1980; Jensen & Meckling, 1976).

Transition economies undergo economic liberalization (i.e., letting market forces set prices), restructuring, and privatization in order to enhance macroeconomic performance. Basically in transition economies, the market forces replace the central planning authorities in the allocation of resources in different countries (Roland, 2000). Hence, the transition process usually involves changes in the role of the government and thus the creation of fundamentally different governmental institutions and the promotion of private-owned enterprises, markets, and independent financial institutions. Transition economies, therefore, are a subset of emerging markets[1] because the group of transition economies is made up of these nations that adopted a government central-planning mechanism previously and now are shifting toward a market-oriented resource allocation mechanism (D'Souza, Megginson, & Nash, 2005; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000).

Thus, Thailand and Indonesia are emerging markets but are not considered transition economies because these nations had not previously implemented central-planning systems. China and Vietnam, however, are typical representatives of transition economies. Privatizations that have occurred in transition economies have triggered radical organizational transformations and have fundamentally switched the strategic directions of those newly privatized firms. For instance, privatization has generated significant influence on strategic managerial applications such as the incentive alignment of executives and the development of market-based skills (e.g., Barberis, Boycko,

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[1] Originally brought into scholarly attention in the 1980s by the *World Bank* economist Antoine van Agtmael, *emerging markets* is used to describe a nation's social or business activity in the process of rapid growth and industrialization (e.g., Morck, Yeung, & Yu, 2000).

Shleifer, & Tsukanova, 1996; Filatotchev, Dyomina, Wright, & Buck, 2001; Ramamurti, 1992; Yarrow, 1998).

Compared with other transition economies, perhaps the biggest difference in the transition path is found in China (and also in Vietnam), where economic reform and transition to markets occurred while governmental authorities retained sufficient power over the economy (e.g., Morck, Yeung, & Zhao, 2008; Qian & Roland, 1998). In China's case, liberalization proceeded incrementally, and privatization was delayed until very late. As Roland points out, "the Chinese experience where privatization remained taboo until recently also shows the importance of reform in the organization of government with the decentralization of government…" (Roland, 2000: 342). The central government in China designed the decentralized fiscal policy along provincial lines, and provincial governments have played important roles in local economic decision-making and resource allocation (e.g., Qian & Roland, 1998).

Before the decentralized fiscal policy was implemented, the central government in China (and also Russia) used to plan all the provincial governmental expenditures (e.g., Qian, Roland, & Xu, 2006). In other words, the provincial government collected revenue for the central government, and all provincial governmental expenditures required formal approval from the central government (Roland, 2000). The implementation of the fiscal decentralization not only led to power dependence (Pfeffer & Salancik, 1978) by state-owned enterprises on their provincial governments (in terms of provincial government revenue), but also ensured that provincial governments have the authority to determine the structure of their expenditures and their fiscal arrangements with SOEs they own and their sub-provincial governments (Jin, Qian, & Weingast, 2005). In short, fiscal

decentralization has created a power center in each and every province of China (Emerson, 1962), and the power comes from its fiscal strength and its provincial economic performance.

Privatization transfers SOE managers from being under governmental oversight to being under the control of private investors (D'Souza et al., 2005). As Estrin and Perotin (1991) pointed out, state-owned firms are immune from capital market scrutiny because managerial performance of these SOEs is inadequately monitored by profit-driven private investors. Following privatization, private investors enhance the capacity to spur greater managerial effort and accountability. As a carefully designed procedure, therefore, privatization essentially puts SOE managers under the pressure of profit-driven private investors. Hence one of the major objectives of privatization, from the governmental-owner perspective, is precisely to achieve a better allocation of managers to production assets.

Thus, privatization can be considered as an instrument designed by governments to revitalize their SOEs and implement the market-based resource allocation mechanisms in their countries. Evidence indicates that governmental owners in different countries design and implement privatization in order to achieve significant efficiency improvements in their economies (e.g., Megginson & Netter, 2001). Although governmental ownership is characterized by less demanding tasks and inadequate monitoring (Kornai, 1992), SOE managers have to deal with huge levels of uncertainty generated by planning authorities, given the unstable and hard-to-predict governmental policies. For example, SOEs in transition economies accumulate substantial levels of slack resources just in case their governmental owners suddenly increase their

output/production target in any year (e.g., Peng & Heath, 1996). Private ownership, in turn, can encourage SOE manages to improve organizational efficiency and autonomous strategic decision-making mechanisms based on the rich information from the product marketplace.

Hence, privatization redefines an organization's strategic objectives. In the pre-privatization stage, firms must pursue multiple and often conflicting objectives; however, privatized firms are more focused on building competitive advantages by facing pressures directly from the product marketplace. When state-owned, organizations usually take on financial and operational structures designed to meet multiple and politically motivated objectives. Following privatization, firms become more focused on profitability. So, privatization can be seen as an organizational transformation process whereby the SOE becomes fundamentally transformed in order to compete as a private firm in the marketplace.

Both researchers and policymakers have acknowledged a wide spectrum of macroeconomic and organizational consequences of privatization and have sought to explore its different aspects, including determinants, timing, and process. Studies focusing on the determinants of privatization have focused on governmental motivations to sell SOEs. For example, Goel and Budak (2006) studied the determinants of privatization and concluded that greater economic prosperity, greater unemployment, and lower inflation seem to induce small-scale privatization but have little effect on large-scale privatization. Drawing samples from countries in Central and Eastern Europe, these authors analyzed macroeconomic factors (e.g., country size, government size, and

unemployment rate) as well as a number of exogenous influences (e.g., backup from the former Soviet Union).

In addition, federalism and soft budget constraints are considered two possible alternative means of privatization (Qian & Roland, 1998). These two authors demonstrate that the government's incentives to bail out inefficient projects are determined by the trade-off between political benefits and economic costs. The economic costs are dependent on the decentralization of the government's fiscal policy. Interestingly, however, other researchers have different views regarding bailouts by governments (Kornai, 1980). For example, in an empirical study by Earle and Estrin (2003), they found that soft budget constraints might induce asset restructuring (e.g., privatization), but the effect was small and insignificant.

The privatization decision, specifically considering the significant economic value and the organizational consequences generated by privatization, is the focus of this dissertation. This study rests on the assumptions that governmental owners sell SOEs selectively and employ complex sale transactions. Furthermore, governments are composed of different levels and branches with dissimilar interests, access to resources, and unique power relationships with their SOEs. Therefore, it is logical to expect that the decisions of different governmental agencies influence the likelihood of an SOE's privatization differently. Since privatization can be conceptualized as an organizational transformation process whereby former SOEs with appropriate incentives start to compete as private firms in the marketplace, such transformation may be supported by some governmental owners but opposed by others. Their influence regarding an SOE's privatization may depend on their power and resources (Pfeffer & Salancik, 1978).

RESEARCH QUESTION AND RESEARCH SETTING

This dissertation studies the influence of the power imbalance of different governmental agencies in the Chinese pharmaceutical industry between 2000 and 2007. I ask the following research question:

Research Question: What is the role of power imbalance between different governmental owners in the privatization of an SOE?

The institutional environment of China may be suitable to examine power relationships for three reasons. For one, the Chinese SOEs are characterized by strong and apparent government-firm relationships (Nee, 1992). According to Nee's perspective, the more marketized firms are, the less tied those firms are to governments, which means that they enjoy lower transaction cost advantages (Coase, 1937; Rajan & Zinglas, 1998). Some researchers consider these relationships as building blocks of China's network-based capitalism (e.g., Boisot & Child, 1996). Empirically, in certain stages of the developing process, firms that are less tied to the central government of China perform better (Park, Li, & Tse, 2006).

Second, the Chinese institutional environment offers a useful setting to study governmental power relationships and their impacts on SOE privatization. Privatization policies in China are designed by the central government but implemented by provincial governments (i.e., local governments in the context of China). The decentralization of fiscal authority allows provincial governments in China to keep their revenues within their regions for economic development, and, therefore, provincial governments may have different incentives to privatize SOEs than the central government has (Qian & Roland, 1998).

Third, provincial governments in China consider privatization decisions based on their economic benefits. During China's transition process, some provinces have been more exposed to market forces and have performed better than other provinces (Child & Tse, 2001; Krug & Hendrischke, 2008). Today's local governors in China are still evaluated by the business and economic outcomes they macro-managed in their individual provinces. Hence, SOE assets-sell is one key component of the provincial policy.

China is an appropriate setting to study the role of power imbalance among the SOEs, the central government, and the provincial governments during privatization. Evidence shows that fewer than 90 SOEs are directly owned by the central government of China, while the majority of the SOEs are owned by provincial governments (State Assets Supervision and Administration Committee of China, 2008). Hence, this research setting offers a very important dimension on the central-local government power imbalance and its impact on SOEs; China's experience with privatization involves the process of the devolution of power from the central government to provincial governments (e.g., Emerson, 1962).

CONTRIBUTIONS OF THIS STUDY

Overall, this study contributes to the literature in the following ways:

First, this study examines privatization in a conceptual power hierarchy composed by a central government, provincial governments, and state-owned enterprises. The central government in China owns fewer than 90 SOEs, and that number is expected to further decrease. Most of the SOEs are owned and privatized by provincial governments. Therefore, evidence shows that privatization in China is designed by the central

government but implemented by provincial governmental owners. This highlights the potential contribution of China's privatization experience: firms' strategic actions are affected by the power imbalance between the central government and provincial governments.

Specifically, through the framework of the resource dependence theory (Pfeffer & Salancik, 1978; Pfeffer, 1981), strategic actions of firms are explained by powerful social forces. Taken from the firm-centric unilateral perspective, Pfeffer and Salancik (1978) predicted that organizations formulate strategies, either by complying external forces or by implementing defense mechanisms, in order to reduce uncertainty in acquiring resources. This prediction is puzzling if one considers the motivation of the powerful constraining party (e.g., the government owner in the setting of privatization) to agree to relinquishing one's power and the political and personal favorable exchange conditions that accompany the control (e.g., selling assets to private investors). Hence, adding the government-SOE bilateral power exchange dynamics (Emerson, 1962), this study contributes to the literature of external control of organizations from the power imbalance dimension. Power, by definition, is not an attribute of a firm or of an owner of the firm (Emerson, 1962). Power actually describes the interdependencies of all the social actors in a larger system. Figure 1 shows the power imbalance among these factors in China.

FIGURE 1
The Theoretical Power Map
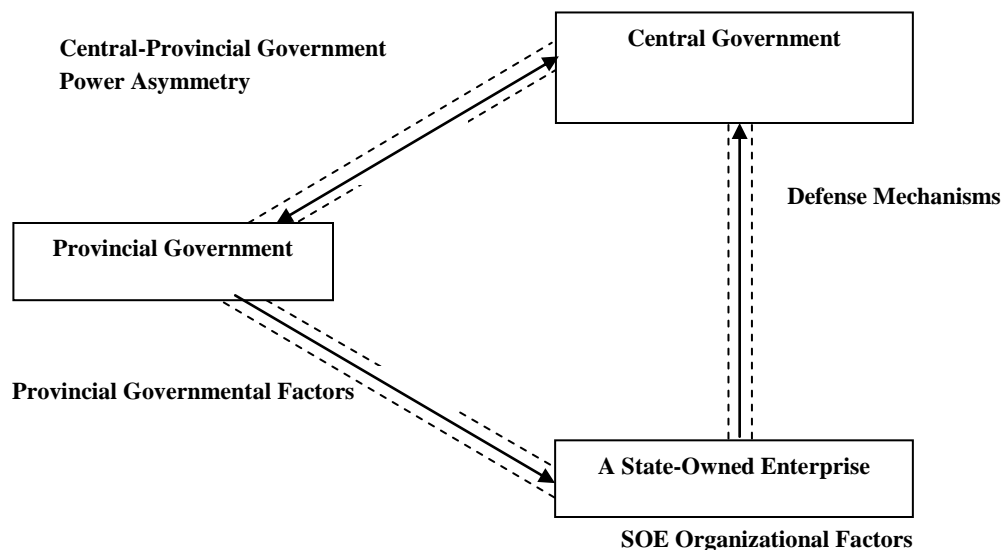
Second, the extant research on privatization has oversimplified reality by focusing

only on profitability measures as the dependent variable. Although the research based on

such outcome simplification has generated significant contributions to our understanding

of privatization across countries, the relationship between privatization and firm

performance (as the outcome of privatization) is contradictory, with empirical works

from different disciplines reporting conflicting results. For example, studies from finance

and economics (based on stock market datasets worldwide) have demonstrated that firm

performance after SOEs' privatization improved both in developed (D'Souza et al., 2005)

and developing countries (Boubakri, Cosset, & Guedhami, 2005a; Sun & Tong, 2003);

however, Dewenter and Malatesta (2001) found that earnings improve prior to

privatization but decline afterwards. The main analytical difficulties behind these

findings lie not only in terms of the challenging task of specifying two complicated

systems of corporate governance and organizational performance, but also in terms of a lack of methodological techniques to isolate environmental characteristics and to overcome sampling selection bias. If only efficient SOEs have a high likelihood to be privatized, there is no wonder these firms' efficiency outcomes improve afterwards, because those less efficient SOEs were never sold to private owners (i.e., less efficient SOEs did not enter the sample of privatization researchers) (Greene, 2007; Kennedy, 2006; Wooldridge, 2002, 2008). Thus, in order to tackle the sample selection bias and control for external environment effects, I included both groups—privatized firms and firms that remain state-owned—in one sample and designed a study to conduct the panel data analyses by differentiating influences from various factors.

Third, the management literature has limited empirical evidence documented on the topic of privatization from an organizational perspective. Finance studies, however, have emphasized the function and liquidity of capital markets (e.g., Megginson & Netter, 2001; Megginson et al., 2004; D'Souza et al., 2005). In addition, privatization researchers in the field of finance collected samples based on either developed or developing countries (Boubakri et al., 2005b) or based on English common law or French civil law countries (La Porta & Lopez-de-Silanes, 1999; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). There are relatively few studies on privatizations that occurred in transition economies previously adopting Soviet legal systems (Allen, Qian, & Qian, 2005; La Porta et al., 2000). China, however, is presently one of the largest economies in the world and the largest transition economy (Allen et al., 2005). Hence, this dissertation adds to our understanding about strategic actions and organizational transformation of SOEs in transitional economies

(Hoskisson, Wright, Lau, & Eden, 2000; Kim, Hoskisson, & Wan, 2004; Luo, 2001; Miller, Li, Eden, & Hitt, 2008; Wan & Hoskisson, 2003).

Fourth, this study offers a distinct view of China, a classical example of a transition economy. Most of the SOEs are owned and privatized by provincial governments in China. This is an interesting perspective because, so far, privatization studies have been dominated by samples from the United Kingdom, Russia, and Europe. Privatization in the United Kingdom, Russia, and Europe, however, is designed and implemented by central governments. In Russia, for example, the Healthcare Ministry decides whether to sell SOEs in the healthcare sector, and the Railway Ministry decides whether to sell SOEs in the railway sector enterprises (Frye & Shleifer, 1997; Shleifer & Vishny, 1997). Basically, Russian local governments have very little power over the privatization policy, even though the focal sold SOE is located in their region (Qian, Roland, & Xu, 2006). Hence, this study adds a complementary dimension on central–local government power imbalances and their impacts to SOEs.

Organizations are open systems that are constrained by external power forces. Firms formulate strategic decisions to either comply with demands of external actors and/or implement defense mechanisms (Katila, Rosenberger, & Eisenhardt, 2008). The event of privatization has switched the direction of satisfying political demands of governmental authorities to creating consumer-perceived benefits. Privatization is therefore a unique context for examining the power imbalance among different groups of external actors.

Interestingly, during the course of this research, governmental owners in both the United States of America and the United Kingdom have been purchasing majority share

equities and implementing direct controls over large-sized firms in multiple industries (e.g., AIG, CitiGroup, GMC, and Royal Bank of Scotland) in order to stabilize the financial condition of these firms and stimulate their market economies. So the inter-dependencies and power imbalances between governments and firms are not exclusive phenomena in transition economies only. For the purposes of economic development and social stability, governmental owners are still playing important roles even in developed economies today. Therefore, the theoretical and managerial applications from transition economies may shed light on the future empirical studies based on advanced market economies.

ORGANIZATION OF THE DISSERTATION

The remainder of this dissertation is organized as follows. Relevant research streams about privatization in finance, economics, and strategic management are reviewed in Chapter II. The chapter summarizes contributions and limitations of previous research on the topic of privatization (i.e., what we know and what we do not know) and sets the stages for the theoretical framework developed in Chapter III. In Chapter III, a theoretical framework is developed and hypotheses are presented. Chapter IV presents the methodology and research design used for hypothesis testing. Sample, measurement issues, and model specifications based on panel-data are also discussed. Findings are exhibited in Chapter V, and Chapter VI offers a discussion of the results reported in Chapter V. Implications, limitations, and future avenues for additional research emerging from this study are also presented in the concluding chapter.

CHAPTER II

LITERATURE REVIEW

The overall objective of this chapter is to provide a review of extant research and to demonstrate the limitations of previous alternative theories and models vis-à-vis the present dissertation. This chapter comprehensively reviews relevant research streams about privatization in different disciplines of social science (e.g., economics, finance, international business, and strategic management) and summarizes these academic contributions into three categories: (1) overview of privatization; (2) outcomes of privatization; and (3) determinants of privatization.

