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## MODELING REGULATORY AND COMPETITIVE BUSINESS ENVIRONMENTS' INFLUENCE ON TUNNELING BEHAVIOR

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### Abstract

A comparative country analysis of regulatory and competitive business environments is generated using a synthesized multi-theoretical perspective combining agency, resource dependence, stakeholder, and institutional theories. The model posits that Indonesia, Philippines, China and India suffer from more tunneling behavior. Singapore and other well known economically developed countries such as Australia, UK and USA are more likely to mitigate tunneling behavior.

**Keywords:** Tunneling, Regulatory, Competitive, ASEAN

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### 1. INTRODUCTION

Studies on firm performance, earnings management and disclosure, explore corporate governance as a main determinant. Some researchers document that corporate governance has a positive effect on firm performance, while others find little supporting evidence (Dalton et al. 2003). To reconcile such divergent evidence on linkage between corporate governance and firm performance, Udayasankar and Das (2007) suggest that researchers ground the performance implication of firm governance in the context of the exogenous environment that firms operate in. Two key exogenous environments are regulation and competitiveness, as noted in recent developments in the literature which identify the social and economic contexts of corporate governance (Aguilera and Jackson 2003; Kim and Prescott 2005). This paper links these business environments to the probability of tunneling behavior in countries.

La Porta et al. (1998,1999) document that corporate governance is strongly linked to the larger environment within which firms operate. It is affected by shareholder protection laws (La Porta et al., 1998), judicial efficiency (Klapper and Love 2002) and support for business (Klapper and Love 2002), which in aggregate can be referred to as the regulatory environment (Udayasankar and Das 2007). On the other hand, competitive forces can reduce expropriation by managers (Shleifer and Vishny 1997). While firms are affected by the competitive aspects of corporate governance, policy-makers concurrently seek to bring about better governance

practices, and consequently foster a better business climate, through regulation (Udayasankar et al. 2008).

An overwhelming theme of prior empirical research is the influence of corporate governance, whether at the national or firm-level. In the present globalized business environment, 'corporate governance' is a frequently used catch-phrase sometimes applied as an all-encompassing concept but at other times cast in a very narrow frame of reference. Though there has been much corporate governance debate in recent decades, the underlying concept is not well understood with a lack of consensus on a formal definition and conceptual boundaries. At a national-level, legal systems and investor protection are merely components of a broader governance system.

A multitude of studies have highlighted the poor standard of corporate governance across South-East Asian nations (e.g., La Porta et al. 1998; La Porta et al. 1999; Ball et al. 2000; Ball et al. 2003; Leuz et al. 2003). Furthermore, a majority of South-East Asian nations are defined as emerging economies. The existence of weak corporate governance standards, their status as emerging economies and highly concentrated ownership structures suggests firms in South-East Asia are likely to be highly susceptible to expropriation issues in which corporate governance is expected to mitigate.

In the aftermath of the 1990s Asian Financial Crisis (AFC), South-East Asian nations paid increasing attention to corporate governance issues. Some economists suggest experience drawn from the AFC placed South-East Asian nations in a better

position to deal with the spillover from the US subprime dilemma that precipitated the later Global Financial Crisis (GFC) in 2007 (Kawai 2008). Given the growing importance of South-East Asia to the global economy, it is important to explore the level of *regulatory* and *competitive* business environment in this region. Good business environments reduce firm opportunities to commit practices that have detrimental effects on performance and the shareholders; such as the external transfer of firm resources to the controlling shareholders by expropriating the wealth of the minority shareholder (popularly called “tunneling”). This paper posits a countries propensity towards tunneling is dependent on *regulatory* and *competitive* environments.

## **2. CORPORATE GOVERNANCE: COMPETITIVE AND REGULATORY BUSINESS ENVIRONMENTS**

The national-level corporate governance system is an important focus of this study. A nation’s business environment (consisting of the *competitive* business environment and the *regulatory* business environment) is considered to be fundamental in determining the national-level corporate governance system. These systems in turn impact on tunneling behavior. This section reviews the current literature for the analysis.

### **2.1 National-Level Corporate Governance: An Integrated Perspective**

The most commonly invoked paradigms in the field of corporate governance are the Anglo-Saxon and Germanic models (Shleifer and Vishny 1997; La Porta et al. 1999; La Porta et al. 2000). The Anglo-Saxon model boasts support for stronger capital markets with weaker institutional constraints on corporate management (Mueller 2006). Under the Anglo-Saxon model the firm is characterized as an institution primarily concerned with maximizing shareholder value (Lane 2003; He and Ho 2009). In contrast, the Germanic model advocates stronger institutional (particularly banking) control on corporate management to compensate for weaker capital markets (Shleifer and Vishny 1997). Rather than focusing on shareholders, the Germanic paradigm argues that firms operate in the interests of a wider set of stakeholders (including employees, customers and the general public) (Deakin 2005). The disparity in the underlying corporate governance characteristics between the Anglo-Saxon and Germanic models raise questions regarding the driving forces behind the evolution of corporate governance at the national-level.

