

INSTITUTIONAL DETERMINANTS OF THE PRODUCT SCOPE OF THE FIRM IN ASIA

ABSTRACT

Despite recent progress on an institution-based view of corporate diversification, there is relatively little empirical evidence on the direct effect of institutions on the product scope of the firm. We examine how institutions as an external determinant *directly* affect product diversification using data for 6,427 firm-year observations in nine emerging economies in Asia. We identify three main logics underlying firms' product diversification decisions: (1) internal capital markets, (2) agency problems, and (3) expropriation avoidance. We find that high quality of corporate governance is negatively associated with firms' degree of product diversification while well-developed financial institutions are positively related to the degree of firms' product diversification for the post-Crisis sample. In addition, interventionist governments are positively associated with the extent of product diversification. The 1997-98 Asian Financial Crisis also influences firms' diversification behavior by reducing the scope of the firm.

Keywords:

Scope of the firm; product diversification; institutions, agency problems, emerging economies

INTRODUCTION

Past research suggests that firms do not exist in a vacuum and that their strategic decisions are constrained by, and interact with, external institutional environments (Khanna & Palepu, 2000; Kogut, Walker, & Anand, 2002; Peng, Lee, & Wang, 2005; Wan & Hoskisson, 2003). While the basic proposition underpinning the institution-based view that institutions matter (North, 1990) is hardly controversial, what is interesting and largely unknown is *how* institutions matter (Peng, Wang, & Jiang, 2008). To date, most research has used an indirect way to “get at” the impact of institutions on diversification (Khanna & Yafeh, 2007). Left largely unanswered is: How do institutions *directly* affect the patterns of firm’s product diversification? Extending the institution-based view, the study incorporates institutional variations as direct determinants of the scope of the firm while controlling for a variety of predictors investigated earlier.

Specifically, we address two questions. First, how do institutional differences across countries affect firms’ diversification behaviors? We examine the impact of institutional environments and their change on the firms’ diversification strategies in nine emerging economies in Asia. Second, how does the evolving nature of institutions impact the scope of the firm over time? To address this question, we take advantage of the 1997-98 Asian Financial Crisis (henceforth the Crisis) as a “natural experiment” of a sudden jolt in the institutional environment (Lee, Peng, & Lee, 2008; Wan & Yiu, 2009: 2), by comparing the difference of firms’ product diversification before and after the Crisis. We use data on 6,427 firm-year observations in nine emerging economies in Asia to substantiate our case.

THEORY AND HYPOTHESES

Theoretical Background: Three Institutional Logics Behind Diversification Decision

Drawing from North (1990), we posit that institutions enable and constrain agents engaged in purposive action through control over authority and the allocation of resources (Kogut et al., 2002; Zenger, Lazzarini, & Poppo, 2002). In this sense, institutional factors reflect rational features regarding who has the authority to decide on strategic decisions, how resources are allocated, and behaviors, and how firms are organized and governed. By such logic, we conjecture that institutional environments influence firms' strategic behaviors through providing normative and cognitive rules and boundaries that a firm would consider and conform, and by granting the viable span of strategic options that a firm could ponder and adopt.

Past research suggests that three underlying institutional logics may influence the decision on the scope of the firm: (1) internal capital markets, (2) agency problems, and (3) expropriation avoidance. First, the logic on internal capital markets is based on both transaction cost and institutional voids (Khanna & Palepu, 2000). Institutions reduce uncertainty by establishing a stable structure to human interaction (North, 1990). As such, institutional development can lower the costs of interfirm transaction and heighten the availability of information about firm strategy to individual investors (Coase, 1937; Williamson, 1975, 1985). Therefore, in a weak institutional environment, a firm is more likely to internalize its transactions, which affect the scope of the firm. For instance, Khanna and Palepu (1999, 2000) suggest that institutional voids drive firms to engage in a conglomeration strategy via business groups to mitigate heightened transaction costs from market failure. In this sense, the extended scope of the firm facilitates internal capital markets in emerging economies where external institutions are embryonic and imperfect. As such, institutional underdevelopment necessitates internal capital market institutions through diversification in the firm.

Second, the literature on diversification indicates that agency problems may function as a positive driver of the scope of the firm (Amihud & Lev, 1981). Poor quality of corporate governance may enhance managers' discretion to embrace diversification behaviors. In this respect, corporate

governance regime at the country level would influence firms' diversification patterns (Claessens & Laeven, 2002; Giannetti, 2003; Lins & Servaes, 2002). Weak governance system prevalent in emerging economies cannot curb agency problems in diversification such that managers and controlling shareholders may extend the scope of the firm through diversification at the expense of minority shareholders (Mitton, 2002; Peng, Wang, & Jiang, 2008; Young, Peng, Ahlstrom, Bruton, & Jiang, 2008).

Lastly, the logic centered on appropriation avoidance stems from the relative power relationship between firms and governments. When government power is strong and political institutions are weak, firms are more likely to be exposed to the risk of expropriation by the state and power elites (Cornelius & Kogut, 2003; La Porta et al., 1999). In such context, firms' decision on the scope may become more dependent on non-economic factors, which may lead to over-diversification.