There are three reasons to organize this literature review chapter in such a way. First, privatization has been an established topic in the fields of economics and finance for over two decades. Hence, economists have offered many insights about this topic from a variety of perspectives. It is essential to capture the academic contributions from related disciplines comprehensively and then summarize them in the review section. Second, cross-discipline literature indicates that the empirical efforts of financial economists have been focusing on the outcomes of privatization. This is actually a major characteristic in the privatization literature. Hence, a separate section of outcomes of privatization deserves scholarly attention. Third, there are relatively fewer studies to investigate the determinants of privatization. Thus, a section of determinants of privatization appreciates these existing academic findings and informs the field what we do not yet know.

The chapter concludes by arguing that there is great promise in using well-established theories in the field of management to analyze SOE–governmental-owner

power imbalance relationships in the context of privatization. From the perspective of determinants of privatization, this dissertation focuses on the role of power imbalance of different governmental owners in the privatization process of SOEs in transition economies.

OVERVIEW OF PRIVATIZATION

Policymakers and scholars continue to debate the merits of privately-owned and state-owned enterprises, especially given the current global financial crisis and government-initialized economy simulation plans across different countries (e.g., the U.S. and the U.K.). From the government perspective, there are a few economic reasons to privatize SOEs: (1) raise revenue by selling assets; (2) promote efficiency of SOEs; (3) reduce government intervention in the economy; (4) expose SOEs to market discipline; and (5) introduce competition (e.g., Megginson & Netter, 2001; Price Waterhouse, 1989).

The efficiency gain was adopted by researchers to justify the above economic reasons. Proponents of privatization report that newly privatized firms perform better in terms of accounting-based measurements (e.g., profitability, capital investment spending, and output increases; Megginson & Netter, 2001). For example, when comparing the pre- and post-privatization financial and operating performance of 61 firms from 18 countries through public share offerings from 1961 to 1990, Megginson, Nash, and van Randenborgh (1994) documented performance improvement and corporate governance enhancement. Based on empirical evidence across different countries, Megginson et al. (1994) further found that objectives of governments (e.g., employment rates and taxes) have been met by adopting privatization programs.

Not all scholars agree with the above conclusion, though. For example, by using cross-country panel data on 500 large firms, Dewenter and Malatesta (2001) found that earnings improved prior to privatization but declined after privatization. In addition, Kole and Mulherin (1997) reported that private sector firms do not produce better performance than the U.S. federal government-owned SOEs in the same industry. By drawing samples from firm performance during and after World War II, their findings directly challenge the argument of efficiency gain as a result of privatization.

Governments, as state owners and asset sellers, normally choose one of the three modes to privatize: asset sales, share issue privatization, or voucher privatization (Megginson et al., 2004). With an asset sale, the seller sells the ownership of the underlying SOE to a private investor. This privatization technique is usually implemented through an auction. La Porta and Lopze-de-Silanes (1999) reported an important privatization program in Mexico that relies on asset sales. In share issue privatizations (SIPs), the government seller sells equity shares in the public capital market. Jones et al. (1999) reported that governments in 59 countries had raised over $446 billion in the 1990s through privatization.

Voucher privatization, another technique, has been adopted in formerly communist countries such as Russia and the Czech Republic because of the low income levels in those countries. Basically, the government distributes vouchers (e.g., paper claims that can be exchanged for ownership of formal SOE firms) to every citizen. Voucher privatization is therefore adopted by the government to develop capital markets and liquidity in that country. Especially in transition economies, low income levels center the domestic investors' financial capability (Megginson et al., 2004).

Overall privatization is a very important element of the increasing use of the market mechanism, instead of the state intervention, to allocate resources globally (Megginson & Netter, 2001). Various approaches have explored the theoretical framework to interpret the complex phenomenon of privatization, starting with the finance and economics literature.

Political Objectives, Public Choice, and Executive Leadership

In the literature of public choice, researchers argue that rent seeking, extraction, and social welfare protection are important objectives of government intervention (e.g., Shleifer & Vishny, 1998; Stiger, 1971). Therefore, a stream of political economy research considers that public enterprises have had poorly motivated leaders. Because those public enterprises separated the formulation and implementation stages of executive leadership, the results have been weakened for SOEs. For example, there were 35 government and 57 privately funded expeditions to navigate the North Pole between 1818 and 1909. Most Arctic discoveries were made by private ones, while most tragedies were publicly funded (Karpoff, 2001). Besides poor leadership, slow adaptation to new information and lack of incentives are two major problems associated with public enterprises, even though those public ones were better funded.

Another research stream (Shleifer & Vishny, 1994), however, proposes a bargaining model among the treasury, the politician, and the manager of a firm to solve the puzzle: do privatizations matter? Shleifer and Vishny (1994) showed that privatization of cash flows encourages effective restructuring of public enterprises, which implies that the potentially profitable firms are the best candidates for privatization,

whereas the "hopeless" firms continue providing political benefits in exchange for government subsidies.

Overall, economists largely belong to the public choice school and believe that public enterprises produce products desired by politicians rather than by consumers. For example, Credit Lyonnais, a state-owned bank in France, lost billions of dollars making dubious loans to the socialist party's friends. Hence, public enterprises are asked to pursue political goals for politicians. Boycko, Shleifer, and Vishny (1996) further proposed a formal mathematical model of privatization by pointing out that privatization of public enterprises raises the cost to politicians of influencing those firms because it is politically harder to control privatized firms. In this way, privatization leads to efficient restructuring of firms. Moreover, privatization is more effective when combined with a tight monetary policy, and when the new owners of firms are profit-maximizing investors (Boycko et al., 1996; Qian & Roland, 1998).

Information Asymmetry and Asset Underpricing

Information asymmetry theory explains the underpricing in initial public offerings (i.e., the return on the issue price on the first trading day of listing) because first-hand investors do not know the underlying assets as much as the original owners of the company (Loughran, Ritter, & Rydqvist, 1994). Basically, studies of initial public offerings (IPOs) all conclude that initial offer prices are significantly lower than early after-market prices (e.g., see also Certo, Holcomb, & Holmes [2009] for a recent review of IPOs). However, the average level of underpricing in the initial SIPs is similar to that for private-sector IPOs (Jones et al., 1999). This is interesting because most SOEs are

large and well known, not only to professional investors but also to the general public in that country.

The puzzle of underpriced privatizations of SOEs starts with the United Kingdom. Jenkinson and Mayer (1988) showed that the underpricing on U.K. privatization sales is greater than the average initial public offerings, even though investors know more about the well-established SOEs than most private initial public offering companies. Mathematical models and analytical tools are offered to explain gradual, underpriced privatization sales of SOEs. By applying the information asymmetry theory, financial economists show that underpricing may be used as a signal for initial public offerings and gradual asset sales (e.g., Welch, 1989). Empirical evidence also shows that the sales of SOE firms in Hungary were surprisingly gradual (Perotti, 1995).

Another dimension is that the government retained significant shareholdings in privatized firms after having relinquished control. This dynamic behavior of the government was interpreted in the following way: a partial sale and its underpricing are signals of *government commitment*, because gradual sales with immediate relinquish of control implies that the government bears the residual risk of the firm (Perotti, 1995; Vickers & Yarrow, 1988). Because the government understands the uncertainty and information asymmetry involved with SOEs, underpricing serves as a signal of government commitment to buyers. Based on the theoretical framework of Perotti (1995), Dewenter and Malatesta (1997) compared private IPOs and fixed-price privatizations in eight countries: Canada, France, Hungary, Japan, Malaysia, Poland, Thailand, and the U.K. Interestingly, only the U.K.'s evidence supports the government commitment hypothesis of Perotti. The Canadian and Malaysian evidence solidly rejects this

hypothesis. Overall, their results show that the mean pricing of IPOs of privatized SOE firms are the same as IPOs of private-owned firms.

As the debate continues, financial economists devote more efforts to cross-country, large-sample empirical studies. By using 59 country samples of 630 SIPs with total proceeds of over $446 billion between 1977 to 1997, Jones et al. (1999) found that governments consistently underpriced share issue privatization offers in order to advance political and economic policy objectives. These authors offered an alternative explanation for the underpricing of SIPs is that governmental authorities design the privatization offers in order to achieve political and economic policy objectives instead of to maximize proceeds, supporting Perotti's (1995) view that government commitments help to conduct credible privatization.

The Choice of Public versus Private Capital Markets

Finance researchers generally believe the function of one country's capital markets reflects the country's institutional characteristics and corporate governance systems (e.g., La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999). Therefore, the choice of whether to privatize through a public stock market (i.e., share issue privatization) or through the private capital market (i.e., direct sales) is an important question. Of course, price theory in formal economics would posit that the choice is based on in which way the seller (in this case, the government) can receive the best price for the underlying assets. However, as previous discussion suggests, government commitment to develop a capital market is also a consideration.

Megginson et al. (2004) combined World Bank and Privatization International databases to indentify 2,457 privatizations that happened between 1977 and 2000. Of the

2,457 privatizations, 931 were through public stock markets and 1,526 were though

private market (i.e., direct sales). Results show that the nature of the capital market in the

privatizing country is the key to the choice. If the focal country has a less developed

capital market and the government has the commitment to use privatization to develop its

national market's liquidity, the SIPs are more likely to occur. Subrahmanyam and Titman

(1998) argued that SIPs can jumpstart stock-market development and speed up gains in

economic growth and efficiency. Also, SIPs are more common when income is more

equally distributed in a country. Megginson et al.'s (2004) results also suggest that

governments that have less state control over the economy tend to use direct asset sales.

That is because investors are more willing to make substantial investments when they

perceive that they are able to maintain the ownership of those assets without undoing

government intervention.

Controlling Blockholders and Legal Systems

Recently Atanasov (2005) showed that in a country with very little mechanism to

protect the rights of minority shareholders or to constrain majority owners, institutional

investors-controlled block shareholdings are valued ten times higher than minority shares.

This observed control premium in Bulgaria implied a strong preference of controlling

blockholders. Using World Bank data of 1,491 privatized firms in the Czech and Slovak

Republics, Claessens (1997) also reported that voucher prices and secondary market

prices are shown to depend upon the ownership structures. The more concentrated

ownership leads to higher equity prices. Together, these findings support the international

law and economics approach pioneered by La Porta et al. (1998): countries with weak

legal protections for minority shareholders create the context of controlling blockholders.

Furthermore, a country-level study by Johnson, Smith, and Codling (2000) showed that poor legal protection leads to controlling blockholders' self-interested behaviors, and that this can explain the stock market and foreign currency collapse in the Asian crisis. Hence, the above studies support the theory that dispersed ownership and high minority shareholder valuations cannot emerge when there is no sufficient legal control over controlling blockholders. This stream of research supports the view of Fama and Jensen (1983) that says that firms with a majority shareholder cannot exist as publicly traded organizations in equilibrium because unconstrained majority owners can and will fully expropriate all assets and cash flows from the firm, at the cost of minority shareholders. Due to the proliferation of controlling shareholders in most countries (La Porta et al., 1999), the premium of control blockholders adds value to the literature of corporate governance and privatization.

Partial Privatization and Residual State Ownership

Overall, there are limited works done on partial privatization, because a much larger percentage of privatizations involved with both share issue privatization and direct asset sales normally have a majority of assets privatized and control rights transferred from the state to private owners. By examining recent partial privatization in many countries, however, some researchers offered their conclusions.

In India, in cases where the government remained the controlling owner, Gupta (2005) concluded that partial privatization improved firm performance, mainly because of the role of the stock market. By using an unbalanced panel data of Indian SOEs and also controlling for endogeneity, Gupta (2005) found that partial privatization had a positive impact on both profitability and productivity, supporting the theory that the stock

market still can play a role in monitoring and rewarding managerial performance even though the governmental authorities remain as the controlling owners. According to Gupta, the role of the stock market is to provide a valuable signal in the market for managerial skills, given that the controlling rights of the firm remain in the governments' hands. The reason is that the stock performance may be used by workers and lower-level managers to monitor senior executives since all workers depend on the performance of the firm. More importantly, stock prices may also be used by the government to monitor managers more effectively since the share price is used as an objective standard for SOE executives' performance evaluation and compensation package. In short, Gupta's (2005) theory supports the view of La Porta and Lopez-de-Silanes (1999) because better information and monitoring reduce inept practices of senior managers.

Vaaler and Schrage (2009) focused on partially privatized firm-level shareholder returns in the telecommunication sector, after the state-owner reduced shareholding percentages of the controlling majority and shifted to non-controlling minority equity. Those authors focused on the impact of residual state ownership on the firms after the partial privatization decisions were made by state-owners. They posited that the residual state ownership may positively rather than negatively influence the firm stock market performance, which is measured by cumulative abnormal rates of return. By using 15 privatizing telecoms in Latin America and following 196 announcements from 16 years, these authors showed that residual state ownership caused by partial privatization positively affected short-term shareholder returns after state-owners decided to privatize firms, mainly for two reasons: (1) partial privatization signaled state support for managerial initiatives; and (2) partially privatized firms improved principal-agent

alignment of private shareholders and management interests in the long term. In the future research section, these two authors acknowledged that the context in China is the promising avenue for research because of its institutional characteristics.

Sun and Tong (2003) evaluated the performance changes of 634 SOEs listed on China's capital markets upon partial privatization in the period of 1994–1998. These authors found evidence of improvements in earnings, real sales, and employee productivity up to three years after privatization. However, both return on sales and earnings on sales declined after privatization, supporting the view that partial privatization in China has only achieved limited success. Sun and Tong (2003) viewed partial privatization as a main problem caused by public policymakers, in contrast to Gupta's (2005) conclusion, because the state controlling ownership still prevents non-state shareholders from playing a more active and positive role in the firm. Hence, those authors suggested that state shares in China should be further reduced and more foreign institutional investors are needed.

Also, Fan, Wong, and Zhang (2007) studied 790 partially privatized firms in China. About 27% of the CEOs in their sample were former or current government officials. Defining a political connection as a member of any legal party in China Mainland, those authors found that firms with politically connected CEOs underperform those firms that CEOs are not politically connected in terms of earnings growth, sales growth, and return on sales. The evidence offered in their paper is consistent with the traditional "grabbing hand" argument (see also Shleifer & Vishny, 1998) that governmental authorities extract resources from SOEs that are under their direct control to fulfill objectives other than just profit maximization. Interestingly, the post-

privatization underperformance study based on the China sample contradicts Gupta's (2005) theory of the role of the stock market generated from the Indian stock market.

Strategic Fit and Merger

Strategic management researchers have shown an interest in investigating privatization and improved performance beyond the mere ownership-change effects (Uhlenbruck & De Castro, 2000). As previous discussion suggests, formal economics theory suggests that the transfer of ownership from state to private investors improves financial performance while considering a firm as a *black box* and privatization as a type of asset transaction. Since the process of organizational transformation is ignored in the economics literature, researchers have good reason to question whether the improved performance is due to external conditions (e.g., environmental change, technological advancement), rather than the change of ownership per se.

In order to address the transformation process of privatized firms, Uhlenbruck and De Castro (2000) examined privatization when the government was considered a partner. Their research setting was in Central and Eastern Europe, where many foreign diversified firms have merged with SOEs based in these Central and Eastern Europe countries. As the traditional merger theory suggests, the fundamental constructs affecting merger outcomes are the strategic fit and organizational fit between two firms (Jemison & Sitkin, 1986; Lubatkin, 1983). In fact, the government, as a seller, is not going to just pursue selling price maximization as a single objective through privatization, as formal economics theory would suggest. Through the privatization process, the government is obligated to ensure economic development as well as multiple political and social considerations. Therefore, governmental authorities, as a partner of a merger project, can

still enforce state goals after privatization because they control many of the country's resources and have responsibilities to formulate industry policies and regulate business systems.

Hence, the ongoing communications and the strategic fit between the seller (the government) and the buyer (the foreign diversified firm) determine the outcomes of the privatization, such as price, integration strategy, and post-privatization performance. Uhlenbruck and De Castro (2000) made a good first step toward examining those characteristics of privatization. Their results showed that the strategic fit (measured as industry commonality or a vertical relationship between targets and acquirers) was positively and significantly associated to post-privatization performance. Their findings were based on 170 survey questionnaires and the key dependent variable, post-privatization performance, was a perception measure of return on asset.

Contextual and Organizational Factors of Privatization

As the research on privatization has accumulated empirical evidence about improved efficiency from finance and economics, the field of management adds theoretical understandings about organizational perspectives. For example, Cuervo and Villalonga (2000) pointed out that both agency theory and public choice theory do not explain the observed variance in the performance results of privatized firms, even though both two theories indicate that privatized firms' performance will improve generally. Interestingly, Cuervo and Villalonga (2000) argued that organizational and contextual variables should be considered in order to explain such a variance. By contextual factors, these authors mean deregulation and liberalization of the local economy in which the privatized firm is based. By organizational factors, these authors mean the top

management replacement and changes of goals, strategies, and cultures. By including those two categories of factors, these two authors offered a conceptual model to explain the variance of the performance for privatized firms.

Other scholars have suggested that significant entrepreneurial progress occurs during the privatization process through a cognitive shift from a managerial cognition toward an entrepreneurial cognition. Managerial cognition refers to a more systematic decision-making (Wright, Hoskisson, Busenitz, & Dial, 2000). However, most of the so-called "Red Directors" of the former Soviet Union tended to be all powerful within their enterprises, and these Red Directors' main job was to implement government-planned economic decisions (Puffer, 1994). Therefore, this type of command economy-based managerial cognition does not generate positive effects on firms' competitive advantages. Based in cognitive psychology, entrepreneurial cognition indicates that strategic decisions are shaped by individual heuristics and that an understanding of strategic decision-making is significantly limited without analysis of these cognitive processes (Hitt & Tyler, 1991).