To better understand the impact of a national-level corporate governance system on firm performance, a synthesized framework of the four major theoretical perspectives of corporate

governance has evolved to provide a significant foundation. The four major theories are: agency theory, resource dependence theory, stakeholder theory and institutional theory. The first two theories aid in establishing a nation’s *competitive* business environment whilst the latter two underpin the *regulatory* business environment.

### **2.2 Competitive Business Environment (CBE)**

The rawest, and most basic, objective of a firm is to develop a sustainable competitive advantage and remain a viable going-concern. There is a division in the literature on how corporate governance influences a firm’s competitive actions and the capabilities in achieving a sustainable level of performance. Agency theory advocates perceive the distribution or use of free cash flows is a fundamental root linking corporate governance and firm performance. It is frequently argued by agency theorists that how free cash flows are distributed or used will depend largely on the motivations of corporate management (Jensen and Meckling 1976; Shleifer and Vishny 1997). Agency theory holds implicit a number of assumptions. One important assumption suggests inefficient firms (i.e., firms with high levels of agency costs) face threats from competitors in the business environment through the advent of the market for corporate control (Jensen and Ruback 1983). For this fundamental assumption to hold, it is presumed an efficient and *competitive* business environment prevails where asymmetrical information is minimal and competitive pressures high. In contrast to agency theory, resource dependence theory focuses on human resource capabilities of actors within the corporate governance structure and the resulting impact on firm performance. Resource dependence theory essentially presumes a firm can benefit strategically from board capital that ultimately implies an organization is efficient. The general proposition upheld by resource dependence advocates is that firms benefit from human capital (i.e., skills and strengths of the directors); this presumes the presence of a reasonably efficient labor market (e.g., Dalton et al. 1999; Hillman and Dalziel 2003). Similarly, relational capital such as channels of communication is likely to enhance firm value in cases when the channels of communication offer a firm a competitive edge over competitors.

Overall, assumptions inherent in agency and resource dependence theories are best achieved in a business environment highlighting principles of perfect competition (Udayasankar et al. 2005). Competitive dynamics researchers argue motivation and capability are two prime drivers of a firm’s competitiveness and efficiency (e.g., Gimeno 1999; He and Mahoney 2006). Whilst agency theory and resource dependence theory target different mechanisms (i.e., motivation and capability

respectively), these paradigms simultaneously co-exist within a competitive business environment in determining firm-performance (e.g., Hillman and Dalziel 2003). That is, agency theory assists to explain how corporate governance influence the motivation of corporate management to select optimal decisions in the distribution and use of free cash flows that enhances shareholder wealth, whereas resource dependence theory stresses the capability of a firm's corporate governance to enhance the undertaking of key strategic competitive actions.

### 2.3 Regulatory Business Environment (RBE)

For the *regulatory* business environment, arguably stakeholder theory and institutional theory are most relevant. Freeman (1984) proposed the concept of stakeholder management to address the ethical and moral considerations of a business. Stakeholders are defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman 1984, p.30). Stakeholder theory advocates (Roberts 1992; Donaldson and Preston 1995; Hillman and Keim 2001) argue that even in the most expansive form of social responsibility, corporate management sees stakeholder management as having a positive contribution toward firm value (Owen and Scherer 1993). Stakeholder theory advocates, however, acknowledge the possible existence of "multiple, and not always entirely congruent purposes" (Donaldson and Preston 1995, p.70).

The inherent contrast between agency theory and stakeholder theory is that the former focuses on a single group whilst the latter is broader; that is, agency theory emphasizes maximization of investor (or shareholder) value with stakeholder theory stressing maximization of value for stakeholders. Just as agency theorists stress investor protection is important in reducing the agent – principal conflict, stakeholder theory highlights protection of stakeholder interests. Whilst the legal system is considered central to investor protection (e.g., a weak legal system leads to weak investor protection), the broader legislative system and political agenda is viewed as important for the protection of stakeholder rights. It is commonly assumed that the government is responsible for, and has the necessary power, to ensure the protection of stakeholder rights. If the government fails to recognize and protect the broader interests and freedoms of stakeholder groups through suitable legislation and policies, growth and influence of special interest groups will be curtailed providing firms with little incentive to act in a corporate social responsible manner. Consequently, firm value will diminish (Wurgler 2000).