Three Types of Institutions and the Scope of the Firm

Incorporating these three logics, we focus on three institutional components that influence firms' degree of product diversification which correspond to three logics of product diversification respectively in emerging countries: (1) financial institutions, (2) corporate governance regimes, and (3) government regulatory institutions.

Internal capital markets and development of financial institutions

When the external markets are subject to distortion, firms tend to create internal factor markets, which encourage firms to adopt diversification strategy (Chakrabarti, Singh, & Mahmood, 2007). Likewise, literature on diversification argues that East Asian firms diversify to create internal factor markets that may be more cost-effective in allocating resources compared to external markets (Williamson, 1985; Khanna & Palepu, 1997; Claessens et al, 1999). In emerging economies, underdevelopment of financial markets and inefficiency induces high costs of external financing

compared to developed economies (Rajan & Zingales, 1998). In particular, lack of primitive capital accumulation (Acemoglu & Zilibotti, 1997) in developing countries signifies the role of financial institutions and their efficiencies (Chakrabarti et al., 2007; Claessens et al., 1999).

Basic underlying assumption here is that firms in a country with less developed financial institutions have an incentive to substitute internal financial markets as alternative financial institutions for external financial markets since internal institutions are more efficient and less costly (Beck, Demirguc-Kunt, & Maksimovic, 2004). In this reason, firms seeking alternatives which play a role of functional equivalence to financial institutions tend to increase the scope of the firm through product diversification (Peng et al., 2005). Likewise, firms in emerging countries are more likely to embrace product diversification as a compensating form for such institutional voids. Thus:

Hypothesis 1: The level of development of financial institutions will be negatively associated with the extent of product diversification by the firm.

Agency problems and corporate governance system

High quality of governance system drives strong financial institutions that in turn help facilitate capital flows such as foreign direct investment, allocate resource efficiently, diversify risk, and control firms' agency problems (Douma, George, & Kabir, 2006; Levine, 1997). In emerging countries, a few families or business groups may control a high percentage of capitalization of shares. Therefore, the problem shifts from the agency problem of managers uncontrolled by shareholders observed by Berle and Means (1932) to minority investors exploited by large shareholders. It indicates that minority shareholders suffer from agency problems by principal-agent relationship in developed countries whereas the issue migrates into the principal-principal relationship in developing countries (Young et al., 2008). Likewise, the motivation of diversification may differ across countries. Agents of firms in developed economies are willingly engaged in diversification because of their own managerial interests for prestige and risk reduction (Amihud & Lev, 1981; Morek, Wolfenzon, & Yeung, 2005). On the other hand, Asian firms that are relatively

weak in the protection for minority shareholders and that lack monitoring and controlling for family-member CEOs are more likely to engage in overdiversification at the expense of minority shareholders (Cheung, Rau, & Stouraitis, 2006; Peng & Jiang, 2009). Under weak corporate governance systems, top managers are more likely to pursue unrelated diversification (Almeida & Wolfenzon, 2006).

Extant literature presents several empirical results supporting to this argument. Since protection for minority shareholders is weak in emerging economies (La Porta et al, 1997, 1998, 1999, 2002; Young et al., 2008), it may be easier for insiders to run the diversified firm for their personal interest (Lins & Servaes, 2002). Entrenched insiders can safely choose to run a diversified firm like their own personal fiefdom, indicating the existence of crony capitalism. Thus:

Hypothesis 2: The quality of corporate governance will be negatively associated with the extent of product diversification by the firm.

Expropriation avoidance and government intervention

The state and markets are intimately linked (Fligstein, 1996) and reciprocally influence each other (Campbell & Lindberg, 1990). Governments are critical because they can establish the framework on which all organizations in their jurisdictions are built (Pearce, 2001). Government also develops legislative and regulatory framework and implement them using its authority (Shaffer, 1995). Firms conceive governmental action as a source of entry barriers (Salop, Scheffman & Schwartz, 1984) or a factor of environmental uncertainty (Baysinger, 1984). Furthermore, government intervention may enhance the relative position of one party at the expense of another (Shaffer, 1995). In this sense, Frye and Shleifer (1997) and Shleifer and Vishny (1998) argue that the role of government intervention may be a '*helping hand*' or a '*grabbing hand*.' We argue that the role of governments in the nine Asian countries in this study lies in somewhere between helping hand and grabbing hand.

In most emerging countries, political institutions are relatively weak and therefore the risk of expropriation by the state and the power elites is high that firms cannot efficiently raise outside capital, and thus there is more uncertainty to start a new business (Cornelius & Kogut, 2003). While a good government protects property rights, and keeps regulations and taxes light (North, 1981; Knack & Keefer, 1995; La Porta et al., 1999), a highly interventionist government brings inefficiency (Huntington, 1968). Strong government power and weak protection from political institutions lead to relation-based contracts rather than arm's-length competition (Peng, 2003). Accordingly, firms' success would be more dependent on government's resource allocation by its policies. Thus, under this situation, firms' growth strategy becomes focused more on growth and size, which is mainly resort to unrelated diversification and conglomerate-form of business groups, than profitability based on value and firm-specific capabilities (Bercovitz & Mitchell, 2007).