In the field of management, there are other scholars who have developed conceptual models about privatization from different perspectives, such as institutional theory (Johnson, Smith, & Codling, 2000), multilevel analysis (Ramamurti, 2000), local partner collaboration (Doh, 2000), and agency theory (Dharwadkar, George, & Bradnes, 2000). For example, the speed of privatization can be considered a balance between the destruction of the command-based institutional system and the creation of the market-based institutional system (Spicer, McDermott, & Kogut, 2000). Through the lens of Spicer et al. (2000), an entrepreneurship based upon the incremental institutional shift

explains privatization outcomes better at the country level because a gradual reform process allows the formation of market-based institutions (e.g., property rights and minority shareholder protection) to evolve gradually from the inherited planned economy system. Mass privatization does not lead to the formation of a new system of entrepreneurship based on market-based institutional settings because a market-based institution system cannot be established immediately right after a firm is sold. Therefore, mass privatization does not avoid the restructuring of institutions because it only postpones the challenges of implementations of those restructurings. Hence, scholars have concluded that balance should be maintained "through a process of gradual property reform that shows recognition of the importance of existing economic and social relations while still allowing for the emergence of new forms of market entrepreneurship and organization" (Spicer et al., 2000: 646).

OUTCOMES OF PRIVATIZATION

Overall, literature indicates that the empirical effort to generate valid and comprehensive conclusions about outcomes of privatization continues:

1) Megginson et al. (1994) studied privatizations during 1961 to 1989 and documented performance improvement and corporate governance enhancement.

2) Boubakri and Cosset (1998) included privatized firms based in low-income countries and lower-to-middle-income countries during 1980 to 1992. Boubakri and Cosset (1998) concluded that newly privatized firms show significant increases in profitability, capital investment spending, and output.

Their research also suggests that privatization yields greater benefits for firms headquartered in countries with higher income per capita.

3) Considering the operating environment for electric utilities and telecommunications firms, which changed dramatically during the 1990s (due to external factors such as massive technological changes and the worldwide trend of deregulation of utilities), D'Souza and Megginson (1999) studied privatizations during 1990 and 1996. The pre- and post-privatization financial and operating results showed that the 85 firms in the sample experienced significant performance improvement.

Basically, the three empirical studies mentioned above examined different time periods (1961 to 1989 for Megginson et al. [1994]; 1980 to 1992 for Boubakri & Cosset [1998]; and 1990 to 1996 for D'Souza & Megginson [1999]). With relatively little sample overlap, collectively the studies examined 211 firms from 42 countries and generated consistent results. In addition to the empirical evidence generated from different countries, the following section summarizes a variety of theories adopted by scholars in the privatization outcome research.

Agency Theory and Firm Performance

Managers are considered agents of both privatized firms and non-privatized firms. Managers' goals presumably seek the maximization of their own utility rather than that of the firm or its owners. In private firms, this orientation divergence is effectively reduced because of the following mechanisms: (1) the threat of takeover (market for corporate control) and bankruptcy; (2) the incentives of monitoring by the board of directors representing profit-maximizing investors; and (3) the managerial labor market. In the

state-owned firms, there are no such mechanisms to reduce moral hazards. Hence, private firms are more efficient than state-owned ones after political and organizational factors are controlled (Villalonga, 2000).

According to Kornai (1992), SOE managers have strong incentives to acquire and hoard resources under their control simply because doing so enhances their bargaining position with the state authorities, who also can be considered as agents of the general public. Under the state-owned institutional system, while managers control business decisions, residual claims against the income of those enterprises are due to the general public in that country. Theoretically, the individual claim of an individual citizen is so small that no one is interested or capable of monitoring the behaviors of managers. So, privatization is used to reduce agency considerations. Hingorani, Lehn, and Makhija (1997) find that equity value is positively and significantly correlated with the size of insider and foreign ownership structure in the voucher scheme, supporting the view that insider and foreign ownership mitigate agency problems.

Shleifer and Vishny (1997) attributed poor performance of SOEs to the principal-agent problem. In this situation, the separation problem involves the general public (owners or taxpayers) and politicians (agents). According to Shleifer and Vishny (1997), the politicians retain control rights to the firm without cash flow rights because the latter are dispersed among all the citizens in a country. Hence, in SOEs, politicians' interest is to achieve political objectives. Privatization, as a fundamental change of ownership, triggers an emphasis on profits.

Following Shleifer and Vishny's (1997) theory that ownership concentration is an internal governance mechanism in countries in which minority shareholder protection is

weak, some financial economists considered privatization as a natural experiment to examine how corporate governance mechanisms interact and affect organizational performance in the post-privatization stage (Boubakri et al., 2005a). Boubakri et al. (2005a) included firm- and country-level explanatory variables from a panel data of 209 firms privatized in 25 emerging markets and took into account unobservable changes across years (i.e., fixed effects modeling). These authors concluded that the positive relationships between ownership concentration and firm performance matter more in countries with weak investor protection. However, as these authors acknowledged, one potential limitation of their study could be that the sample completely excluded ex-communist countries (i.e., transition economies).

Industry Effects and Product-Based Performance

As the above studies suggest, researchers generally believe privatization improves efficiency of the firm that has been privatized. Megginson et al. (1994) found that firms' profits improved after privatization. In order to overcome the limitation of accounting-based measurements (e.g., Barber & Lyon, 1996), Eckel, Eckel, and Singal (1997) employed data from both the stock market and the product market. They showed that stock prices of U.S. competitors, at the industry level, fell a significant 7% upon British Airways' privatization. Therefore, the industry effects were clear and robust. Further, as the product price of the airway market, airfares served by British Airways fell significantly upon privatization.

The merit of the industry effect approach is that it investigates the outcomes of the government decision-making from the industry level. Eckel et al. (1997) employed a simultaneous equation multivariate regression based on seemingly unrelated regression

estimator (SUR) because the entire industry is affected by privatization simultaneously; in other words, the firm-specific disturbances are significantly correlated and therefore should be counted. Thus, the industry effect approach contributes to the literature not only in terms of industry-level analysis, but also by employing stock market data as well as product market data.

Post-Privatization Governance

The pre-privatization corporate governance and resource relocation in transition economies (e.g., China and Russian) were based on the state ownership of all means of production, which allowed the governmental authorities to extract investable resources from the overall economy by systematically distorting the allocation of resources (Li, 1997). Hence, state-owned enterprises maintained monopolistic positions because monopoly power made it easier for managers and workers of SOEs to pursue "a quiet life" (Hicks, 1935).

Privatization improves corporate governance because it allows the market rather than government authorities to allocate resources. Along this logic, Filatotchev et al. (2001) considered "export intensity" as the outcome of a strategic decision-making process for post-privatization firms based in Russia, the Ukraine, and Belarus. These authors developed a straightforward research question: How do privatized firms develop an exporting strategy? Because the voucher privatization programs in Russian, the Ukraine, and Belarus are designed to increase firm efficiency (e.g., Megginson & Netter, 2001), making products internationally competitive is a logical strategic outcome of the privatization. In other words, privatization can be considered a tool to remove constraints on managerial strategic decision-making imposed by state ownership. Filatotchev et al.

(2001) considered exporting intensity, rather than strategic intent, as an outcome because it represents the consequence of the judgment of the international product marketplace. By using three-year longitudinal questionnaire data, Filatotchev et al. (2001) found that export intensity was mediated by strategies involving product development, acquisitions, and links with foreign partners.

Barberis et al. (1996) used a survey of 452 Russian shops to measure to what extent privatization promotes restructuring as the outcome variable. In their study, restructuring was measured as major renovation, a change of suppliers, an increase of office hours, and layoffs. The likelihood of restructuring, as the dependent variable, was significantly associated with the presence of new owners and new managers. The evidence of their study supports the important role of new human capital in organizational transformation because privatization fundamentally changes the selection criteria for new managers from political-based skills to market-based skills. The methodological advantage of this work is that these authors used a two-stage least-square modeling and three instruments (e.g., privatization techniques) to control potentially endogenous variables. Those instruments were strongly correlated with ownership and management change but not correlated with the four dependent variables of restructuring, thus enhancing the validity of the study.

Besides exporting and restructuring, other outcomes of privatization include post-privatization integration and transition (Uhlenbruck & De Castro, 1998), change of performance evaluation and compensation systems (Rodriguez, Espejo, & Cabrera, 2007), and failure (Mouly & Sankaran, 2004). By adopting qualitative methodologies, strategic

management researchers have contributed to the literature of corporate governance and strategic outcomes of privatization.

Overall, the economics and finance literature have discussed different techniques of privatization (share issue privatization, voucher, or direct asset sales) in different countries (Megginson et al., 2004; Vickers & Yarrow, 1988), while the strategic management research has addressed the strategic outcomes of privatization (De Castro & Uhlenbruck, 1997).

As economists point out, for less-developed and former communist countries, privatization also involves development imperatives (Vernon, 1988), which were missing from the first wave of privatization in the U.K. Hence, this type of characteristic distinguishes former communist countries, less-developed countries, and developed countries. De Castro and Uhlenbruck (1997) classified 467 privatizations worldwide between 1989 and 1992 into three groups: developed countries, less-developed countries, and former communist countries. Results of this study show that privatization deals in former communist countries are more likely to be total equity acquisitions than privatizations in less-developed and developed countries. Also, results suggest that privatization deals are more likely to be total equity acquisitions in former communist countries because of lower levels of government credibility and higher levels of intangible assets. Also, privatized firms in former communist countries are more likely to acquire related businesses than buyers in either developed or less-developed countries.

Resource-Based and Market-Based Views

Makhija (2003) considered privatization of SOEs in the Czech Republic as a natural context to test and compare the predictive ability of the resource-based view

(RBV) against the market-based view (MBV) under conditions of major changes. The market-based view is based on industrial organization economics and posits that entry barriers and privileged end-product market power are the basis of above-normal returns (Bain, 1956; Caves & Porter, 1977; Porter, 1980). In contrast, the resource-based view focuses on firms' internal resources and capabilities to explain firm value, competitive advantage, and profitability (Barney, 1991; Penrose, 1959). The results support the conclusion that resource-based variables make more significant contributions to the model.

Entrepreneurial Outcomes of Privatization

Zahra et al. (2000) pointed out that little scholarly attention has been given to the organizational and managerial implications of privatizations or the consequences of privatized firms' capability to innovate. These pioneers identified the fact that prior management research has not examined the major organizational transformation that occurs following the event of privatization. Organizational transformation is defined as "changes in organizational values, cultures, systems, and strategies" (Zahra et al., 2000: 510). Hence, the organizational transformation centers on to what extent a firm is governed and managed as it heads in the direction and faces the competitive realities of a market-based resource allocation mechanism.

Entrepreneurial outcomes include innovation and new venture. As some scholars highlight:

> Innovation is the creation of goods and services, where product innovation also includes upgrades and extensions of existing products (incremental innovation). It also includes radical new product development. Whether radically new products or modified products, both innovations are necessary to capitalize the technological opportunities created by liberalization of the economy and the resulting privatization. (Zahra et al., 2000: 518)

DETERMINANTS OF PRIVATIZATION

As the previous literature review suggests, scholars have been providing both empirical works and formal mathematical analyses on the topic of outcomes of privatization (e.g., Djankov & Murrell, 2002; Megginson & Netter, 2001). These empirical studies from multiple disciplines have examined the outcomes of privatization, such as efficiencies, share price, export intensity, product price, and major restructuring. Interestingly, however, the research question of what factors have triggered government owners to relinquish the exclusive control over their SOEs (i.e., determinants of privatization) has attracted surprisingly scarce scholarly attention.

Drawing samples from Central and Eastern Europe, Goel and Budak (2006) concluded that greater economic prosperity, greater unemployment, and lower inflation seem to induce small-scale privatization but have little effect on large-scale privatization. These two authors studied country-level factors (e.g., country size, size of the government, and unemployed rate) and a number of exogenous influences (e.g., backup from the former Soviet Union).

In investigating the market-based economy development in China, federalism and soft budget constraints are considered as two possible antecedents of privatization (Qian & Roland, 1998; Cao, Qian, & Weingast, 1999). Qian and Roland (1998) demonstrated that the government's incentives to bail out inefficient projects were determined by the trade-off between political benefits and economic costs. The economic costs were dependent on the decentralization of the government fiscal policy. According to these authors, decentralization follows this logic: (1) China's central government designed decentralization fiscal policy; (2) decentralization of fiscal authority therefore allows

local governments to keep the government revenue within their regions for local economy developing purposes; and (3) because the local government is allowed to keep the local revenue, the local government has incentives to bail out inefficient projects. Interestingly, however, other researchers have different views regarding soft budget constraints (Kornai, 1980). For example, in an empirical study, Earle and Estrin (2003) found that soft budget constraints might induce asset restructuring (e.g., privatization), but the effect was small and insignificant.

Based on anecdotes and a few case studies, Cao et al. (1999) studied the privatization of small firms (i.e., the county-level township and village enterprises) and extended the logic of decentralization. Basically, Cao et al. (1999) proposed that the harder budget constraints and increased competition from the non-state sector are the antecedents of township enterprises' reform and privatization. However, Cao et al. (1999: 107) acknowledged that "[The conclusion] should not be interpreted as systematic" because of the data limitation.

Hence, it is reasonable to conclude that the answer to why some SOEs are privatized but others remain state-owned is still a puzzle. In fact, of the many questions privatization researchers have attempted to answer, the questions focusing on the determinants of privatizations are among the most complex. As the above literature review suggests, governments around the world often sell SOEs selectively and employ complicated sale transactions. In other words, government authorities decide when and how to sell what type of firms. Hence, it is logical to assume that the post-privatization firm performance is determined, at least partially, by whether governments decide to privatize efficient SOEs (or less-efficient SOEs). In other words, how the privatization

decision is made by the governmental owner determines the post-privatization firm performance.

In addition, the privatization literature may contain three potential limitations:

1) Most outcome studies do not include firms that have not been privatized (i.e., firms remain as SOEs) in their sample. Technically, it is relatively easier to compare accounting-based measurements (e.g., profitability) of pre- and post-privatization for a group of firms. However, a common critique will be whether those performance outcomes in terms of profitability are driven by external environment factors such as cost of capital or technological innovation, rather than the transfer of ownership.

2) Empirical efforts have not explained what factors determine why some firms are privatized and many others are not. This determination of the likelihood of privatization is critically important in research methodology and validity of findings because it might suggest a sample selection bias in the current literature.

3) Theoretically, the efficiency measures (e.g., profitability) do not explain the logic that pre-privatization SOEs are evaluated by the state, rather than by consumers. SOEs can be very efficient at pleasing government authorities when they are not very efficient at meeting customer demands. It is organizational transformation caused by privatization that switches the emphasis of those SOEs from meeting political demands to satisfying consumer wants. Because most finance authors consider the firm as a black box, the conventional analytical approach and the design of the efficiency

measure as the dependent variable cannot isolate the contextual factors'

impacts.

As simulated by previous studies, I examine the determinants of privatization in a context of the transition economy by developing a nested conceptual model that accounts for external factors and organizational factors. Organizational transformation is the key of privatization. During this type of strategic change process, the privatized SOE firm starts to focus on consumers in the marketplace. Before privatization, the SOE firm, by definition, focuses on securing resources from governmental authorities. As resource dependence theorists suggest (Pfeffer & Salancik, 1978), a market-based mindset replaces a political-based mindset in privatized firms; the market-based mindset emphasizes the upgrade of product lines, the growth of revenue, and the conducting of marketing penetration strategies. Before privatization, however, these product development decisions might not have been implemented because the objective of SOEs is dominated by political and social factors (e.g., social welfare or local employment) and therefore the business strategies to respond to the consumers are constrained and eliminated.

SUMMARY AND CONCLUSION

It is safe to draw several conclusions from the research undertaken so far. The roles of (1) organizational transformation of SOEs, and (2) governmental-owner power imbalance have been largely overlooked in the privatization literature. Therefore, the field has limited understanding of the theory and antecedents that determine the likelihood of privatization. Such a research gap is surprising given the significant strategic changes and consequences involved in privatization across different countries.

Because research on the topic of privatization and its antecedents has been sparse, more effort is needed to advance the development of relevant research. In order to address this gap, the privatization decision is the focus of this dissertation. Different branches of government owners have different interests and power asymmetries to make such a decision. Hence, this work investigates three categories of relationships: (1) the relationship between the immediate government owner and the SOE; (2) the power asymmetry among different government authorities; and (3) the relationship between the defense mechanisms firms adopt and the likelihood of privatization.

Overall, privatization mitigates constraints on managerial strategic decision-making imposed by exclusive state ownership. Hence, this dissertation considers multiple factors from three categories (SOE organizations, provincial governments, and the central government) for two groups of firms (privatized firms and remaining SOEs), rather than just focusing on the efficiency outcome for one group (privatized firms). This nested conceptual model may help to advance our understanding about the topic of privatization.

CHAPTER III

THEORY DEVELOPMENT AND HYPOTHESES

THEORY DEVELOPMENT

SOEs are firms that have governmental owners as decision-makers (e.g., board of directors). By nature, the strategic decision-making system is very ineffective for these SOEs because governmental owners exercise sufficient power in strategic decision-making. For example, if an SOE wants to spin-off (i.e., sell) a subsidiary, executives of that firm have to receive approval and the selling approach from their governmental owners/authorities. Governmental officials have multiple political and social objectives, and generally they are not interested in understanding competitive advantages of individual firms. Therefore, they are not good managers, and they are highly unlikely to risk their political capital for such business decisions. In reality, this type of decision-making process could take as long as five years in transition economies. Therefore, the direct government intervention (e.g., very slow decision-making mechanism) actually presents SOEs with competitive disadvantages and inefficiencies.