Institutional theory suggests firm value is best derived by the firm being in consonance with its institutional environment (e.g., Oliver 1997; Arthur

2003; Hart and Milstein 2003). Baron (1995, 2001), Suchman (1995), and Oliver (1997) argue economic benefits, such as organizational legitimacy, are dependent on whether or not a firm is in accord with its institutional environment. These arguments have found support with prior empirical research (e.g., Lee and Pennings 2002; Thornton 2002) that suggests institutional pressures influence a firm's value. Advocates of institutional theory (in the same vein as supporters of stakeholder theory) stress the importance of regulation within the business environment. Institutional theorists presume institutions recognize, and are empowered to reward business with (or alternatively withhold) key resources. Researchers have identified various institutions and institutional pressures that influence the regulatory aspect of the business environment such as the legal system (e.g., La Porta et al. 1997, 1998), trade agreements (e.g., Levy and Prakash 2003), social co-operatives and state ownership (Shleifer and Vishny 1997). Gillian and Starks (2003, p.4) identify institutional investors as "an increasingly important external control mechanism affecting corporate governance worldwide". Empirical evidence of the impact of institutional factors is widespread. La Porta et al. (2002), for example, state firm value is enhanced in nations with strong legal systems. Wurgler (2000), meanwhile, finds strong institutional structures prevent overinvestment in declining, unproductive industries and firms. Leuz et al. (2003) show institutional actors can prevent negative financial accounting practices such as earnings management.

### 2.4 Tunneling Linkages to Regulatory and Competitive Business Environments

The term tunneling relates to efforts of controlling shareholders of parent firms to exploit minority shareholders by siphoning off firm's economic resources (Johnson et al. 2000a). Tunneling is particularly serious in emerging economies due to poor corporate governance systems that fail to protect minority shareholders and corporate ownership structures that promote expropriation opportunistic behavior (e.g., Claessens et al. 2000; Bertrand et al. 2002; Bae et al. 2002; Friedman et al. 2003; Bai et al. 2004; Liu and Lu 2007; Aharony et al. 2010). It has been claimed by various researchers (e.g., La Porta et al. 1999; Claessens et al. 2000; Liu and Lu 2007; Gao and Kling 2008) that the Asian tunneling problem is assisted by weak corporate governance systems and concentrated ownership structures. They argue that unrestrained tunneling was the main reason that precipitated the 1997 – 1999 Asian Financial Crisis (AFC).

Though various methods of tunneling have been suggested, much of the empirical research focuses on related party transactions (RPTs). Weak corporate governance systems and prevailing corporate

structures in many nations worldwide provide great scope for RPTs to be a convenient mechanism for the expropriation of firm value from minority shareholders (Cheung et al. 2006; Liu and Lu 2007; Gao and Kling 2008; Cheung et al. 2009). There is a view that RPTs are a high risk factor for investors (Cheung et al. 2006; Cheung et al. 2009; Kohlbeck and Mayhew 2010). Abusive RPTs have increasingly become a challenge to the integrity of Asian capital market (OECD 2009).

Abusive<sup>10</sup> related party transactions may lead to a 'national' discount to the country's market as whole (OECD 2009), and in turn investors might put a risk premium for those transactions (Cheung et al. 2006; Cheung et al. 2009; Kohlbeck and Mayhew 2010). The role of the business environment, as a national corporate governance influence, is expected to mitigate these potential problems. Legislative and regulatory approaches are often used to monitoring and curbing abusive RPTs as reflected in *regulatory* business environment (*RBE*). The key issues to improve these mechanisms are efficient regulation, its implementation and its enforcement (OECD 2009). Efficient regulation means that it does not unduly increase the regulatory burden. A *RBE* measure is evolved to reflect the efficiency and effectiveness of *regulatory* environment; it is argued that countries with bad *regulatory* business environment are more susceptible for tunneling through abusive RPTs.

Efficient and effective regulation can be linked to competitiveness. Market competition has a disciplinary effect on firms by driving inefficient firms out and making monitoring more efficient (Udayasankar and Das 2007). Consequently, a *competitive* business environment (*CBE*) can be used as a governance mechanism to prevent abusive RPTs. In other words, a high competitive environment limits firm practices that are detrimental for their sustainability. Creating good business environment encourages effective monitoring and restraining tunneling via abusive RPTs that has come to the forefront of reforming the Asian corporate governance landscape (OECD 2009).