As such, we posit that high governmental intervention breeds inefficiency and distortion in market competition and resource allocation, at least, in the long-term horizon. At the same time, we also acknowledge that it may substantially vary between developing and developed countries. In this sense, government policies direct the investment and economic decisions of firms, which varies dramatically across countries (Kogut et al., 2002). The state's intense intervention invites the myth of size and growth rather than profit in Asian countries (Chang, 2003, 2006a). The state's intervention may distort market and thereby firms seek alternative organizational forms such as diversified firms or business groups. Likewise, Guillen (2000) claims that the state's protectionist policies invite the rise of conglomerates under the assumption that firms tend to leverage relationship with a variety of crucial institutions such as government agencies or financial institutions. Similarly, Russo (1992) shows that the higher monitoring costs of the regulatory agency invite the greater degree of diversification rather than integration. Accordingly, we hypothesize:

Hypothesis 3: The higher the level of governmental intervention, the greater the extent of diversification by the firm.

Moderating effects of the Asian financial crisis

Institutions are not static but evolving. For example, in the 1960s, conglomerates in the United States benefited from internal capital markets in the absence of a matured external capital institutions (Hubbard & Palia, 1999). Such benefits diminish in the 1970s and 1980s as the economic and regulatory environments improved (Peng et al., 2005). Regulatory constraints such as antitrust enforcement restrict firms' related diversification rather enforce firms to adopt unrelated form of diversification (Fligstein, 1991; Wan & Hoskisson, 2003). More recently, firms in the United States have deinstitutionalized conglomerate form of organization (Davis et al., 1994).

Following this line, we posit that an economic crisis plays a fundamental role of an environmental jolt inducing institutional change and in turn affects firms' diversification patterns (Chang, 2006a; Lim, Das, & Das, 2009; Wan & Yiu, 2009). For instance, Khanna and Palepu (1999) suggest that major policy shocks such as deregulation, extensive privatization, and increase in competition direct business groups to reduce their scope and limit their intermediary role in product, labor and capital market. In particular, the 1997-98 Asian Financial Crisis profoundly affects rules of the games and initiates unprecedented metamorphic transformation in business as well as society (Chang, 2006a). Specifically, the Crisis introduces external institutional pressure for firms to adopt corporate governance reforms and restructuring programs and to expose them to global competition in financial and product markets in a relatively short time period (Acemoglu & Johnson, 2003; Lee, Makhija, & Paik, 2008; Lemmon & Lins, 2003).

As Johnson et al. (2000) show, emerging economies with weaker political and financial institutions experienced more severe crises during the late 1990s. During this Crisis, firms suffer from severe difficulties in renewing financing and obtaining new financing. In particular, firms that are more reliant on short-term debt may be more affected by a crisis (Forbes, 2004). Therefore, we can conjecture that the Crisis makes diversified firms reduce their scope for survival in the short-run.

Moreover, in the long-term view, the Crisis provides social and economic pressures to build up efficient financial institutions in which firms are more likely to be focused rather than diversified. Accordingly, we predict positive moderating effects of the Crisis on the relationship between development of financial institutions and the degree of diversification such that negative relation becomes weaker in firms that encounter the Crisis. Thus, we argue;

Hypothesis 4a: The Crisis experience will positively moderate the relationship between financial institutional development and a firm's degree of diversification such that the negative relationship will become stronger in the crisis-ridden countries in the post-crisis period.

Weak corporate governance is often attributed to one of main causes of the Asian Financial crisis (Mitton, 2002). One of the reasons is that corporate governance is coherently associated with financial market development (La Porta et al., 1999, 2000). Good corporate governance can protect minority shareholders from expropriation by controlling shareholders (Bae, Kang, & Kim, 2002; Young et al., 2008). Compared to developed economies, firms in emerging economies are largely weak in this protection. Likewise, Mitton (2002) finds that Asian firms with weaker corporate governance also suffered larger stock-price declines during the 1997-1998 crisis. By the similar logic, Lemmon & Lins (2003) show that separate control and cash flow rights through pyramid ownership lowers firms' value by 12 percentages during the crisis whereas there is no evidence during the pre-Crisis period. While the Crisis may lead to greater expropriation during a crisis period, it also reveals weakness and such expropriation in extant corporate governance system (Mitton, 2002; Johnson et al., 2000). Furthermore, diversification benefits could virtually disappear in a time of crisis in emerging markets (Khanna & Palepu, 2000), although there are inconsistent results on whether diversification adds or destroys values. In such crisis, firms are more likely to reduce the scope of the firm as a way of avoiding inefficient resource transfer (Chang, 2003; Scharfstein & Stein, 2000). Mitton (2002) suggests that a more focused firm appears to provide greater protection to minority shareholders during the Crisis. As such, the Crisis brings in stronger

corporate governance to protect minority expropriation and in turn leads to decreased degree of diversification. Thus, we argue;

Hypothesis 4b: The Crisis experience will positively moderate the relationship between corporate governance quality and a firm's degree of diversification such that the negative relationship will become stronger in the crisis-ridden countries in the post-crisis period.