In the field of strategic management, researchers believe that power provides its holder the ability to achieve a high level of influence on the behavior of other actors in a business system (e.g., Kim et al., 2004; Shervani, Frazier, & Challagalla, 2007). Resource dependence theorists share the same concept and posit that the dependency of a firm towards its external forces is the source of power and also its conceptual obverse, constraint (e.g., Pfeffer & Salancik, 1978; Pfeffer, 2003). If these external actors are relatively concentrated, a focal organization has few alternative ways of acquiring resources to sustain its competitive advantage or even to survive. So when the

dependence on the particular resource obtained from a concentrated source is high, the focal firm will be more constrained and prone to meet any demands of those powerful external actors. In turn, if an SOE is capable of acquiring critical resources from the product marketplace by meeting increasing demands from its customers, then it does not really need to secure resources from its governmental owners. On the one hand, when power is imbalanced in a SOE organization, this may motivate this firm to escape the exclusive control of its owners and be privatized. On the other hand, the elimination of external constraints such as decentralization of fiscal policy, if adopted by different governmental owners, significantly affects strategic actions of focal firms in the setting of privatization.

Evidence suggests that the antecedents of privatization, especially in transition economies, involve very complicated factors including the governmental-owner power imbalance, local-economy development, and organizational factors. Despite a number of studies that have been done on the topic of privatization in the field of management, very few studies investigated privatization from the power imbalance perspective. Therefore, the relationships between privatization and power imbalance between SOEs and their governmental owners require future investigation.

This dissertation examines privatization as an outcome of a power hierarchy composed of the central government, provincial governments, and SOEs. According to the resource dependence theory, organizational controls and strategic actions are the outcomes of powerful social forces (Pfeffer & Salancik, 1978). Viewed from this perspective, firms reduce their uncertainty in acquiring resources either by complying or by implementing defense mechanisms. Reducing uncertainty for SOEs is particularly complex during a privatization, considering the motivation of the governmental owner that sets the conditions of privatization. For example, the government may agree to sale a firm to private investors in return for fulfilling complicated political and social purposes. Hence, by adding the government–SOE power dependence (Emerson, 1962), this study extends the predominantly firm-centric focus of the resource dependence theory.

In order to explain the likelihood of privatization, this study proposes a bilateral approach to study antecedents of privatization. Figure 2 highlights the hypotheses of this study. The power asymmetry between the central government and provincial governments, the power dependence between SOEs and their immediate provincial government owners, and defense mechanisms adopted by SOEs are presented in an organizing theoretical framework.

FIGURE 2
The Theoretical Framework of Hypotheses

```
┌─────────────────────────┐
│ Provincial Government   │        ┌ ─ ─ ─ ┐
│ Factors                 │        │H2 (+) │
│                         │        │       │
│ -FDI Projects           │        │H3 (-) │
│                         │        └ ─ ─ ─ ┘
│ - Provincial Sector     │
│   Competitiveness       │
└─────────────────────────┘

┌─────────────────────────┐        ┌ ─ ─ ─ ┐               ┌──────────────────────┐
│ Organizational Factors  │        │H1a (+)│               │ The Event of         │
│                         │        │       │               │ Privatization        │
│ -SOE Revenue Growth and │        │H1b (+)│               │ (Selling SOEs to     │
│ Efficiency              │        └ ─ ─ ─ ┘               │ private investors)   │
│                         │                                └──────────────────────┘
│ -SOE Equity Growth      │        ┌ ─ ─ ─ ┐
└─────────────────────────┘        │H4 (+) │
                                   └ ─ ─ ─ ┘
┌─────────────────────────┐
│ The Power Asymmetry     │
│ between the Provincial  │
│ and the Central         │
│ Government              │
│                         │
│ -Government Revenue     │
│ Imbalance               │
└─────────────────────────┘

                                   ┌ ─ ─ ─ ┐
                                   │H5 (-) │
┌─────────────────────────┐        └ ─ ─ ─ ┘
│ The Defense Mechanisms  │
│                         │
│ -Patent defense and the │
│ SOE relationship with   │
│ the central government  │
└─────────────────────────┘
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2000   *The timeline (8-year panel)*   *2007*

In the setting of the power hierarchy, the power asymmetry is among three groups

of social actors: SOEs, provincial governments, and the central government. The central

government designs the market-based resource allocation system and the decentralization

fiscal policy and therefore allows local governments to keep the government revenue

within their regions. Provincial governments own the SOEs, and therefore they utilize the

economic rents generated from the SOEs for the social and economic benefits in their individual provinces. The strategic objectives of the provincial government owner include relatively high-quality products with lower prices, high percentage of local employment (hire more workers even though SOEs are already overstaffed), and higher output levels with fixed resource inputs (higher regional GDP contribution). As one can see here, those strategic objectives imposed by provincial government owners constrain the performance of SOEs, misappropriate SOEs' vital resources, and even damage competitive advantages of these firms. Hence, SOEs have to design a set of defense mechanisms to manage interdependencies with both provincial government owners and the central government (e.g., Katila & Ahuja, 2002; Katila et al., 2008).

This study aims to extend the resource dependence theory by analyzing power imbalance between SOEs and different governmental authorities. Despite mounting references to *The External Control of Organizations* (Pfeffer & Salancik, 1978), resource dependence theory is considered more of an appealing metaphor instead of a framework of testable empirical research (Casciaro & Piskorski, 2005). Some ambiguities in the original external control model account in part for this limitation. First, the central proposition of the resource dependence theory is that organizational survival and major strategic behavior hinge on a firm's capability to secure critical resources from the external environment. Taken from the firm-centric unilateral perspective, Pfeffer and Salancik (1978) predicted that organizations formulate strategies, either by complying with external resource providers or by implementing defense mechanisms, to restructure their dependencies with a variety of powerful social actors/forces in order to reduce uncertainty in acquiring resources. This prediction is puzzling if one considers the

motivation of the powerful constraining party (e.g., the government owner in the setting of privatization) to agree to relinquishing one's power and the political and personal favorable exchange conditions that accompany the control (e.g., selling assets to private investors). Second, because the original model of resource dependence is considered unilateral, empirical tests of power dynamics and constraint absorption have exclusively focused on the dependence of one social actor on another, without considering the reciprocal dependency from a bilateral perspective (e.g., government owners and SOEs).

Therefore, the main source of ambiguity for empirical studies on the resource dependence theory may partially come from the original discussion (Pfeffer & Salancik, 1978), which did not clearly distinguish the bilateral power dynamics that emerged from Emerson's (1962) exchange theory. Power, the key attribute of the resource dependence theory, is not a characteristic of any individual firm or any individual government owner. In the research setting of privatization, power is located in the system of a conceptual map, as a bundle of social relations that contains all the state-owned enterprises, the central government, and provincial governments. Therefore, the bilateral approach of this study, by integrating with the bilateral power exchange theory and by theorizing the reciprocal power dynamics and resource dependence, extends the resource dependence theory.

HYPOTHESES

SOE Organizations

Based on the above discussion, impactful research questions (e.g., privatization) arise not only because organizations are merely dependent on their environment, which is composed of external actors, but also because this environment is not completely

dependable and is changing continuously. For example, the supply of certain critical resources for the firm becomes more or less scarce. The central logic in the resource dependence framework is that organizations acquire resources in order to survive to the extent that they are effective. Pfeffer and Salancik (1978: 2) summarized that "organizational effectiveness derives from the management of demands, particularly the demands of interest groups upon which the organizations depend for resources and support." Hence, acquiring resources by meeting demands of interest groups captures the core logic of the resource dependence theory. Organizational strategic actions are not just a function of the firm or its internal procedure or leadership. Organizational strategic actions are also consequences of contingencies and constraints deriving from their environment.

By definition, organizational effectiveness is "an external standard of how well an organization is meeting the demands of the various groups" (Pfeffer & Salancik, 1978: 11). The effectiveness of an organization indicates its ability to secure resources and create desired and acceptable outcomes. Beyond a very small number of SOEs that provide exclusive government products and services (e.g., defense sectors), most SOEs acquire resources mainly from the governmental owner (e.g., capital) and from the product marketplace (e.g., revenue).

SOEs develop and implement strategies to acquire resources from their governmental owners because one major difference between SOEs and other firms is that SOEs can request fiscal inputs directly from their governments. However, government provided capital and other resources come with a cost because governmental owners may impose constraints for SOEs, such as high output level and more employees. These

constraints weaken the competitive advantages of the firm. SOEs that are effective in acquiring resources in the product marketplace as well, however, are more likely to escape the control of their local government owners. Furthermore, their effectiveness may motivate their owners to privatize them due to their potential of generating income and providing products and services to customers. Hence:

Hypothesis 1a: The degree of organizational effectiveness of an SOE in meeting customer demand is positively associated with the likelihood of its privatization.

The above hypothesis suggests that SOEs desire autonomy and self-sufficiency. The resource dependence theory supports this hypothesis because the pattern of dependencies between an SOE and its external powerful actors predicts its strategic consequences and decision-making mechanisms. The strategic consequence is that organizations will tend to comply with those interests from external actors who have relatively more power. Thus, dependence actually translates into constraint, and the exercise of management discretion in those organizations (i.e., SOEs) becomes fundamentally weakened. For example, in reality, it takes a few years for one SOE to convince its government owners that it should spin-off a subsidiary. In other words, SOEs have to incorporate government owners in any major business strategy formulation and implementation. Privatization is, therefore, the clear indicator for the constraint mitigation.

In contrast to effectiveness, organizational efficiency is defined as an internal standard that firms are doing better (or worse) on the business activities they have been doing (Pfeffer & Salancik, 1978). Hence, it is clear that external forces and demands on an organization can be absorbed internally as requests for greater organizational

efficiency. As Pfeffer and Salancik (1978: 13) noted, "One of the most important influences on an organization's response to its environment is the organization itself." Then, if one takes the framework of organizations as power coalitions, it is logical to view an organization itself as a market aggregated for a variety of influences and controls.

In fact, many scholars view firms as social instruments with power coalitions and idiosyncratic energy and efficiency (e.g., Cyert & March, 1963; March, 1962; Pfeffer & Salancik, 1978). Therefore, organizations alter their strategic purposes and business domains to accommodate newly emerged interests coming from different coalitions. One critical issue here is to what extent firms control their efficiency and for what purposes (Perrow, 1972). In this conceptual context, the organization itself is the setting in which all the internal participants (e.g., managers and employees) make contributions in meeting demands of external power coalitions.

One fundamental dimension of achieving a higher likelihood of survival, then, is the controls and influences that emerge from the interactions of organizational internal participants and the financial metric valuation of their contributions. Because the ability to meet demands of external coalitions increases to the extent that the firm maintains itself as a social instrument in order to support its business operations, organizational efficiency can be considered another important and complementary factor in the context of privatization.

In fact, what type of firm (i.e., efficient SOE versus inefficient SOE) is being privatized is a critical question worthy of investigation. If more efficient SOEs have a higher likelihood of being privatized, it is natural that their efficiency outcomes increase afterwards because the less-efficient SOEs never were privatized. Hence, the efficiency,

as a determinant of privatization, could offer insights about the post-performance in the setting of privatization.

When a firm is capable of controlling the interactions of its internal participants, it may improve its odds of survival. Governmental owners might see organizational efficiency as a sign that an SOE can survive under market conditions (Cuervo & Villalonga, 2000). A macroeconomic benefit of organizational efficiency is an SOE's ability to keep employment levels high. Governmental owners may be particularly interested in employment and other benefits and be supportive of privatization of efficient SOEs. Hence:

> *Hypothesis 1b: The degree of organizational efficiency of an SOE is positively*
> *associated with the likelihood of its privatization.*

For the past five decades, a central passage in strategy research has focused on how firms acquire and leverage resources from the external business environment (Gulati & Singh, 1998; Hitt, Ireland, & Hoskisson, 2009; Penrose, 1959; Rangan & Sengul, 2009). This study investigates the reciprocal effects between governmental owners and SOEs. For focal SOE organizations, their governmental owners make the final privatization decisions. Therefore, the understanding of the bilateral relationships between SOEs and their local governmental owners are worthy of investigation.

Provincial Governmental Owners

There are two distinct theoretical dimensions of resource dependence: power imbalance, or the power differential between the organization and its external actors, and mutual dependence, or the sum of their dependencies (Casciaro & Piskorski, 2005). In fact, based directly on Emerson's exchange framework, the dependence of an external

actor (i.e., the provincial government) to the organization (i.e., the SOE) is the reverse of an SOE's dependence on the provincial government. In turn, dependence is a function of resource criticality and the availability of alternative providers of critical resources.

Central to Emerson's theory is the notion that "power is a property of the social relation; it is not an attribute of the actor" (Emerson, 1962: 32). This logic implies a clear portrayal of power relations in a triad and reminds us of the simultaneous consideration of the power dependence of the SOE in relation to its provincial governmental owners and the power dependence of the provincial government to the SOE. Thus, the simultaneous consideration yields two distinct dimensions: power imbalance and mutual dependency. Power imbalance and mutual dependence have been empirically tested in order to advance the resource dependence theory (Casciaro & Piskorski, 2005; Steensma, Barden, Dhanaraj, Lyles, & Tihanyi, 2008). According to scholars, power imbalance captures the difference in the power of each actor over the other, while mutual dependence captures the existence of bilateral dependencies in such a relationship, regardless of whether these two actors' dependencies are balanced or imbalanced. Interestingly, mutual dependence is the main focus in the literature, while power imbalance is largely ignored.

In the setting of privatization, while governmental owners rely on SOEs to generate the desired economic outcomes, governmental owners also actively and systematically attract foreign direct investment (FDI) projects to their provinces. The provincial GDP growth ratio is the critical performance indicator and political achievement for every provincial governor. In fact, both SOEs' output (i.e., production in economic terms) and FDI inflows contribute to the regional GDP growth. As a region's

FDI projects grow, the regional government may rely less on SOEs for desired regional economic development. FDI projects may bring modern management, innovation, and organizational capabilities to the region, while some SOEs may be troubled by structural problems that have been accumulating over decades. If FDI projects generate additional economic outputs with modern technology and management, local governments have less incentive to keep SOEs under exclusive control. Hence:

Hypothesis 2: The size of FDI projects in a province is positively associated with the likelihood of an SOE's privatization.

Because provincial governmental owners supervise many SOEs in multiple industries in their individual regions, they normally are not interested in knowing how to create a competitive advantage for every single firm (Boycko et al., 1996). These governmental owners generally make capital and asset allocation decisions by referring to the aggregated measure of asset competitiveness of one sector in each province. As Shleifer and Vishny (1994) pointed out, governmental owners pursue multiple objectives including political ones and economical ones. Like a nationwide ranking index, competitiveness of assets in one sector increases the provincial governmental owner's "political score" and chances to be promoted into the central government. Hence, it decreases the likelihood of privatization. For example, these governmental owners attend the national industrial annual conferences in different sectors. Therefore, each provincial governmental owner compares the sector-specific asset competitiveness within its own province with the asset competitiveness of the same sector from other provinces.

In order to utilize the political benefits, these owners of local governments will be reluctant to sell assets in a competitive sector. Therefore, competitiveness of assets in one

sector (e.g., the pharmaceutical sector) may influence the decision of relinquishing control (e.g., privatization) made by provincial governmental owners.

Uncompetitive assets, as resource absorber SOEs in certain provinces, are no longer capable of generating desired returns and other related economic gains for government owners. Therefore, governmental owners have incentives to sell these SOEs by means of privatization. Hence:

> *Hypothesis 3: The regional sector competitiveness in a province is negatively associated with the likelihood of an SOE's privatization.*

Power Asymmetry

One big challenge of economic reform and state asset restructuring in any country can come from policy constraint. In transition economies with an unbalanced magnitude of regional economic development, national policies are important in shaping asset restructuring strategies and determine the dynamics of the central–provincial government relationships. In fact, aligning the interests of local governments with their individual market and economy development is the important national policy formulated by the central government (Qian & Roland, 1998). The positive relationships between a provincial government's fiscal incentives and the provincial market development have been tested and supported by some scholars who specialize in development economics (Jin, Qian, & Weingast, 2005).

Privatizing state-owned assets can be seen as a critical component in the overall national policy package if a central government has been transferring a planned economy to a market-oriented economy (Megginson, 2007; Shleifer & Vishny, 1998). Creating thriving markets in every province of one country requires transforming a centralized

government into one that supports the local market in each region and therefore fosters decentralized economic activities (Jin et al., 2005). By devolving power from the central to provincial governments, the central government can incrementally formulate an effective policy of privatization in every province. For example, Hayek (1945) discussed the use of knowledge in society by emphasizing that local governments have better access to local information, which allows local governments (rather than the central government) to provide better public goods and services that fit local preferences. Drawing on this logic, Musgrave (1959) and Oates (1972) built a theory of fiscal federalism to highlight the importance of the alignment of government revenue and expenditures to improve the overall national economic development.

The dynamics among the central government and the provincial governments in transition economies (e.g., China) have been observed by scholars worldwide. For example, Maskin, Qian, and Xu (2000) documented a positive correlation between provincial economic performance and a provincial governor's holding of a seat on the Party Central Committee. In this case, a better economically performing province (e.g., Jiangsu) will have much more discretionary decision power compared with a poorer economically performing province (e.g., Guizhou). Li and Zhou (2005) also found evidence that the central government uses personal control over the promotion or dismissal of provincial governors to increase local economic growth. Therefore, the provincial governments have unequal power in the country. The power of a provincial government comes from its fiscal strength and its provincial economic performance.

Because the majority of the SOE organizations in China are owned by provincial governmental owners, one main concern is the fiscal incentives that affect provincial

governments' decisions (e.g., privatization) to promote market-oriented development in the local economy. Specifically, one crucial issue is to what extent the central–provincial governmental power asymmetry affects a provincial government's decision regarding the privatization of SOEs owned by provincial governments. The literature from the public economics and development economics shows that the decentralized fiscal incentive, as one pro-business policy formulated by the central government, promotes local business development in every province (Jin et al., 2005).

Hence, provincial governments with less revenue have less discretion in deciding and implementing policies on their own. Higher power at the level of central government may lead to faster realization of policies at that level, including privatization. Therefore, more government revenue generates more power asymmetry for the provincial government in the system of central–provincial government hierarchy. Thus, these provincial governments have more power that can lead to much more freedom and discretion in deciding state asset policies. Hence:

> *Hypothesis 4: The power asymmetry between the central government and the provincial government (e.g., higher power of the central government) is positively associated with the likelihood of the privatization of SOEs.*

As some scholars recently suggested (Hillman, Withers, & Collins, 2009), Pfeffer and Salancik's (1978) most commonly overlooked chapter is "The Created Environment: Controlling Interdependence through Law and Social Sanction" (Chapter 8). Through the resource dependence framework, in analyzing strategic actions of firms, one can argue that organizations reduce uncertainty and external constraint either by absorbing the interdependence or by negotiating an arrangement that adequately manages the power

dependence. However, it is important to acknowledge that sometimes external power systems and environmental contingencies are beyond the control of focal organizations. Pfeffer and Salancik (1978: 189) noted that "when dependence is not capable of being managed by negotiating stable structures of inter-organizational action, organizations use yet one other class of strategies" and that "faced by unmanageable interdependence, organizations seek to use the greater power of the larger systems" in order to "create for itself an environment that is better for its interests."

*Defense mechanism*s include strategies that smaller technology firms adopt in order to mitigate uncertainty and to offset constraints imposed by large corporations as their investors/owners (Katila et al., 2008). In fact, larger corporations, as owners of newly founded technology ventures, have multiple objectives over these focal firms. Accessing the technology of new ventures is a major objective. Therefore, new technology ventures are at a particular risk of facing resource misappropriation. This is because the established corporations' motivation, which is based upon such an owner-firm relationship, could result in utilizing the new firm's technological resources for the larger corporations' own benefits. In order to protect the vital resources, the focal new firm uses defense mechanisms such as patent and share placements to maintain its power (Katila & Mang, 2003). For example, if the new firm offers new shares to another investor, then the power of the established large corporation is diluted. Patents are considered another effective defense mechanism because the technological resource, through patent coverage, is protected by a powerful legal authority (Katila & Shane, 2005).

This same defense mechanism applies in the relationship between the SOE and its governmental owner because the SOE is unable to completely reduce uncertainty and its interdependence on the provincial governmental owner. Hence, firms have to undertake another set of strategies to protect their vital resources from these environmental contingencies. In doing so, as Pfeffer and Salancik (1978) suggested, firms actively seek to "create" their defense mechanisms to secure their vital resources and competitive advantages.

In fact, the bilateral dynamics that focus on the power to control and/or to shape an organization's strategic objectives are not new. The fundamental issue in any organization is how firms overcome the constraints of interdependence imposed by external actors on their ability to exercise discretion. Basically, the literature on external control of organizations has followed Emerson's (1962) exchange theory of power-dependence relations by stressing the control of key resources and strategic decisions as the critical foundation of asymmetric leveraging between organizational actors. Therefore, if constrained dependence imposes limits on a firm's performance, it is logical to expect firms in discretionary positions to try their best to minimize the constraints imposed on them by creating defense mechanisms in order to achieve "balancing operations" (Emerson, 1962: 32).

SOEs may use defense mechanisms or strategies to mitigate uncertainty and constraints imposed by their provincial governmental owners (Katila et al., 2008). In the Chinese pharmaceutical sector, provincial governments are the immediate owners of SOEs, but the central government evaluates patents and production quotas. In order to protect their critical resources, SOEs may develop defense mechanisms using the support

of the central government. In such a conceptual power map, the central government does not own most of these SOEs, and that is why the national decentralization fiscal policy was formulated in the first place. Therefore, it is the provincial government owners' discretionary responsibility to decide when and how to sell these SOE assets incrementally. These defense mechanisms created by these SOEs, therefore, cannot effectively mitigate constraints of the local governments because of the direct oversight by these owners. Stronger defense mechanisms used by SOEs will motivate local government owners to hold their SOEs for longer periods of time. Hence:

Hypothesis 5: The degree of an SOE's defense mechanism to offset constraints imposed by provincial governmental owners is negatively associated with the likelihood of its privatization.

CHAPTER IV