The Crisis brings in a eulogy for virtues of the market and arm's-length system while it fuels the horrors of crony capitalism (Rajan & Zingales, 1998a). This Crisis in Asia compels business-government relations to direct to arm's-length system that may result in appropriate institutional mechanism such as explicit contracts and legal enforcement system. Such a change plays a significant role in mitigating governmental power in business-government relations and in boosting the discretion of firms in their decision-making. In pre-Crisis period, governments in Asia are often blamed for excessive intervention, poor monitoring, collusive rent-seeking, and moral hazard that aggravate the economic crisis (Haggard & Mo, 2000). The Crisis expedites independence of the private sector although it is limited in speed and level, and its impact on economic liberalization and deregulation would induce increased competition and strengthened power of the private sector, which may lead to reduce over-diversified forms of growth strategies. Accordingly, we hypothesize:

Hypothesis 4c: The Crisis experience will negatively moderate the relationship between government intervention and a firm's degree of diversification such that the positive relationship will become weaker in the crisis-ridden countries in the post-crisis period.

METHODS

Data and Variables

The World Scope database is our primary dataset. The 1999 and 2002 versions of this database contain detailed financial information on large publicly traded firms for 1997 and 2001, respectively. We focus on nine emerging economies: Hong Kong, Indonesia, India, Malaysia, South Korea, Philippine, Singapore, Taiwan, and Thailand. In order to examine temporal effects of institutional

change on evolving pattern of diversification, the study places two distinct time-periods, the pre- and post-Asian Crisis (1997 and 2001). The final sample comprises 6,427 firm-year observations—specifically, 2,473 for 1997 and 3954 for 2001. Based on this main dataset, we combine it with several datasets for institutional variables: World Bank World Development Indicators (WDI) and the Heritage Foundation datasets for financial institutions, de Nicolo et al.'s (2006) dataset for corporate governance quality, and POLCON, Polity IV, and WB Political institutions (DPI) datasets for governmental power and intervention.

 Insert Table 1 about here

Dependent Variable

Diversification: The Worldscope lists the 4-digit SIC industries in which the firm operates. We measured diversification using the weighting method proposed by Caves (1975) and employed by Caves *et al.* (1980), Pomfret and Shapiro (1981), Gedajlovic and Shapiro (1998), and Wan and Hoskisson (2003).

$$\text{Diversification} = \sum P_i * d_{ij}$$

where i = a firm's primary market segment
 j = a firm's secondary market segment
 d_{ij} = 0 if the firm operates in only one 4-digit industry
 = 1 if j is in the same 3-digit industry as i
 = 2 if j is in the same 2-digit industry as i
 = 3 if i and j are in different 2-digit industries

P_i = a weight imputed to each industry, assumed to decline geometrically: 1, 2, 4, 8, 16. For example, if a firm operates in two industries, the revenues are assumed to be distributed in a 2:1 ratio, that is a 2/3 weight is attributed to the first SIC code and a 1/3 weight to the second SIC code. If the firm operates in three industries, the weights would be 4/7, 2/7 and 1/7.¹

¹ World scope database does not list the revenues generated within each industry, but does list them in order of importance with a maximum of five SIC codes. Thus, it is possible to measure diversification by a simple SIC count, which is a crude measure (Hill & Snell, 1988), although entropy measure of diversification cannot be calculated.

Independent Variables

Financial institutions: Financial institution development is measured by market capitalization.

Previous research adopts market capitalization as a measure for the level of stock market development, captured by the value of outstanding shares as share of GDP (Beck et al., 2001; Rajan & Zingales, 1998; Chakrabarti et al., 2007).

Corporate governance quality: For the measure of corporate governance quality, we adopt accounting standards since they play a critical role in corporate governance by informing investors and by making contracts more verifiable (Johnson et al., 2000; La Porta et al., 1998; Rajan & Zingales, 1998). It ranges from 0 to 6.

Governmental power and intervention: For measures of governmental power and intervention, we capture ‘governmental spending’ from the WDI database.

The Crisis experience: The Crisis experience aims to incorporate exogenous shocks which cause the change of institutions. In order to examine the Crisis effect on the degree of diversification, we distinguish a group of countries that significantly experienced the Crisis (coded as one) from countries where the Crisis does not significantly affect their economies (coded as zero) and differentiate between the period prior to the Crisis (1997) and after it (2001). Specifically, the countries significantly affected by the Crisis are Indonesia, Korea, Malaysia, Philippine and Thailand, and those not significantly affected are Hong Kong, India, Singapore and Taiwan.

Control variables

This study controls for *Firm size*, *R&D expenditure*, *Growth opportunity*, *Leverage ratio (Debt to Equity ratio)*, *Firm profit*, *Industry*, and *Geographic scope (internationalization)*.

RESULTS

Table 2 reports the descriptive statistics. We first examine the variance inflation factors (VIFs) to

diagnose potential multicollinearity. All of the scores are lower than 4.70, which suggests there would be little problem of multicollinearity (Chatterjee, Hadi, & Price, 2000).

Insert Table 2 about here

Table 3 presents regression results on pre- and post-crisis subgroups regarding the degree of diversification. To examine the temporal effects of institutions on the degree of diversification before and after the Crisis, we first conduct separate regression analyses for each period. Models 1 and 2 show the results for the pre-crisis sample of 1997 ($N = 1906$), and Models 3 and 4 for the post-crisis sample of 2001 ($N = 3173$). The Chow test, which identifies whether the regression estimates of two subgroups are significantly different, indicates that there should be a temporal effect between the two periods as an exogenous factor. The Chow test for the homogeneity of the slope coefficients over the period suggests that the coefficients vary along with the time dimension ($F(18, 5079) = 23.5, p < 0.001$). Such difference between the periods is confirmed by the results of Models 2 and 4.

Insert Table 3 about here

The impact of financial institutions on the degree of diversification is negative (-0.010) and significant ($p < 0.05$) in the pre-Crisis period while it is positive (0.001) and significant ($p < 0.01$) in the post-Crisis period. This result indicates that H1 is supported by the pre-Crisis period whereas it is not supported by the post-Crisis period. The quality of corporate governance regime has a negative relationship with the extent of diversification, suggesting the evidence in support of H2 ($p < .001$ in pre-crisis period; $p < .01$ in post-crisis period). Given this negative relationship, it becomes even stronger in the post-crisis period than the pre-crisis period. Similarly, government effectiveness is positive and significant for both periods, supporting for H3 ($p < .001$ in pre-crisis period; $p < .01$ in post-crisis period). By contrast, however, the coefficient is greater in Model 2 than in Model 4,

implying that the relationship becomes less positive in the post-crisis (0.025) than the pre-crisis period (0.179).

Since the Chow test shows the significant difference in the slope coefficient between the two periods, two subsamples cannot be pooled. It means that the Crisis effect is not verified with the time effect simultaneously. Therefore, given such constraint, we conduct regression analyses with interaction variables using 2001 data in which the Crisis effect may be embedded in the countries influenced by the Asian financial crisis. Model 1 in Table 4 shows that the Crisis affects the relationship between institutional environments and the degree of diversification. Model 2 to 5 investigate that a structural difference may exist between the Crisis-ridden and the Crisis-free countries in terms of three institutional variables of interest. To conduct the Chow test, I include the interactive terms between the main variables of interest and the Crisis experience dummy variable.

Insert Table 4 about here

As shown in Model 3 in Table 3, the result of Chow test between Model 1 and 3 indicates the structural difference does not exist with regard to financial institution among the countries experienced the Crisis or not ($F = 0.09, p > 0.05$). The coefficient of interactive term is estimated as 0.000 ($p > 0.05$). This suggests that the association between financial institution and the degree of diversification is not significantly different between the countries experienced the Crisis or not. Hence, this result does not support Hypothesis 4a. Using Model 1 and 2 in Table 4, I test Hypothesis 4b, the positive moderating effect on the relationship between corporate governance regime and the degree of diversification. As shown in Model 2 in Table 4, the result of Chow test between Model 1 and 2 indicates that the structural difference exists with regard to corporate governance regime among the countries experienced the Crisis or not ($F\text{-statistics} = 54.3, p < 0.001$). The coefficient of interactive term is estimated as -0.293 ($p < 0.05$). This suggests that the association between

corporate governance regime and the degree of diversification becomes more negative in the countries experienced the Crisis. This result supports Hypothesis 4b.

Similarly, the Chow test result between Model 1 and Model 4 suggests that a structural difference exists with regard to government effectiveness among the countries experienced the Crisis or not ($F\text{-statistics} = 75.92, p = 0.001$). The coefficient of interactive term is estimated as -0.002 ($p < 0.01$). It suggests that the association between government effectiveness and the degree of diversification is negatively moderated by the Crisis experience. This result supports Hypothesis 4c.

Robustness Checks

We conduct a number of robustness checks of the results. Tables 5 and 6 show that our main findings are robust to using alternative indicators of financial and governmental institutions. While we use market capitalization to measure financial institution, here we do robustness checks by alternatively using private credit and property rights. Private credit captures the level of financial intermediary development, measured by the claims of deposit money banks and other financial institutions on the private sector as share of GDP (Beck et al., 2001). Secure property rights capture the degree of legal protection of private property and the probability that the government expropriate private property, which is obtained from the index of Economic Freedom by the Heritage Foundation. Consistent with market capitalization, bank credit is positively associated with the degree of product diversification in the post-Crisis period. In addition, consistent with appropriation avoidance logic, property right protection is negatively associated with the scope of the firm.

Insert Table 5 about here

Insert Table 6 about here

Table 6 shows alternatives for governmental institutions such as number of veto players, government size, government effectiveness, and regulation quality. We capture '*political leader constraints*' by the number of veto players (Henisz, 2000; North & Weingast, 1989), '*the percentage of public sector*' relative to private sector from the datasets of Polity IV and POLCON, the Freedom House respectively. Considering the focus of this study in which keenly concerns about government factors, we choose '*governmental effectiveness*' and '*regulatory quality*' as independent variables for the robustness checks.