METHODOLOGY

This chapter presents a research design to test the hypotheses proposed in Chapter III. Below, I present the research setting, the sample, measurements of variables, and analytical approach.

TRANSITION ECONOMY

A transition economy is an economy that is changing from a centrally planned economy to a free-market economy (Roland, 2000). Transition economies undergo economic liberalization, where market forces set prices rather than a central planning mechanism, governmental-owned enterprises are privatized, and a market-based financial sector and capital markets are created to facilitate the movement of private capital. The transition process has been applied in China, the former Soviet Union, Communist bloc countries in Europe, and many other countries (Roland, 2000).

According to Roland (2000), the business environment for a pre-transition economy (i.e., a central planning economy) had certain characteristics:

1) At the beginning of the transition process, "the share of GDP derived from private sector activities was very small in all transition economies. It ranged from less than one percent in Russia and Hungary to about two percent in the former Czechoslovakia and Bulgaria, compared with over 80 percent in the United States" (Roland, 2000: 232).

2) Economic production occurred overwhelmingly in the public sector because few productive assets could be privately owned. Governmental owners not only played important roles in planning outputs and inputs of their enterprises,

but also directly intervened in enterprise strategies such as budgeting and CEO promotion.

3) Price was not the key mechanism in resource allocation because the use of resources was determined by political decisions made by government authorities. Allocation of products was done by the planning authorities that directly organized production and exchange.

Hence, these transition economies did not need market-based systems to raise government revenues because the government decided how to use total output and could simply appropriate production for its own needs. Therefore, the economy was macro-managed by its government in the following areas: (1) the authorities' knowledge—available from the plan—of quantities of goods produced and of the prices at which they would be sold; (2) the role of the central bank in processing payments and loans and imposing restrictions on how these were to be settled; and (3) the concentration of economic activities in a few large state-owned enterprises as monopoly players (Tanzi, 1992, 1999; Jin et al., 2005) .

As many centrally planned economies have been transforming themselves into market economies, some economists specialize in transition economics (e.g., Roland, 2000; Tanzi, 1999). These economists point out that the successful transition economies are the ones that have developed the necessary institutions and ensured a proper new role for the government. The transition process is usually characterized by the changing and creating of institutions, particularly private enterprises, as well as changes in the role of the government, and thus the formulation of fundamentally different governmental fiscal policies and the promotion of private-owned enterprises and markets. Overall, these

economists agree that the following are main objectives of transition: (1) creation of a competitive market and improve efficiency; (2) stabilization of the macro-economy and a correct functioning of the price mechanism; (3) better corporate governance arrangements; and (4) adequate government agencies to support a market economy.

According to the International Monetary Fund (IMF; 2000), the transformation of the economy requires that (1) the profitability of firms be the guiding criterion for most investment decisions; and (2) the government effectively performs its core functions in the economy system while withdrawing from, or drastically reducing its role in, many other activities. Specifically, the following are main attributes of the transition process (Roland, 2000):

1) Liberalization—the process of allowing prices to be determined in free markets and lowering trade barriers to access the world's market economies.

2) Discipline over the government budget—requires the growth of money and credit (that is, discipline in fiscal and monetary policy) and progress toward sustainable balance of payments in a country.

3) Restructuring and privatization—the creation of a viable financial sector and reforming the state-owned enterprises in these economies in order to make sure that firms are capable of producing goods that can be sold in free markets and of transferring their ownership into private hands.

4) Legal and institutional reforms—the process of redefining the role of the government, establishing the rule of law, and introducing appropriate competition-based industry policies.

Transition processes can be idiosyncratic. Some nations have been experimenting with market reform for several decades (e.g., China), while others are relatively quick transformers (e.g., Republic of Czech). In some cases, reforms have been accompanied by political upheaval, such as the overthrow of a dictator (Romania), the collapse of a government (the Soviet Union), or integration with another country (East Germany) (Roland, 2000).

Overall, from the literature of economics, while much has been written about the economic changes that must take place for centrally planned countries to become market economies, less has been written about how the strategic role of the government must change in order to enhance the competitive advantages of firms (i.e., former SOEs) in the new market-based business environment.

PHARMACEUTICAL SECTOR IN CHINA

China is considered one of the largest economies in the world. The IMF places China's 2006 purchasing power parity (PPP)-adjusted GDP at $9.98 trillion, nearly 77% of the U.S. GDP ($13.02 trillion) and 15% of the global total. With 1.4 billion citizens, currently China already has a huge pharmaceutical market. As Chinese national GDP has soared every year for the past 30 years, the consumer purchasing power per citizen increased significantly during the same period of time. Meanwhile, the demand for medical care for citizens living in rural areas of Mainland China is surging dramatically. According to "China's Health Statistics Highlight in 2005," released by the Ministry of Health of China, the total amount of medical expenditures in China rose from RMB 14.3 billion in 1990 to RMB 662.3 billion in 2003 (See also the No. 25 issue of *Outlook*

Weekly, edited by Xinhua News Agency, 2003). The potential for growth of the pharmaceutical market in China is obviously enormous.

In the 1980s, China's pharmaceutical industry was under tight governmental control. The government allocated all the resources for the firms, including financial capital (e.g., budgeting) and human capital (e.g., executive appointment). In the mid-1980s, the government relaxed state control over the pharmaceutical industry, allowing marketized competition to develop among different firms. However, even in the late 1990s, China's heavily invested state plants remained tightly controlled by their governmental owners (White, 2000). These plants mainly produced relatively capital-intensive "upstream" intermediate pharmaceutical products, especially generic antibiotics that were off patent.

Foreign investment in the Chinese pharmaceutical industry was permitted in the 1980s. By the mid-1990s, following the open-door policy of the domestic industries, FDI projects had increased to a significant level. By 1997 there were a total of no fewer than 1500 pharmaceutical joint ventures in China. All 15 of the world's top pharmaceutical companies had set up joint ventures in China. The multinational firms brought technology and new standards of management to the Chinese pharmaceutical industry.

The pharmaceutical industry is selected as the research setting (i.e., sampling) in my dissertation primarily for the following reasons:

1) This industry is outside the strategic industries that the government does not want to privatize (e.g., utilities, banks, telecommunications, and steel). Also, SOEs in this industry were previously owned by provincial governments.

2) This industry has a governmental-ownership background. For example, e-commerce firms compose a digital industry started without any governmental ownership, because the firms in that industry were mainly founded by local entrepreneurs.

3) The size and implications of this industry are substantial for both advanced market and transition economies.

SAMPLE

The data for this dissertation are from four sources. First of all, I retrieved regional pharmaceutical industry data (database 1: RPID) from the *Market Statistical Yearbook of China* and *China Industry Economy Statistical Yearbook*. This dataset contains variables that reflect the strategic competitiveness of different sectors in every province. Secondly, I obtained regional economic development data (database 2: SSB) from the *China Statistical Yearbook* that is published by the State Statistical Bureau and its brunches in every province of China. These yearbooks contain the regional GDP and government attracted foreign direct investment projects in every province of China. Although these datasets are comprehensive, they are not without limitations. Some scholars have used these datasets and published in leading journals such as *Strategic Management Journal* and *Academy of Management Journal* (e.g., Luo, 2001; Peng & Luo, 2000; Tan & Peng, 2003).

I also obtained firm-level accounting-based objective measures (database 3: SFDA) from the State Food and Drug Administration (SFDA) in China. This dataset contains all the common financial figures of each firm in the pharmaceutical sector, such as total assets, sales, number of employees, and return on equity. The SFDA in China

collects organizational data for official purposes such as preventing faults and wrong-doings. Data provided by the SFDA in China have been used in empirical research published in the *Academy of Management Journal* (e.g., White, 2000). In addition, the research design of this dissertation requires me to include both privatized SOEs and firms that remained state-owned in the same sample. There is no alternative dataset that can satisfy this requirement.

Finally, I obtained the defense mechanism dataset (dataset 4: SMEI) of the pharmaceutical market in China from the Southern Medical Economic Institute of the SFDA in China. This dataset contains information of each firm's patents and product line extensions each year.

I used the SAS 9.1.3 data merge application to combine the above four datasets in order to have a panel dataset (e.g., cross-sectional and time-serious data structure) in which the unit of analysis was each firm (see Table 1). In other words, this was the firm-level panel dataset grouped by year. There were about 1,648 observations in the sample, which included 206 firms (115 firms were publicly listed and 91 firms were non-listed) across eight years (2000 to 2007). I used the Stata 10.1 "snapspan" function to further convert the snapshot data structure to the time-span data structure in order to prepare the survival analysis (Stata, version 10, page 93).

TABLE 1
Constructs, Variables, and Data Sources

Constructs	Variable Names	Possible Sources	Units
Dependent variable			
Privatization	Privatized	Database 3: SFDA	Dichotomous
Independent variables			
SOE Organizational Factors			
The organizational effectiveness	BusinessGrowth	Database 3: SFDA	%
The organizational efficiency	RevenuePer	Database 3: SFDA	Chinese RMB
Government-Owner Factors			
The average size of FDI projects	FDI	Database 2: SSB	Chinese RMB
The provincial sector competitiveness	RegionaRoS	Database 1: RPID	*%*
Provincial government revenue	Govrevnue	Database 2: SSB	Chinese RMB
Defense Mechanism	DefenseM	Database 4: SMEI	Count
Control Variables			
Firm age	Age	Database 3: SFDA	Continues
Total liabilities	Liabilities	Database 3: SFDA	Chinese RMB
Return on equity	ROE	Database 3: SFDA	%
Equity growth	EquityGrowth	Database 3: SFDA	%
Deficit of the provincial government	Deficit	Database 3: SFDA	Chinese RMB
The business munificence	GDPpercapita	Database 2: SSB	Chinese RMB
The industry effect is controlled because sample is based on one industry only			

MEASURES

Dependent Variable

The dependent variable, the event of privatization, is a dichotomous variable. The

value is 1 if the SOE has been privatized in a certain year between 2000 and 2007; the

value is 0 for the rest of the year. If the SOE has not been privatized during 2000 and 2007, it is considered right-censored with all the zeros spanning eight years.

In this study, there are three different situations of the privatization event for SOEs. First, if the SOE re-structures parts of the assets into a new firm and then lists the new firm in a stock market by selling shares to private investors, the listing is the indicator of privatization. Before listing, a SOE is 100% owned and exclusively controlled by the government owner. The listing represents a change in the ownership structure—the new, public shareholders now own a substantial fraction of the equity (Megginson et al., 2004; Villalonga, 2000; D'Souza et al., 2005).

Second, in the Chinese setting, if the entire SOE went through the IPO and sold all the shares to other state investors (i.e., legal person shares), and then if those other state owners sold those non-tradable shares to private investors as tradable shares, then the selling of tradable shares is the indicator of privatization (Sun & Tong, 2003; Fan et al., 2007). This is because legal person shares are owned by domestic institutions that are state owned themselves. These so-called legal persons are typically investment arms of government agencies that helped in starting up the publicly traded firms by allowing access to financial resources (Sun & Tong, 2003). Legal person shares are non-tradable, and they are only transferable to other state-owned domestic institutions upon approval from China's Securities Regulatory Commission (CSRC). Therefore, one can point out that these non-tradable shares are still not owned by profit-driven private investors (i.e., asset striping), since privatization is defined conceptually as state-owned firms selling assets to private investors (e.g., Roland, 2000). Because privatization brings the discipline of the managerial performance monitoring role of the stock market into the organization,

the year when these legal person shares are sold to private investors are operationalized as the indicator of privatization.

Third, for the non-listed firms, if the SOE sold shares to private investors (e.g., the executives of the previous SOE or other private firms), that sale is the indicator of privatization. For non-listed firms, it is harder to find a similar reference.

In order to measure privatization more accurately and conservatively, I further operationalized privatization in terms of the percentage of the ownership of private investors as the following: The focal SOE is considered as privatized if the private investors own at least 25% of the total shareholding structure. There are two reasons:

1) In theory, privatization brings the discipline and pressure from private investors to SOEs' executives. The firm is no longer immune from private investor scrutiny after private shareholders own at least 25% of shares. From the government-owner perspective, it is politically unpopular to reverse the selling-share decision because the general policy formulated by the central government is to continue privatizing SOEs incrementally.

2) The evidence across different countries suggests that privatization takes years or even decades to complete. Governmental owners follow the incremental pattern to sell assets because their goal is to sell over 50% of the shares, or even 100% of the shares. During the process, the SOE is already re-directed toward the market-based competition.

The operationalization of this dependent variable is consistent with the previous evidence across different countries. Empirical evidence has shown that the sales of SOE firms in the United Kingdom and Hungary were both incremental and gradual

(Megginson, 2007; Perotti, 1995). There are two main reasons: (1) the size of all the SOEs could count as a substantial percentage of the nation's GDP so that privatization involved complicated fiscal policy and market-based economy developing commitments from the government; and (2) governmental owners want to "build a favorable market sentiment by gradually building investor confidence" (Boubakri, Cosset, & Smaoui, 2009: 840). In other words, governments implement privatization in a way that they relinquish the control of SOEs in the first place but keep bearing the residual risk of their assets (i.e., credible privatization) for a while (Boubakri et al., 2009; Perotti, 1995; Vickers & Yarrow, 1988). Because the government understands the uncertainty and information asymmetry involved with the privatization of SOEs in transition economies, the initial sell of shares indicates government commitment to build a market-based mechanism. It is also politically unpopular to reverse the privatization action. Even though governmental owners still hold some shares of the firm, the top management teams of the privatized firms no longer report to governmental agencies or political parties. Evidence indicates that these firms act as private firms, while boards of directors serve as final decision authorities.

During the past 15 years, empirical articles from leading journals (e.g., *Administration Science Quarterly*) have offered a rich source for predictors and constructs of power. Please refer to Appendix A for a summary. Specifically, the following measures were adopted for this dissertation.

SOE Organizational Factors/Predictors

The predictor (i.e., independent variable #1) for hypothesis 1A is organizational effectiveness in meeting increasing consumer demand. *Revenue growth* (e.g., $\{[\text{Sales}_t -$

Sales $_{t-1}$]/ Sales $_{t-1}$} is adopted as a proxy to measure to what extent the SOE can meet increasing customer demand from the product marketplace (i.e., the market-based channel for resources; e.g., Pfeffer & Salancik, 1978). From the resource dependence perspective, SOEs mainly acquire resources from two channels: the government (the planning-based channel), and the product marketplace (the market-based channel). Firms that can successfully secure resources from the marketplace and show business growth rely less on resources from the government, and that may be the reason these firms try to escape from the governmental ownership via privatization.

The predictor (i.e., independent variable #2) for hypothesis 1B is the organizational efficiency, which is *sales per employee* (i.e., total sales divided by total number of employees). SOEs are complex organizations and have to fulfill multiple goals. As a complementary proxy, this proxy measures to what extent the organization controls its interaction of internal participants (e.g., Cuervo & Villalonga, 2000; Perrow, 1972). Higher levels of efficiency indicate that the SOE can keep the employment level high and may improve its odds of survival in the market-based resource allocation system.

Governmental-Owner Factors/Predictors

The predictor (i.e., independent variable #3) for hypothesis 2 is the *average size of FDI inflow projects*. This is a proxy to measure to what extent the provincial governments attract foreign-invested projects into the province. Provincial governments that can successfully attract FDI inflow projects may rely less on regional GDP requirements generated by SOEs.

The predictor (i.e., independent variable #4) for hypothesis 3 is the *regional sector competitiveness*. Regional sector competitiveness is the sector-specific return on

sales aggregated for all the SOE firms in one sector of one province (i.e., return on sales of the pharmaceutical sector in one province).

The predictor (i.e., independent variable #5) for hypothesis 4 is the *provincial government revenue* in every province. This is the proxy for the power asymmetry between local governments and the central government (Jin et al., 2005). In fact, the provincial difference in terms of government revenue is substantial. This measure is a proxy that indicates the power asymmetry between the local and the central government (compared with other provinces) in such a power hierarchy.

The predictor (i.e., independent variable #6) for hypothesis 5 is the *defense mechanism.* Given the political interests of these governmental owners (e.g., Perotti, 1995; Shleifer & Vishny, 1994), provincial governmental owners have multiple objectives rather than a focus on profit maximization. Hence, the political intervention distorts the strategic objectives of SOEs. For instance, local governmental owners can ask the SOE to produce mass volumes of low margin drugs in order to increase local committee members' healthcare satisfaction, even though the firm wants to research and innovate for higher margin and more profitable products. Therefore, the decision of the governmental owner can hurt the firm's competitive advantage. Defense mechanisms can mitigate this misappropriation and help the SOE maintain its power in the relationship with its governmental owner. So when defense mechanisms are available, firms are more likely to form ties with a rather remote but helpful actor in order to protect their resources. Patent defense, therefore, is an effective defense mechanism (e.g., Katila & Mang, 2003). Defense mechanism is a count of numbers of patents and new products/procedures approved by the central government (Katila et al., 2008).

Control Variables

There are seven control variables for this study. The first one is *firm age*. I consider the age of the firm as a control variable because the organizational inertia within firms may hinder firms to implement any major type of organizational transformation (Hannan & Freeman, 1984).

The second control variable is *total liabilities* of the firm. I used the total liabilities for two main reasons: (1) as a size control variable, total liabilities and total assets are highly correlated (e.g., the correlation value =.9641 and is significant); and (2) total liabilities not only can control the size of individual firms, but also can take care of the cash-inflow pressures faced by firms in transition economies (Megginson et al., 2004). Therefore, total liabilities is a relatively better control variable over the variable of total assets.

The third control variable is the *return on equity*. Return on equity has been used as the dependent variable in strategy research. In this study, however, it is conservative in order to control the effects of return on equity (e.g., Kim et al., 2004).

The fourth control variable is the *deficit of the provincial government*. Local governments are the direct owners of SOEs. In the field of economics, studies done in Central and Eastern European countries have concluded that the government revenue deficit can be one of the main reasons for privatization. Therefore, I need to control for the provincial government revenue deficit (e.g., Megginson & Netter, 2001).

The fifth control variable is the *regional GDP per capita*. As a variable of business environment munificence, GDP per capita provides a logical measure of the munificence in each individual province (e.g., Park et al., 2006). By assumption, resource

dependence theory considers firms as living entities that try to acquire and secure resources from the general environment. So, it is conservative to control the magnitude of general environment munificence because easier tasks faced by SOEs may reduce the likelihood of their privatization motivations.

The sixth control variable is the *equity growth* (e.g., {[shareholder equity $_t$ − shareholder equity $_{t-1}$]/ shareholder equity $_{t-1}$}. Governmental owners can make asset allocation decisions that directly increase or reduce the equity of SOEs across years (Roland, 2000), especially when these governmental owners try to fulfill their political and social goals. Equity growth indicates whether governmental owners are willing to make public funding available to support future development of firms.

Because the sample is drawn from the pharmaceutical industry only, the *industry effect* (i.e., the seventh control variable) is controlled. In addition, because I used the fixed-effects model, all the unobservable variables are controlled as long as they do not change over time (e.g., Allison, 2005).

ANALYTICAL APPROACH

Survival analysis is considered an appropriate technique for examining the likelihood of an event as a hazard function of time-varying explanatory variables across years (Allison, 1995; Lancaster, 1979). In this study, I applied survival analysis to the time-span data by assuming that the duration, as in the amount of years that a firm spends before privatized, follows a stochastic process. In estimating the hazard model of privatization, I used the proportional-hazard specification, which is also a fixed-effect model known as the Cox model, to study duration functions to event (Allison, 2005).

The specification of the model depended on whether and how the hazard of a privatization varied across different years and as a function of my theoretical variables/regressors. This kind of modeling technique has been widely used in the field of strategic management (e.g., Iyer & Miller, 2008). In logistic and other exponential models, no dependence of the hazard rate on time is identified, which suggests the advantage of the duration function in this research context over logistic regressions (Allison, 2005; Cleves, Gould, & Gutierrez, 2004). In addition, either the maximum likelihood estimator or the ordinary least square (OLS) estimator may be referred to as parametric methods because every aspect of the model, including time, is completely specified. The Cox model here, however, is referred to as a partially likelihood estimator or a semi-parametric model because the time function does not have to be specified (Cox, 1972). Because I did not want to make any *a priori* assumptions about the baseline hazard rate, the Cox proportional hazard model was adopted. In short, the main advantage of the Cox model is that it can handle *partial likelihood* (PL) functions, and the PL method allows the equation to assume time dependence so that time need not be specified.