Consistent with appropriation logic, 'the number of veto players (Henisz, 2000; North & Weingast, 1989), regulation quality, and government effectiveness (La Porta et al., 1999) are negatively associated with the extent of firms' product diversification while the government size is positively related to the scope of the firm.

DISCUSSION AND CONCLUSIONS

This study makes several contributions to the literature on diversification. First, this study has examined the *direct* effects of institutions on firms' degree of product diversification which has been less paid attention in the strategy field. While much attention has been devoted to the issue of how institutions matter to the firm's strategy, most of research has dealt with institutions as background contexts or general environmental factors. In particular, most of existing research on diversification is heavily focused on the performance implication of diversification, considering institutions as at best moderating or controlling variables if any (i.e. Chakrabarti et al., 2007; Wan & Hoskisson, 2003). This study attempts to fill such void by focusing solely on *primary* and *direct* effects of institutions on firms' diversification decision with controlling for diverse efficiency factors which have been proven by extant literature. Literature on diversification has a long list of determinants for diversification which is mostly endogenous rather than exogenous. By incorporating institutions as exogenous variables, this study opens a new arena of diversification

research. The findings present a consistent pattern between institutional environments and firms' pattern of product diversification. This study complements existing literature mostly based on internal determinants of diversification and further enables to investigate differential impact of these two distinct factors and interactions of them, which provide much clearer picture of firms' institutional determinants of product diversification decisions. In summary, this study has added significantly new insights to the institution-based view of corporate diversification by shedding light on how institutions matter (Peng et al., 2008).

Second, structural effects of radical changes of institutions by exogenous shocks such as the 1997 Crisis are tested. Given the enduring characteristics of institutions, it is not easy to observe significant variations in institutional change in a short period of time. This study examined whether structural differences exist before and after the critical event by including the interaction terms in the model specification and by verifying it with the Chow test. The Chow test shows that the 1997 Crisis brings in the structural changes in institutional environments in the countries experienced the Crisis and accordingly such changes lead to alternation in the degree of firms' product diversification.

For an alternative explanation on negating the internal capital markets view in the result for post-Crisis sample, we raise the issue of the necessity of critical resources for the firm's growth as an opposing effect. Literature also suggests that firms' growth is constrained by their ability to obtain external finance particularly in countries with less developed financial systems (Beck, Demirguc-Kunt, & Maksimovic, 2004; Rajan & Zingales, 1998). If the availability of external funds is important for firms to grow, financial development after the Crisis would positively affect the scope of the firm (Kumar, Rajan, & Zingales, 2003). Such results call for the future research to clearly tease out the offset effects between internalized financial market and external financial market by sophisticating the contingencies surrounding financial institutions.

In addition, we examine the moderating effect of the 1997 Crisis on the relationship between institutions and the degree of diversification. However, we do not find the moderating effect of the Crisis in the relationship between the development of financial institutions and the degree of firms' product diversification. One possible alternative explanation for the non-significant interaction effect of the Crisis on this relationship may be found in the cancelling effects by firms' seeking for internalized financial market. During the Crisis, in general, the firm faces a tougher situation for external financing through the intermediary financial institutions. As an opposite tension, however, the Crisis also introduces more efficient financial institutions and market functioning, which enables firms to access to financial resources for their diversification. For the clarification of such compounding effect of the Crisis, future research should investigate not only a short-term but a long-term effect of the Crisis by a longitudinal study spanning a longer period of time.

While we set out to study the impact of the 1997-98 Asian Financial Crisis, unfortunately, a new round of global financial crisis has engulfed not only Asia but also throughout the world. Painful as the new crisis is, it underscores our call for more research on how the rules of the game associated major strategic decisions such as product scope of the firm would change during a period of very rapid, rapid, and turbulent changes that characterize all crises. From a research standpoint, this may be a blessing in disguise, because strategic changes that usually would take place over several decades in the absence of crises may now be documented in a short span of several years before and after crises. In conclusions, if more researchers will join us to focus on the institutional determinants of strategic decisions before and after crises, our purposes will have been well served.

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Table 1. Sample Firms in Nine Asian Countries (N = 6,427 firm-year observations)

Countries	1997	2001
Hong Kong	403	723
India	322	365
Indonesia	154	227
Korea	298	765
Malaysia	442	561
Philippine	114	187
Singapore	227	376
Taiwan	234	445
Thailand	279	305
Total	2473	3954