The proportional hazards model assumes that hazard rates are a *log-linear* function of parameters for the effects of regressors. Its value for a firm **i** at time **t**, denoted by $h_i(t)$, is the following:

$$h_i(t) = h_0(t) \exp[\Sigma\, b_k\, X_{ik}(t)] \qquad (1)$$

where $h_0(t)$, which represents the major dimension of time dependence, is called the baseline hazard function, and $X_{ik}(t)$, which may or may not depend on time, is the value of the k_{th} regressor for firm **i** at time **t**.

The baseline hazard function is a common function for all firms. But when this equation is solved using Cox's PL estimation method, the functional form of $h_0(t)$ is not specified (Allison, 1995, 2005). The PL estimates of parameters are obtained by maximizing the partial likelihood function. The PL function is given as follows: First, based on length of duration t_i, subjects are ordered from the smallest to the largest duration. The subscript i in the formula below indicates the i_{th} firm after the ordering is made. Then the PL function is formulated such that:

$$PL = \prod_{i=1}^{i} \left[\frac{h_i(t_i)}{\sum_{j \geq i} h_i(t_i)} \right]^{\delta_i} \tag{2}$$

where $h_j(t_i)$ is the value of the hazard function for the j_{th} firm at time t_i, where t_i is the time at which the i_{th} subject had either the privatization event or the censoring, and δ_i is a dummy variable that takes the value of 1 when the i_{th} subject had an event of privatization and 0 if the i_{th} observation was censored. The Π symbol is just a multiplication operator.

By combining equation (1) with equation (2), the baseline hazard function $h_0(t)$ is canceled out between the numerator and the denominator. Hence, the PL function is written solely as a function of parameters for the regressors:

$$PL = \prod_{i=1}^{i} \left\{ exp[\sum_k b_k(X_{ik}(t_i)] / \sum_{j \geq i} exp[\sum_k b_k(X_{ik}(t_i)] \right\}^{\delta_i} \tag{3}$$

This dissertation used the proportional hazards models with time-dependent explanatory variables across eight years to estimate the likelihood of privatization of SOEs. Since all the explanatory variables vary by years for any firm in the sample (e.g., eight different values for return on equity in a firm in eight different years), the Cox

model obtains parameter estimates β by maximizing the following *partial log-likelihood* function:

$$lnL = \sum_{j=1}^{D} \left[\sum_{k \in D_j} X_k \beta - d_j \ln \left\{ \sum_{i \in R_j} \exp(X_i \beta) \right\} \right] \tag{4}$$

where j indexes the ordered failure times $t_{(j)}$ ($j = 1, ..., D$). D_j is the set of d_j observations that fail at $t_{(j)}$, d_j is the number of failure at $t_{(j)}$, and R_j is the set of observations k that are at risk at time $t_{(j)}$ (i.e., all k such that $t_{0k} < t_{(j)} < t_k$).

Under the Cox model, one assumption is that there are no tied event times, which means that all events of privatization occur in distinct periods. As we can see, even though it is a reasonable assumption in continuous-time data, it is often violated in discrete-time sets. Hence, I used the Efron method instead of the Breslow method (i.e., the default method of handling ties) as the analyzing strategy (e.g., Efron, 1977; Iyer & Miller, 2008; Klein & Moeschberger, 2003).

Robust estimate of variance (Lin & Wei, 1989; Schoenfeld, 1982) was also performed to use the efficient score residual for each subject in the data for the variance calculation. Especially in this type of multiple-record, single-failure, survival-time data, the same subjects appear repeatedly in the risk pools; the robust calculation of variance-covariance matrix accounted for the effects and made adjustments for unbiased estimations.

It is critically important to test the equality of the survival functions across different groups. Hence, I stratified models based on publicly listed (or non-listed) to further reduce the number of tied events. By allowing the baseline hazard functions to differ for the groups identified, stratified estimation fits models that are under the

constraint of the coefficients of regressors being equal while the baseline hazard

functions differ. I used stratified models to control for a categorical variable (listed firms

= 1 and non-listed firms = 2) that may have a complicated form of interaction effects with

time, without specifying the form of the interaction effects. Clearly, this is another major

advantage of the Cox model (Martin, Swaminathan, & Tihanyi, 2007; Singer & Willet,

2003).

CHAPTER V

RESULTS

Table 2 shows the descriptive statistics and correlations for the 1,648 observations. Statistics indicated that multicollinearity was not a problem for most variables. The only substantial correlation is between "provincial GDP per capita" and "provincial government revenue," and the value is .656. In order to ensure that multicollinearity was not a problem, I estimated separate models by using the organizational factors and government-owner factors and reported the results in separate tables. Recent empirical efforts in the field of management suggest that estimating models for a group of organizational regressors and another group of government-owner factors separately can avoid distorted parameter estimates by including redundant indicators (e.g., Iyer & Miller, 2008).

HYPOTHESES

Table 3 on page 82 lists the results for the failure rate outcomes of hazard function modeling when organizational factors were adopted. Model 1 contains all the controls. For the purpose of demonstrating bilateral power imbalance from both organizational factors and government-owner factors, model 2 adds organizational factors. Model 3 adds the government-owner factors. Model 4 is the full model that contains all the controls, organizational factors, and government-owner factors. The presentation of the results focuses on the findings of model 2, model 3, and the full model (model 4) sequentially.

TABLE 2
Means, Standard Deviations, and Pairwise Pearson Correlations [a]

Variable	Mean	S.D.	Min.	Max.	1	2	3	4	5	6	7	8	9	10	11	12
1. Privatization	.088	.283	0	1												
2. Firm Age	23.48	21.79	0	178	.013											
3. Total Liabilities	48847.39	104999.9	126.9	1262078	.032	.139										
4. Return on Equity	.144	.405	-8.303	3.454	.015	-.037	-.055									
5. Provincial Government Deficit	-2602578	133986	-7609163	-249198	-.032	-.061	-.011	-.056								
6. Provincial GDP per Capita	17905.97	12135.47	4549.219	57695	-.009	-.007	.063	-.058	.133							
7. Organizational Efficiency	83.28	432.04	.061	6740.29	.022	-.065	.081	.018	.032	.210						
8. Organizational Effectiveness	.611	4.372	-1.000	75.530	.056	-.07	-.031	.015	-.019	.005	.009					
9. Equity Growth	1.298	28.522	-21.121	828.090	.106	-.035	-.018	-.004	-.015	.020	-.006	.041				
10. Provincial Average FDI Size	405.282	280.706	84.934	3634.62	.023	.008	-.001	.018	-0.308	.029	-.019	.011	.022			
11. Defense Mechanism	15.524	27.214	0	270	.069	.107	.348	.001	-.089	.146	.012	.033	.022	.032		
12. Provincial Sector Competitiveness	5.125	11.004	-43.37	61.40	-.003	-.006	.026	-.028	.138	.431	.053	.018	.020	.110	.067	
13. Provincial Government Revenue	5919096	4442377	165843	21800000	.009	.066	.039	.008	-.242	.656	.113	.003	.068	-.047	.160	.248

[a] All correlations greater than .066 or less than -.066 are statistically significant ($p < .05$).

Model 1 indicates all the control variables. Firm age is not significantly associated with the likelihood of privatization ($z = 0.89$ and $p = 0.372$), and total liabilities of the firm is not associated with the likelihood of privatization ($z = -0.68$ and $p = 0.494$). Return on equity of the firm (ROE), however, is marginally and positively associated with the likelihood of privatization ($z = 1.84$ and $p = 0.065$). Equity growth is positively associated with the likelihood of privatization ($z = 5.68$ and $p = 0.001$), while provincial government deficit is not significantly associated with the likelihood of privatization ($z = 0.86$ and $p = 0.389$). Finally, provincial GDP per capita is significantly associated with the likelihood of privatization ($z = -2.05$ and $p = 0.040$). The negative and significant z statistic may imply that easier tasks faced by SOEs (due to business environment munificence) may reduce the likelihood of their governmental owners selling them. The model fit is acceptable (log pseudolikelihood $= -266.96$ and Wald chi^2 $= 43.20$).

From the SOE organization perspective, hypothesis 1a predicted that the likelihood of privatizations would increase with the organizational effectiveness, indicated by to what extent firms can meet the increasing demand from the product marketplace (i.e., revenue growth). Model 2 in Table 3 supports the prediction ($z = 4.15$ and $p < 0.001$). Hypothesis 1b predicted that the likelihood of privatizations would increase with the organizational efficiency. Model 2 in Table 3 supports the prediction ($z = 2.90$ and $p = 0.004$). The model fit (log pseudolikelihood $= -250.14$ and Wald chi$^2 =$ 66.54) improved significantly by adding organizational factors into the hazard function model, compared with model 1.

TABLE 3
Results for the Survival Analysis of Privatization
(SOE Organizational Factors)

Variables	Model 1: Controls				Model 2: Organizational Factors			
	Hazard Ratio	Robust S.E.	Z	P> |Z|	Hazard Ratio	Robust S.E.	Z	P> |Z|
2. Firm Age	1.005	.005	0.89	.372	1.006	.005	1.14	.256
3. Total Liabilities	.999	.001	-.68	.494	.999	.001	-.58	.559
4. Return on Equity	1.939^	.697	1.84	.065	1.88^	.701	1.70	.090
5. Equity Growth	1.004**	.001	5.68	.001	1.004**	.001	5.14	.001
6. Provincial Government Deficit	1.000	.001	.860	.389	1.000	.001	0.98	.325
7. Provincial GDP per Capita	0.999**	.001	-2.05	.040	0.999*	.001	-2.35	.019
8. Organizational Efficiency					**1.001****	**.001**	**2.90**	**.004**
9. Organizational Effectiveness					**1.067****	**.017**	**4.15**	**.001**
10. Provincial Average FDI Size								
11. Defense Mechanism								
12. Provincial Sector Competitiveness								
13. Provincial Government Revenue								

Number of subjects: 149	Number of subjects: 145
Number of privatizations: 79	Number of privatizations: 76
Number of obs: 547	Number of obs: 527
Time as risk: 547	Time as risk: 527
Log pseudolikelihood: -266.96	Log pseudolikelihood: -250.27
Wald chi2: 43.30	Wald chi2: 66.54
Prob> chi2= .001	Prob> chi2= .001

Note: Efron method for ties; stratified by listed1; ^ p< .10, * p< .05, ** p< .01; two-tailed tests

From the governmental-owner perspective, hypothesis 2 predicted that the

likelihood of privatizations (i.e., the hazard rates) would increase with the average size of

the foreign direct investment projects, and model 3 in Table 4 supports the prediction (z =

TABLE 4
Results for the Survival Analysis of Privatization
(Governmental-Owner Factors)

Variables	Model 1: Controls				Model 3: Government-Owner Factors			
	Hazard Ratio	Robust S.E.	Z	P> |Z|	Hazard Ratio	Robust S.E.	Z	P> |Z|
2. Firm Age	1.005	.005	0.89	.372	1.006	.005	1.14	.255
3. Total Liabilities	.999	.001	-.68	.494	1.000	.001	0.53	.594
4. Return on Equity	1.939^	.697	1.84	.065	2.16*	.802	2.07	.038
5. Equity Growth	1.004**	.001	5.68	.001	1.005**	.001	4.83	.001
6. Provincial Government Deficit	1.000	.001	.860	.389	1.000	.001	1.14	.256
7. Provincial GDP per Capita	0.999*	.001	-2.05	.040	0.999	.001	-1.23	.221
8. Organizational Efficiency								
9. Organizational Effectiveness								
10. Provincial Average FDI Size					**1.001****	**.001**	**3.71**	**.001**
11. Defense Mechanism					**0.993***	**.003**	**-2.07**	**.039**
12. Provincial Sector Competitiveness					**0.978***	**.010**	**-2.02**	**.043**
13. Provincial Government Revenue					**1.001***	**.001**	**2.14**	**.032**
	Number of subjects: 149				Number of subjects: 149			
	Number of privatizations: 79				Number of privatizations: 75			
	Number of obs: 547				Number of obs: 538			
	Time as risk: 547				Time as risk: 538			
	Log pseudolikelihood: -266.96				Log pseudolikelihood: -246.25			
	Wald chi2: 43.20				Wald chi2: 44.42			
	Prob> chi2= .001				Prob> chi2= .001			

Note: Efron method for ties; stratified by listed1; ^ p< .10, * p< .05, ** p< .01; two-tailed tests

3.71 and p < 0.001). Hypothesis 3 predicted that the likelihood of privatizations (i.e., the hazard rates) would decrease with the provincial sector competitiveness in every province, and model 3 in Table 4 supports the prediction (z = -2.02; p = 0.043). Hypothesis 4 predicted that the likelihood of privatizations would increase with the power asymmetry between the local government and the central government; model 3 in Table 4 supports the prediction (z = 2.14 and p = 0.032) as well. Hypothesis 5 predicted that the likelihood of privatizations would decrease with the degree of the defense mechanism firm adopted. Model 3 in Table 4 marginally supports the prediction (z = -2.07; p = 0.039). The model fit (log pseudolikelihood = -246.25 and Wald chi^2 = 44.42) is acceptable.

In the full model, all the relationships between the independent variables, either organizational factors or governmental factors, and the dependent variable (i.e., hazards) remain in a similar pattern. Specifically, in the full model (model 4) from Table 5, model 4 in Table 5 supports hypothesis 1a (z = 4.25 and p < 0.001) and marginally supports hypothesis 1b (z = 1.76 and p = 0.079). Also, model 4 in Table 5 supports hypothesis 2 (z = 3.65 and p < 0.001), hypothesis 3 (z = -2.04 and p < 0.042), hypothesis 4 (z = 2.09; p = 0.037), and hypothesis 5 (z = -2.03 and p = 0.042).

The Cox regression-based test for equality of survival curves was also performed. By using the Stata application of stratification, there were 82 privatization events observed in the group of publicly listed firms; there were 54 privatization events observed in the group of non-listed firms. The log-ranked likelihood of Chi^2 was 7.95, and the probability, which is larger than Chi^2, was 0.0048. Clearly, the survival curves were significantly different for these two different groups of firms. Please refer to Appendix B for these tests.

TABLE 5
Results for the Survival Analysis of Privatization (Full Model)

Variables	Model 1: Controls				Model 4: Full Model			
	Hazard Ratio	Robust S.E.	Z	P> |Z|	Hazard Ratio	Robust S.E.	Z	P> |Z|
2. Firm Age	1.005	.005	0.89	.372	1.007	.005	1.32	.190
3. Total Liabilities	.999	.001	-.68	.494	1.000	.001	0.81	.420
4. Return on Equity	1.939^	.697	1.84	.065	2.099^	.817	1.90	.057
5. Equity Growth	1.004**	.001	5.68	.001	1.004**	.001	4.43	.001
6. Provincial Government Deficit	1.000	.001	0.86	.389	1.000	.001	1.16	.244
7. Provincial GDP per Capita	0.999**	.001	-2.05	.040	0.999	.001	-1.31	.192
8. Organizational Efficiency					**1.001^**	**.001**	**1.76**	**.079**
9. Organizational Effectiveness					**1.068****	**.017**	**4.25**	**.001**
10. Provincial Average FDI Size					**1.001****	**.001**	**3.65**	**.001**
11. Defense Mechanism					**.993***	**.003**	**-2.03**	**.042**
12. Provincial Sector Competitiveness					**0.977***	**.011**	**-2.04**	**.042**
13. Provincial Government Revenue					**1.001***	**.001**	**2.09**	**.037**

Number of subjects: 149	Number of subjects: 145
Number of privatizations: 79	Number of privatizations:72
Number of obs: 547	Number of obs: 519
Time as risk: 547	Time as risk: 519
Log pseudolikelihood: -266.96	Log pseudolikelihood: -229.773
Wald chi2: 43.20	Wald chi2: 71.87
Prob> chi2= .001	Prob> chi2= .001

Note 1: Efron method for ties; stratified by listed1; ^ p< .10, * p< .05, ** p< .01; two-tailed tests

Note 2: Roust variance-covariance matrix used; Cox regression-based test for equality of survival curves are significant (i.e., pr> chi2= .0048)

Note 3: Log-rank test for equality of survivor functions are significant and therefore satisfied the assumptions of Cox modeling (i.e., pr> chi2= .0015)

CHAPTER VI

DISCUSSION AND CONCLUSION

Over the last 20 years, scholars across different fields in social sciences (e.g., economics, finance, and strategic management) have acknowledged that privatization plays an important role in the regional economic development, market-based resource allocation mechanism, organizational transformation of state-owned enterprises, and better allocation of managers to production assets. The purpose of this dissertation has been to investigate the effect of governmental-owner power imbalance on privatization. Results of this study provide information to help us better understand the effects of governmental-owner power imbalance on strategic actions of SOEs. Specifically, the results from this study suggest that organizational effectiveness and efficiency of an SOE increase the likelihood of its privatization. Results also show that provincial governmental owners are more likely to privatize SOEs if they can successfully attract foreign direct investment projects. Furthermore, the likelihood of privatization increases with the power asymmetry between the provincial government and the central government but decreases with the degree of the defense mechanisms used by SOEs. Table 6 provides a summary of the study results.

TABLE 6
Summary of the Results

Hypotheses	Variable Name	Operationlized/Proxies	Results
H1a	SOE Organizational Effectiveness	Revenue growth= $\{[sales_t - sales_{t-1}]/ sales_{t-1}\}$	Supported (+)
H1b	SOE Organizational Efficiency	Revenue/number of employees	Marginally Supported (+)
H2	Size of FDI Projects	Amount of FDI / Number of FDI projects	Supported (+)
H3	Provincial sector competitiveness	Return on sales for the pharmaceutical sector in each province	Supported (-)
H4	Power asymmetry	Provincial government revenue	Supported (+)
H5	Defense Mechanism	Total number of patents, new products/procedures	Supported (-)

The first section of this chapter discusses the findings of the study, the second section examines the conclusions and implications, and the third section discusses the limitations and areas of future research.

DISCUSSION

Organizational Effectiveness

This research hypothesized a positive relationship between organizational effectiveness and the likelihood of privatization (H1a). Because the effectiveness of any organization is ultimately judged by those social actors (e.g., customers) outside of the organization (Pfeffer & Salancik, 1978), organizational effectiveness indicates to what extent organizations do well in meeting demands from the product marketplace. One major characteristic of state-owned enterprises is that these firms can request and secure resources from their governmental owners directly, and they can acquire resources from customers. Hence, hypothesis 1a posited that the effectiveness of SOEs in acquiring resources in the product marketplace motivates them to escape from their governmental owners. This hypothesis is supported by this study.

Organizational Efficiency

Interestingly, in the past two decades the outcome-orientated studies have dominated the literature of privatization, as evidence shows that scholars generally are interested in testing the efficiency gain and the improved corporate governance as outcomes of privatization (Boubakri et al., 2005a, 2005b; Boutchkov & Megginson, 2000; D'Souza & Megginson, 1999; Havrylyshyn & McGettigan, 1999). By using panel data across different countries, some leading scholars have demonstrated that the improved efficiency of privatized SOEs is a valid finding on the topic of privatization (e.g., Megginson & Netter, 2001; Megginson et al., 2004; D'Souza et al., 2005).

While researchers appreciate the above contributions, what type of firm (i.e., efficient SOE versus inefficient SOE) is being privatized is a critical question worth investigation. Because of the effects of sample selection (Baum, 2006; Woodridge, 2002, 2008), if only more efficient SOEs have a higher likelihood of being privatized, the less-efficient SOEs never were privatized and therefore never entered into the sample of privatization scholars. Hence, the efficiency, as a determinant of privatization, could offer insights about the post-performance in the setting of privatization. Along this logic, hypothesis 1b posited that there is a positive association between the organizational efficiency and the likelihood of privatization. Hypothesis 1b is marginally supported.

Governmental Owners

As research in the field of development economics indicates, governmental owners' incentives to engage privatization projects are determined by the trade-offs between political benefits and economic costs (Qian & Roland, 1998). The economic costs of selling SOEs are balanced by the economic benefits negated by foreign direct

investment projects, as hypothesis 2 posited. Each and every one of the provincial governors is evaluated by the provincial economic growth rate (i.e., GDP growth in every province) on an annual basis; hence, these governmental owners consider themselves macro-managers for regional economic development.

As development economists suggest, the decentralization of fiscal authority to provincial governments, together with hardening budget control of government revenues and state-owned enterprises, shapes the economic commitment of local governments (Qian & Roland, 1998). In fact, decentralization of fiscal policy and hardening budget control motivate local governmental owners to initiate asset allocation decisions, which proceed in economically sensible ways. Previously, all these SOEs, especially the troublesome ones, could request fiscal resources from the local governments, and then the local governments could request fiscal resources from the central governments, i.e., centralization of the fiscal authority. The implementation of a decentralized fiscal policy means the central government no longer injects fiscal resources into these SOEs. If the local government wants to bail out some inefficient SOEs, these local governmental owners have to use their own fiscal resources. As the market-based mechanism is developing in each and every one of the provinces, foreign direct investment projects flow in. Compared with SOEs, foreign direct investment projects usually bring modern technology, higher productivity, and higher efficiency. Therefore, FDI projects contribute to local GDP growth. These local governments that did a great job attracting FDI projects are less motivated to keep SOEs under their exclusive control. After all, these local governmental owners' annual evaluations and their future career advancements come

from the GDP growth rate in their region, regardless of whether the GDP is contributed to by SOEs or FDIs. Therefore, hypothesis 2 is supported.

Regional Sector Competitiveness

Unlike modern professional fund investors, who research annual reports of each firm in their portfolio and conduct due diligence carefully before making any significant asset-allocation decisions, governmental owners are normally less interested in knowing how to create a competitive advantage for every single firm (Boycko et al., 1996). From the resource dependence theory viewpoint, it is very logical in the following way: Professional fund managers are evaluated by the market-based stock performance every quarter, and their compensation is tied with this evaluation system. Governmental owners, however, manage these SOEs for their political capital, i.e., national champions. It is clear that governmental owners have no cash flow rights of any SOE (Fama, 1980; Jensen & Meckling, 1976), and their compensation is not tied with the performance of each individual firm. However, the national ranking of each sector is the key evaluation factor for these governmental owners. If a sector has the potential to be ranked higher in all the 30 provinces in China, the governmental owner has a higher chance of being promoted. Hence, this governmental owner has a less likelihood of privatizing SOEs in this sector.

In short, these governmental owners have political goals (i.e., to grow national champion sectors in their province) as well as SOE asset management responsibilities. This conflict of interests motivates the governmental owners to make asset allocation decisions by considering an aggregated measure of sector-specific competitiveness in their province. Therefore, competitiveness of assets in one sector (e.g., the

pharmaceutical sector) may influence the decision of relinquishing control (e.g., privatization) made by provincial governmental owners. Thus, hypothesis 3 is supported.

Power Asymmetry

As a significant economic reform phenomenon, privatization is a carefully designed national policy. Aligning the interests of local governments with a country's economic reform and development is frequently the focus and challenge of national policies, including those of China (Qian & Roland, 1998). Previously, all the firms in China were state owned. Furthermore, there were 30 different provincial governmental owners for these SOEs. The implementation of the privatization process depends on the decisions of these provincial governments, while the design of the privatization policy is formulated by the central government. Conceptually, there is a power map composed by these three types of actors: the central government, local governmental owners, and SOEs.

On the top of the power map/hierarchy, as the market-based institution is developing in transition economies, including China, the central government decides to privatize SOEs nationwide because it faces a unique financial incentive: it will be too expensive to maintain inefficient enterprises once the central governmental owner gives up its monopoly power in many sectors (Jin et al., 2005). In other words, as foreign firms flow in, if inefficient SOEs cannot compete with foreign direct investment firms in the product marketplace, SOEs will request fiscal resources from the central government as their last channel of securing resources and increasing survival rate. From a governmental-owner perspective, this is expensive.

The same logic applies to local governments. Once provincial governmental owners have the authority to decide the timing and sequence of privatization and to adapt

privatization to local economic development purposes, the hard budget constraints made

provincial governmental owners cannot afford to make mistakes by keeping inefficient

SOEs for an extended period of time (e.g., Kornai, 1988).

Previously, studies have found a positive relationship between decentralized fiscal

incentives given to provincial governments and the development of local market-based

resource allocation mechanisms (Jin et al., 2005). Provincial governments with less

revenue have less discretion in deciding and implementing policies on their own. The

higher power at the level of central government, however, leads to faster realization of

policies of that level, including privatization. Therefore, hypothesis 4 is supported.

Defense Mechanism

A central focus of this study is that SOEs face a tension between the need for

resources from their governmental owners and the potentially damaging misappropriation

of their own resources (Katila et al., 2008), given the political interests of these

governmental owners (e.g., Shleifer & Vishny, 1994; Perotti, 1995). The multiple

objectives rather than a focus on profit maximization and political intervention distort the

strategic objectives of SOEs. For instance, provincial governmental owners require SOEs

to produce large volumes of low margin drugs in order to increase the production target,

even though the firm wants to research and innovate for smaller volumes of higher

margin but more profitable products. Hence, the decision of the governmental owner can

hurt the firm's competitive advantage. Defense mechanisms can mitigate this

misappropriation and help the SOE maintain its power in the relationship with its

governmental owner. So when defense mechanisms are available, firms are more likely to

leverage power from a rather remote but helpful actor in order to protect their resources. Patent defense, therefore, is an effective defense mechanism (e.g., Katila & Mang, 2003).

Hence, it is logical to argue that SOEs will create defense mechanisms such as patent defense to mitigate the constraints imposed by the provincial government. In the pharmaceutical sector, for example, the central government in China evaluates the production permission (i.e., the official approval product line extension) in that country. Also, the central government decides whether to grant patent and new-generic-drug (not completely new chemical component but newly developed delivery systems) certification in China. With national patent and new-generic-drug certification, firms receive tremendous benefits from the central government, which include direct participation in pharmaceutical sector policy formulation processes, higher product prices, and more funding supports for R&D projects and clinical trials.

The defense mechanisms created by SOEs, however, cannot effectively mitigate the constraints of the local governments. This is because local governments have relatively more power in the hierarchy, as hypothesis 5 posited. As long as local governmental owners are on the way to implementing privatization as their individual regional policy, they have the authority to decide the timing and sequence of the process because they are responsible for their provincial fiscal resources and government revenue. Any bailout projects for inefficient SOEs are no longer covered by the central government. Therefore, provincial governmental owners directly oversee their firms, and stronger defense mechanisms adopted by SOEs will motivate provincial governmental owners to hold these firms for longer periods of time, as the bilateral power imbalance map indicates. Hypothesis 5 posited such a bilateral power imbalance and is supported.

THEORETICAL IMPLICATIONS

First, this study has theoretical implications for resource dependence theory. Resource dependence theory was originally developed to provide an alternative logic to economic theories (mainly price theories) of mergers and board interlocks, and to understand precisely the type of organizational interdependencies that have played such a role in market failures (Pfeffer, 2003). Basically, resource dependence theory is an externally oriented metaphor that suggests that firms sometimes take power asymmetry-based actions/strategies in achieving competitive advantages in such a system.

I aimed to explore the unrealized potential of resource dependence as a strong explanation of SOE and governmental-owner power imbalances. Integrating with the theory of power exchange (Emerson, 1962), I sought to recognize power as an inherently bilateral phenomenon in a system that contributes to the theory of resource dependence by providing both the theoretical framework and the empirical test of a bilateral power explanation for differences in SOEs' propensities to engage in privatization. The original discussion of the resource dependence theory (Pfeffer & Salancik, 1978) and many empirical studies in the field of management emphasize the firm-centric unilateral approach, which does not distinguish the bilateral power imbalances that emerged from Emerson's (1962) exchange theory. The bilateral approach of this study, by theorizing the reciprocal power imbalances and resource dependence between firms and their government owners, aimed to extend the resource dependence theory.

Specifically, this study offers two distinct theoretical contributions to resource dependence accounts for ownership-firm action:

1) Governmental owners constrain strategic actions of SOEs because SOEs rely on acquiring resources from their governmental owners. In turn, governmental owners also rely on SOEs to fulfill their economic and political objectives such as provincial GDP growth. Hence, we should extend the firm-centric logic from the original discussion of resources dependence theory and simultaneously analyze the power dependence from the owner perspective. In a system composed by firms (e.g., SOEs) and their external actors (e.g., governmental owners), the power exchange and dependence should be investigated from a bilateral perspective. The empirical finding that governmental owners who can successfully attract FDI projects in their provinces have a higher likelihood to sell/private SOEs confirms this theoretical implication. If researchers only take a firm-centric perspective, such a phenomenon cannot be explained theoretically.

2) Organizations live in a system that is composed of different powerful actors. This is the key passage of resource dependence theory. However, these external actors, with sufficient power, may have different interests, and these different interests motivate them to share organizational strategies in different ways. In the power map composed by SOEs, their provincial governmental owners, and the central government, the power asymmetry among provincial governments and the central government determines the privatization of SOEs. Hence, linking the power dependence between different external actors of organizations contributes to resource dependence theory.

Second, this study generates theoretical implications for the field of strategic management. In understanding the impacts on organizations from the public policy perspective, strategic management works have mainly been silent, particularly in government policies dealing with economic actors and different types of markets (e.g., financial markets and product marketplace). In fact, discussions of markets, competition, and regulations are considered research domains of economists when price is considered the key mechanism for resource allocation.

Compared with price, however, power is considered a superior mechanism to regulate access to critical resources in any non-perfect market (e.g., Coase, 1937; Rajan & Zinglas, 1998). According to resource dependence researchers, power explains the importance of the internal-organization and third-party relationship-based investments. For example, as a result of the increasing power and uncertainty generated by the stock markets in the U.S., the background for candidates for CEO succession changed from engineering to finance in multiple industries (Pfeffer, 1992). Hence, ideas of resource dependence and power imbalance, over ideas of efficient markets and price mechanisms, may provide accurate explanation for many strategic actions (e.g., privatization) as economic phenomena as well as organizational phenomena. In a way, the emphasis of power as opposed to norms/isomorphism distinguishes resource dependence from neo-institutional economics (Meyer & Rowan, 1977; Scott, 1995). Therefore, insights from the strategic management perspective (e.g., the defense mechanism of small firms) add to our understanding of the contemporary knowledge of corporate governance, regulatory failure, and strategic decision-making (Anderson & Reeb, 2004; Katila et al., 2008).

Third, this study has theoretical implications for the topic of privatization. From the determinants of privatization, the bilateral logic and the empirical modeling approach of including both privatized firms and firms that remain stated-owned in one sample provide an alternative way to understand the topic of privatization.

1) As an established topic in the fields of finance and economics, the empirical efforts have been focused on the outcomes, especially efficiency outcomes of privatization. However, what type of firm (i.e., efficient SOE versus inefficient SOE) is being privatized is a critical question worthy of investigation. If more efficient SOEs have a higher likelihood of being privatized, it is natural that their efficiency outcomes increase afterwards because the less-efficient SOEs never were privatized.

2) Governmental owners have complicated interests and selling techniques of selling SOEs. It is important to acknowledge these important external factors to avoid over-simplified conclusions of privatization outcomes.

Fourth, this study adds to our understanding about organizational strategic actions in transition economies. The government-firm relationship is one of the most important microeconomic relationships in transition economies (e.g., Nee, 1992; Roland, 2000). Understanding this relationship helps us to improve our understanding of the difference between private firms and government-owned firms. As this study suggests, there is a difference in objectives between government and private owners. For example, a private investor, like a bank in the U.S., will only bail out a firm if the monetary benefit exceeds the cost, whereas the governmental owner will take into account other benefits such as social welfare or personal political capital. Governmental owners pursue different goals

than economic efficiency, and they even directly intervene in SOEs in order to achieve these political or social objectives. The main justification for why private firms are more efficient is when control rights are in private hands, it is more costly for a government to intervene in a private firm to force it to deviate from efficient strategic decision-making (e.g., Shleifer & Vishny, 1994). In addition, different provincial governments (i.e., different governmental branches) may have different commitments to a market-based economy, and therefore the likelihood to make the privatization decision varies across different provincial governmental owners.

This study offers a distinct view of China, a classical example of a transition economy. The fiscal decentralization arrangements in China are particularly interesting because fiscal contracts between provincial and central governments are close to optimal incentive contracts, whereby provincial governments are fully residual claimants of marginal governmental revenues (Qian & Roland, 1998; Roland, 2000). This fiscal decentralization policy creates a partial alignment of motivations of provincial government with the development of foreign direct investment projects. Most of the SOEs are owned and being privatized by provincial governments. It is important to study SOE strategic actions in this context of transition economies because, so far, privatization studies have been dominated by samples from the United Kingdom, Russia, and Western Europe. Privatization in the United Kingdom and Russia, however, is designed and implemented by central governments (Shleifer & Vishny, 1997; Frye & Shleifer, 1997). Basically, Russian provincial governments have very little power over the privatization policy and have no control of their governmental revenue even though the focal sold SOE is located in their region (Qian et al., 2006). Hence, this research adds a very important

dimension on central–local government power imbalances and their impacts to SOE strategic actions in the literature: China's experience about SOE actions/strategies is triggered by the fiscal decision-making of power that has shifted from the central government to provincial governments.

LIMITATIONS AND FUTURE RESEARCH

Limitations

Despite the potential theoretical contributions of this study, the empirical analysis adopted here is subject to many limitations. Here I discuss three major limitations:

1) In order to gain the in-depth understanding about the firm and government-owner power dynamics, I focused on one industry (i.e., the pharmaceutical sector) in one country (i.e., China). The patent-based defense mechanism may have stronger applications in knowledge intensive industries such as the pharmaceutical and information technology sectors. Because of such a research design, I was able to include both publicly listed firms and non-listed firms into one dataset and distinguish the Cox regression-based survival curves accurately. Comprehensive firm-level data from multiple industries in different nations would add more industry effects into the model.

2) Based on the eight-year time-span database, I performed several robustness tests and Cox assumption tests to distinguish between the bilateral ideas. Twenty-year or even longer time-span data would be more convincing.

3) The analyses focused solely on the formal power dependence among the central government, provincial governments, and SOEs and ignored the social psychological factors and other informal factors that may affect relations

between a firm and its government owners. For example, I did not examine issues such as demographics, age, social networks, or educational backgrounds between government decision-makers and organizational decision-makers.

Future Research

This study focused on the antecedents of privatization. Even though the literature of privatization is dominated by efficiency outcomes, empirical research done on the entrepreneurial outcomes of privatization is surprisingly rare. Given the theoretical importance of organizational transformation dimension, the major shift of corporate governance (e.g., from governmental owners to private owners) affects innovation and other related entrepreneurial outcomes. Hence, I believe this is a promising future direction for research. Privatization is a key indicator of the organizational transformation in which the entrepreneurial-oriented mindset has replaced the previous political-oriented mindset. The private owners, compared with former state owners, have more effective influence over the human capital of the workforce of the firm and also have a higher capability to identify and exploit potential business opportunities and create values for customers. Hence, a privatized firm should improve its product lines and market penetration strategies by upgrading product development strategies and introducing new products to meet consumer needs more closely. As the entrepreneurial-oriented mindset replaces the political-based mindset to build the core competitive advantage of the firm, the product strategy refocusing (measured as new products, upgraded product lines, and market penetration rates) indicates a variety of entrepreneurial outcomes of privatization.

Therefore, one future research direction will be in the alternative way of investigating the entrepreneurial outcomes of privatization.

Resource dependence theory is highly complementary to transaction cost economics, particularly with respect to the bilateral dependence associated with asset specificity (Casciaro & Piskorski, 2005). A future integrated model based on power imbalance and transaction cost would allow researchers to explore the role of ex-ante power imbalance on the ways in which organizations seek to enhance their ex-post relationship-based specific assets. Even though the powerful actor would benefit from dependencies in order to reap the benefits of asset-specific investments, such integration would also prevent the external actor that is a more powerful ex-ante form exploiting these less powerful ones. From the product marketplace, the innovation attributes of certain products are constrained by some powerful existing customers (e.g., BlackBerry & Touch Screen LED). In the field of management, therefore, future research should examine this power dependence link from the perspective of strategic decision-making (e.g., Christensen & Bower, 1996; Yli-Renko & Janakiraman, 2008).

Institutional systems shape strategic actions of firms and their governmental owners. The theoretical emphasis of institutional theory is more on the creation of the institutional underpinnings of markets to encourage a vigorous process of organizational actions (e.g., product mix or market entry). Privatization alone may not deliver the desired economic outcomes in the absence of such institutional underpinnings. In fact, privatization leads to unpleasant surprises in a few countries (Roland, 2000). These institutional underpinnings include not only the legal and financial systems but also the self-enforcing social norms and respect for commitment that can foster entrepreneurship

and trust. Different countries have different institutional systems because adequate institutions must evolve over time. Hence, a cross-country study might be a desirable approach to integrate institutional theory with resource dependence theory.

CONCLUSION

Privatization generates significant influence on firms and governments across different countries, especially in transition economies. By including two categories of government owners (central and provincial) into my conceptual model, I attempted to advance existing knowledge about the power dependence and constraints of SOEs in general and the decision to privatize in particular. Drawing clear boundary conditions for the power imbalance model in such a theoretical power hierarchy (Figure 1), I tried to resolve the seemingly contradictory puzzle of why different government owners generate different impacts in privatization of SOEs. This study also makes the conceptual power hierarchy model applicable for a spectrum of organizational responses to external forces, while firms formulate dependencies with different powerful actors to reduce uncertainty and secure critical resources from their business environments.

In summary, the bilateral approach of this study, by theorizing the reciprocal power imbalances between firms and their government owners, showed that three types of social actors (i.e., the central government, local governments, and SOEs) play significant roles in the theoretical explanation of privatization. Results suggest that organizational effectiveness and efficiency of an SOE increase the likelihood of its privatization. In addition, results show that provincial governmental owners are more likely to privatize SOEs if they can successfully attract foreign direct investment projects. Furthermore, the likelihood of privatization increases with the power asymmetry between

the provincial government and the central government but decreases with the degree of

the defense mechanisms used by SOEs.

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APPENDIX A

POWER MEASURES

TABLE A1
The Summary of Power-Related Empirical Measures

Authors	Journal	Article Name	Construct Name	Construct Measures
Anderson & Reeb, 2004; page 224	A.S.Q.	Board Composition: Balancing Family Influence in S&P 500	Balance of Power	The measure breaks the ratio of the number of family directors to the number of independent directors into three categories: (1) from 0.0 to 0.50; (2) from 0.501 to 1.00, and (3) above 1.01.
Gargiulo, 1993; page 11	A.S.Q.	Two-Step Leverage: Managing Constraint in Organizational Politics	Co-optive leverage between a subordinate and the authority above his or her immediate supervisor	The subjective one: self-reported confidential discussions ties (# of relationships) on topics affecting their performance as decision-makers. The objective one: identified joint membership in one of the political/social groups in the 1990 elections to the board of the firm. Combining the two measures, the author created four categories of co-optive leverage efforts.

Westphal & Bendar, 2008; page 45	A.S.Q.	The Pacification of Institutional Investors	Ingratiatory behavior and persuasion, used as a soft power to balance the force of institutional investors to prevent changes in corporate governance and strategy	There are six survey items for ingratiatory and seven items for persuasion. For ingratiatory, items include "how often do you compliment the insights on institutional investors," "how many times do you express agreement," etc. For persuasion, items include "how much time did you spend attempting to persuade the institutional investor," "on how many occasions have you tried to convince this institutional investor," etc.
Dencker, 2009; page 465	A.S.Q.	Relative Bargaining Power, Corporate Restructuring, and Managerial Incentives	Relative bargaining power between the firm and its managers	The tradeoff between bonuses and promotions; the tradeoff between bonuses and increases of base salary
Siegel, 2007; page 640	A.S.Q.	Contingent Political Capital and International Alliances: Evidence from South Korea	Contingent capital through elite sociopolitical networks to the regime in power	Regional background, high school, work history (including government work history), and business association

Casciaro & Piskorski, 2005; page 185	A.S.Q.	Power Imbalance, Mutual Dependence, and Constraint Absorption: A Closer Look at Resource Dependence Theory	Power imbalance at the industry level	C i-> j is defined as the total dollar value of goods and services sold by industry "i" to industry "j." Hence, authors constructed a dyadic measure of power imbalance (PI) between business units in industry "i" to business units in industry "j": PI i<->j = | C j->i - Ci->j|. Because this measure is not distributed normally, they used Stata's Inskew0 function to compute the natural logarithm of the original variable, choosing the exponent so that the skewness of the transformed variable has zero value.
Katila, Rosenberger, & Eisenhardt, 2008; page 310	A.S.Q.	Swimming with Sharks: Technology Ventures, Defense Mechanisms and Corporate Relationships	Defense mechanism variables to prevent resource misappropriation	1) Patent defense, and 2) Trade secrecy—both of them are measured by using the Carnegie Mellon Survey of industrial R&D. Respondents estimated the effectiveness of defense mechanisms to protect technical inventions. 3) Timing defense is measured by the investment round (e.g., first, second, etc.) and authors logged this variable to reduce skewness because these authors believe investment round reflects the venture's maturity to allow financial resources to flow in.

Rangan & Sengul, 2009; page 244	A.S.Q.	The Influence of Macro Structure on the Foreign Market Performance of Transnational Firms: The Value of IGO Connections, Export Dependence, and Immigration Links	Export dependence	The variable of export dependence is measured as the home share in total exports from the host, divided by the home share in total exports from the world.
Hoffman, 1987; page 6	J.I.B.S.	Political Versus Rational Sources of Decision Power Among Country Clusters	Decision power: As the results of decision-makers efforts to cope with uncertainty	This variable was measured by a multi-item and multi-rater scale that can reflect choices of product/markets, technology, and administrative structures to adapt the organization to changes in its environment.
Fischer & Polock, 2004; page 463	A.M.J.	Effects Of Social Capital and Power on Surviving Transformational Change: The Case of Initial Public Offerings	Power as a valuable transformational shield	1) CEO ownership: this measure equals the percentage of shares outstanding that was beneficial to the CEO. 2) Venture capital ownership: this measure is a Herfindahl index by squaring and summing the percentage of multiple VC entities.

Chatterjee, 1991; page 441	A.M.J.	Gains in Vertical Acquisitions and Market Power: Theory and Evidence	Market power	The market power is a four-item seller concentration ratios- which measures the proportion of industry sales accounted for by the four largest sellers- were used as proxies for market power.
Shen & Cannella, 2002; page 1198	A.M.J.	Power Dynamics within Top Management and Their Impacts on CEO Dismissal Followed by Inside Succession	Power dynamics of top management team	CEO origin (insider or outsider); proportion of non-CEO insider directors; non-CEO executive ownership.
Cool & Henderson, 1998; page 914	S.M.J.	Power and Firm Profitability in Supply Chains: French Manufacturing Industry in 1993	Power of suppliers; buyer power	Eight questions for supplier power (e.g., impacts on seller's cost); nine questions for buyer power (e.g., buyer concentration).

| Kim, Hoskisson, & Wan, 2004; page 618 | S.M.J. | Power Dependence, Diversification Strategy, and Performance in Keiretsu Member Firms | Power dependence | Power dependence is measured by whether the firm CEO is on the Keiretsu Group's President's Council, which serves as a forum for group-wide information sharing and decision-making. Thus, president council members are in a more powerful position than other firms. |
| Shervani, Frazier, & Challagalla, 2007; page 642 | S.M.J. | The Moderating Influence of Firm Market Power on the Transaction Cost Economics Model: An Empirical Test in a Forward Channel Integration Context | Firm market power | 1) Overal market power: two items; 2) Product differentiation: two items; 3) Market share: two items. |

Michael, 2000; page 499	S.M.J.	Investments to Create Bargaining Power: The Case of Franchising	Bargaining power	The variable is measured as tapered integration, which means "some portion (but not all) of the firm's requirements for an input is supplied in-house or some portion of outputs is sold (consumed) in-house" in the franchising literature.
Golden & Zajac, 2001; page 1098	S.M.J.	When Will Boards Influence Strategy? Inclination><Power=Strategic Change	Board power	The variable is measured as the relative power of the board over its CEO. There are multiple behavioral and structural items offered by the authors through a survey instrument.

APPENDIX B

POST-HOC TESTS

Test 1: Cox regression test for equality of survival curves

listed1	Events observed	Events expected	Relative hazard
1	82	65.86	1.2919
2	54	70.14	0.7863
Total	136	136.00	1.0000

```
LR chi2(1) =     7.95
  Pr>chi2 =   0.0048
```

Test 2: Log-rank test for equality of survival functions

listed1	Events observed	Events expected
1	82	65.86
2	54	70.14
Total	136	136.00

```
chi2(1) =    10.11
Pr>chi2 =   0.0015
```

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