Table 2. Means, Standard Deviations, and Correlations

Variables	Mean	S.D.	1	2	3	4	5	
1 Diversification	0.98	0.45	1					
2 Firm size (Log of Sales)	11.18	1.86	0.012	1				
3 Asset Tangibility	913.72	55611.72	0.015	-0.004	1			
4 Profitability	0.13	0.21	0.002	0.094	0	1		
5 R & D Investment	0.008	0.16	-0.033	-0.085	-0.001	-0.025	1	
6 Market Value	3.60E+08	1.83E+09	0.002	0.299	-0.003	0.004	0.003	
7 Leverage Ratio	1.29	2.75	0.009	-0.006	0.000	0.001	-0.002	
8 Internationalization	0.07	3.3	0.003	0.021	0.000	0.000	-0.001	
9 Systematic Risk (beta)	0.67	0.79	0.056	0.126	-0.014	0.016	-0.009	
10 Corporate Governance	0.6	0.04	-0.112	0.031	-0.036	-0.009	0.018	
11 Market Capitalization	165.73	123.24	0.274	-0.069	0.003	0.019	0.043	
12 Government Intervention	11.56	1.65	-0.031	0.149	0.015	-0.007	-0.022	
Variables			6	7	8	9	10	11
7 Leverage Ratio		-0.005		1				
8 Internationalization		0.013	0.000		1			
9 Systematic Risk (beta)		0.045	-0.016	0.000		1		
10 Corporate Governance		0.025	0.005	0.005	-0.123		1	
11 Market Capitalization		0.062	-0.006	-0.013	-0.072	0.111		1
12 Government Intervention		-0.01	-0.025	-0.048	0.037	-0.408	-0.248	

Table 3. Regression of Pre- and Post-Crisis subgroups on Firms' Diversification

Independent Variables	1997 Pre-Crisis Sample		2001 Post-Crisis Sample	
	Model 1	Model 2	Model 3	Model 4
Constant	0.504† (0.249)	2.068*** (0.264)	0.866*** (0.118)	0.486 (0.473)
Utility	-0.330** (0.096)	-0.373** (0.107)	-0.089 (0.077)	-0.133† (0.063)
Transportation	-0.136* (0.056)	-0.165*** (0.033)	0.013 (0.037)	-0.017 (0.040)
Bank	-0.566** (0.123)	-0.543** (0.140)	-0.413** (0.096)	-0.387* (0.137)
Insurance	-0.353† (0.167)	-0.278 (0.194)	-0.030 (0.072)	-0.020 (0.097)
Other Financial Institutions	-0.022 (0.112)	-0.104 (0.104)	0.026 (0.074)	-0.034 (0.085)
Firm size (Log of Sales)	0.037† (0.020)	0.060*** (0.007)	0.010 (0.012)	0.032*** (0.005)
Asset Tangibility	0.000† (0.000)	0.000 (0.000)	0.000*** (0.000)	0.000** (0.000)
Profitability	-0.001* (0.000)	0.000† (0.000)	0.000 (0.000)	0.000*** (0.000)
R & D Investment	-0.009 (0.014)	0.004† (0.002)	-0.001† (0.000)	-0.001** (0.000)
Market Value	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Leverage Ratio	0.000† (0.000)	0.000* (0.000)	0.000 (0.000)	0.000 (0.000)
Internationalization	-0.001 (0.001)	-0.001† (0.000)	0.000 (0.000)	0.000 (0.000)
Systematic Risk (beta)	0.055 (0.030)	0.016 (0.016)	0.030 (0.031)	0.035† (0.016)
Corporate Governance Regime		-3.394*** (0.260)		-3.665** (0.915)
Financial Institution		-0.010* (0.004)		0.001** (0.000)
Government Intervention		0.179*** (0.019)		0.025** (0.007)
R-square	0.0968	0.2545	0.0378	0.1515
F-change	17.24***	20.99***	10.8***	37.13***
Number of Observation	2105	1906	3589	3173
Chow Test		F(18, 5079) = 23.5***		

- The country effects of nine countries are controlled, but not reported.
- For industry control, omitted category (reference) is 'industrial industry'.
- Numbers in parenthesis are the White robust standard errors.
- † p < .10, * p < 0.05; ** p < 0.01; *** p < 0.001 (2-tailed)

Table 4. Regression on Firms' Diversification

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	0.486 (0.473)	1.426** (0.415)	0.174 (2.991)	1.408* (0.428)	6.226* (2.535)
Utility	-0.133† (0.063)	-0.128† (0.060)	-0.132† (0.066)	-0.129† (0.060)	-0.123† (0.060)
Transportation	-0.017 (0.040)	-0.017 (0.037)	-0.018 (0.034)	-0.016 (0.037)	-0.033 (0.032)
Bank	-0.387* (0.137)	-0.373* (0.138)	-0.388* (0.135)	-0.374* (0.138)	-0.380* (0.138)
Insurance	-0.020 (0.097)	0.007 (0.106)	-0.022 (0.099)	0.006 (0.105)	0.012 (0.111)
Other Financial Institutions	-0.034 (0.085)	-0.025 (0.084)	-0.035 (0.085)	-0.025 (0.084)	-0.027 (0.084)
Firm size (Log of Sales)	0.032*** (0.005)	0.032*** (0.005)	0.032*** (0.005)	0.032*** (0.005)	0.033*** (0.005)
Asset Tangibility	0.000** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Profitability	0.000*** (0.000)	0.000*** (0.000)	0.000** (0.000)	0.000*** (0.000)	0.000*** (0.000)
R & D Investment	-0.001** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Market Value	0.000 (0.000)	0.000† (0.000)	0.000 (0.000)	0.000† (0.000)	0.000 (0.000)
Leverage Ratio	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Internationalization	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001† (0.000)
Systematic Risk (beta)	0.035† (0.016)	0.029† (0.014)	0.035† (0.016)	0.029† (0.014)	0.026† (0.013)
Corporate Governance regime (A)	-3.665** (0.915)	-4.668*** (0.589)	-3.311 (0.674)	-4.920*** (0.642)	8.089** (2.156)
Financial Institution (B)	0.001** (0.000)	0.001* (0.000)	0.001* (0.000)	0.001* (0.000)	0.002** (0.000)
Government Intervention (C)	0.025** (0.007)	0.023*** (0.004)	0.025* (0.010)	0.025*** (0.003)	-0.119* (0.043)
A * Crisis dummy		-0.293* (0.087)			-19.168** (5.149)
B * Crisis dummy			0.000 (0.002)		-0.005† (0.003)
C * Crisis dummy				-0.002** (0.001)	0.132** (0.036)
R-square	0.1515	0.1634	0.1515	0.1626	0.175
Number of Observation	3173	3173	3173	3173	3173
Chow Test (F)		54.3***	0.09	75.92***	1052.41***

- The country effects of nine countries are controlled, but not reported.
- For industry control, omitted category (reference) is 'industrial industry'.
- Numbers in parenthesis are the White robust standard errors.
- † p < .10, * p < 0.05; ** p < 0.01; *** p < 0.001 (2-tailed)

Table 5. Robustness Checks: Financial Institutions

Independent Variables	1997 Pre-Crisis Sample		2001 Post-Crisis Sample	
	Model 1	Model 2	Model 3	Model 4
Constant	0.504† (0.249)	0.340*** (0.082)	0.866*** (0.118)	0.678*** (0.062)
Industry control	(yes)	(yes)	(yes)	(yes)
Country control	(yes)	(yes)	(yes)	(yes)
Firm size (Log of Sales)	0.037† (0.020)	0.055*** (0.007)	0.010 (0.012)	0.030*** (0.004)
Asset Tangibility	0.000† (0.000)	0.000 (0.000)	0.000*** (0.000)	0.000 (0.000)
Profitability	-0.001* (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
R & D Investment	-0.009 (0.014)	0.004 (0.005)	-0.001† (0.000)	-0.001† (0.000)
Market Value	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Leverage Ratio	0.000† (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Internationalization	-0.001 (0.001)	-0.001 (0.003)	0.000 (0.000)	0.001 (0.002)
Systematic Risk (beta)	0.055 (0.030)	0.010 (0.015)	0.030 (0.031)	0.037*** (0.009)
Bank Credit		-0.002*** (0.000)		0.001*** (0.000)
Stock Market Capitalization		0.003*** (0.000)		0.001*** (0.000)
Property right		-0.002** (0.001)		-0.004*** (0.001)
R-square	0.0968	0.257	0.0378	0.1298
Number of Observation	2105	1906	3589	3173

- The country effects of nine countries are controlled. The coefficient and standard errors of country dummy variables are not reported.
- For industry control, omitted category (reference) is 'industrial industry'.
- Numbers in parenthesis are the White robust standard errors.
- † p < .10, * p < 0.05; ** p < 0.01; *** p < 0.001 (2-tailed)

Table 6. Robustness Checks: Governmental Institutions

Independent Variables	1997 Pre-Crisis Sample		2001 Post-Crisis Sample	
	Model 1	Model 2	Model 3	Model 4
Constant	0.504† (0.249)	1.019*** (0.263)	0.866*** (0.118)	1.970*** (0.232)
Industry control	(yes)	(yes)	(yes)	(yes)
Country control	(yes)	(yes)	(yes)	(yes)
Firm size (Log of Sales)	0.037† (0.020)	0.028*** (0.008)	0.010 (0.012)	0.019*** (0.004)
Asset Tangibility	0.000† (0.000)	0.000 (0.000)	0.000*** (0.000)	0.000 (0.000)
Profitability	-0.001* (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
R & D Investment	-0.009 (0.014)	-0.004 (0.005)	-0.001† (0.000)	-0.001* (0.000)
Market Value	0.000 (0.000)	0.000* (0.000)	0.000 (0.000)	0.000 (0.000)
Leverage Ratio	0.000† (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Internationalization	-0.001 (0.001)	-0.003 (0.003)	0.000 (0.000)	0.001 (0.002)
Systematic Risk (beta)	0.055 (0.030)	0.002 (0.018)	0.030 (0.031)	0.044*** (0.009)
No of Veto Players		-0.072*** (0.021)		-0.106*** (0.007)
Government Size		0.079** (0.030)		0.001 (0.002)
Government Effectiveness (inverse)		0.459*** (0.129)		0.088** (0.029)
Regulation Quality		-0.651*** (0.148)		-0.344*** (0.057)
R-square	0.0968	0.205	0.0378	0.1492
Number of Observation	2105	1736	3589	3589

- The country effects of nine countries are controlled. The coefficient and standard errors of country dummy variables are not reported.
- For industry control, omitted category (reference) is 'industrial industry'.
- Numbers in parenthesis are the White robust standard errors.
- † p < .10, * p < 0.05; ** p < 0.01; *** p < 0.001 (2-tailed)