<sup>10</sup> RPTs do not always have negative consequences. Studies (Khama and Palepu 1997; Kim 2004; Cheung et al. 2009) argue group structure and RPTs among member firms help to reduce transaction costs and overcome difficulties in enforcing property rights and contracts essential for production. Indeed, firms may make strategic investments in joint ventures to obtain and secure access to supplies and markets, and to manage risk. Transactions between the firm and related parties also generally involve less information asymmetry compared with transactions between a firm and a third party (Kohlbeck and Mayhew 2010). Djankov et al. (2008) note nations around the world do not completely ban RPTs, thereby, supporting the notion RPTs can be value enhancing.

### 3. METHODOLOGY

Index scores published by Economic Freedom Network are used as the main data to highlight the *regulatory* and *competitive* business environments in five key ASEAN countries. Four indexes are examined, i.e. *Government Size Index (GSI)*, *Legal Structure Index (LSI)*, *Freedom to Trade Internationally Index (FTI)*, and *Business Regulation Index (BRI)*. Index scores are gathered for five key ASEAN countries and other key countries for comparative purposes, i.e., Australia, UK, USA (representative for developed countries), and China, India (representative for newly industrialized countries) for the periods 2004-2007. The selected ASEAN countries sample are Indonesia, Malaysia, Singapore, Thailand, and the Philippines. These ASEAN countries are the chosen focus because they are geographically close, yet most of them traditionally have weaker corporate governance systems resulting in higher problems such as expropriation of assets by majority shareholders (tunneling).

Presently, no universally-accepted formal comprehensive national-level corporate governance system or proxy measure has been developed. For this study the *Economic Freedom of the World Index (EFWI)* published by the Economic Freedom Network (EFN) is the primary source data for developing respective measures for the *competitive* business environment and *regulatory* business environment. The *EFWI* measures the degree to which national policies and institutional influences within a nation are supportive of economic freedom and interaction (thereby defining the *competitive* and *regulatory* environments). The *EFWI* ranking of 130 nations is the result of a joint venture involving 71 national research institutions and foundations. Members of the EFN subscribe to the perception the cornerstones of economic environmental freedom are "personal choice, voluntary exchange, freedom to compete, and the security of privately owned property" (Gwartney et al. 2006, p.3). The *EFWI* summary index is constructed from 42 data points that measure the degree of economic freedom in five major areas: (1) government size; (2) legal structure and security of property rights; (3) access to sound money; (4) freedom to trade internationally; and (5) regulation of credit, labor and business. Four aspects of the *EFWI* (i.e., *LSI*, *GSI*, *BRI* and *FTI*) are utilized to represent the four major theoretical threads underlying corporate governance. The four components selected reflect specific aspects of regulation and competitiveness. Each component is normalized as a score ranging from zero to ten.

Firstly, following prior work (e.g., La Porta et al. 1997, 1998, 2000) emphasizing the importance of legal structure as a relevant barometer of the strength and influence of a nation's institutional framework, this study uses the *Legal Structure Index (LSI)* score

component of the *EFWI* as a proxy representing the influence a nation's institutional structure on the nation's *regulatory* business environment. For interpretative purposes a nation that scores higher on the *LSI* is viewed to have a stronger institutional structure which will contribute positively to a more efficient *regulatory* business environment.

Secondly, to gauge stakeholder strength that may precipitate a greater need to employ stakeholder management strategies, the *Government Size Index (GSI)* score from the *EFWI* is used as the relevant proxy. Governments, depending on size and strength, can assist in fostering growth of special interest groups whilst pursuing broader social agendas. The efficiency of the *regulatory* business environment is likely to be enhanced via more effective government involvement. A higher score of *GSI* indicates greater government involvement in the business environment suggesting heightened stakeholder strength and *regulatory* efficiency.

Thirdly, in regard to agency theory the *Business Regulation Index (BRI)* score is used. The *BRI* measures the extent of regulations targeting businesses. *BRI* with higher scores imply business regulations are developed to encourage greater market freedom, efficiency and interaction between market participants. They enhance the ability of the market to solve principal-agent problems. A nation with a high *BRI*, therefore, is more likely to have a more efficient market in which agency issues can be effectively resolved.

Finally, in respect to presumptions underlying resource dependence theory where a firm's ability to draw on resources will affect competition, and in recognition of the globalized economy, this study uses the *Freedom to Trade Internationally (FTI)* score component of the *EFWI* as the proxy for the influence of resource dependence on the competitive business environment. For interpretive purposes a nation with a higher *FTI* will enable firms operating in that nation to have more efficient market for access key resources, thereby, prompting a stronger competitive business environment.

An individual nation's *regulatory* business environment is defined as the aggregate of *LSI* and *GSI* scores, whereas a *competitive* business environment is a melding of the *BRI* and *FTI* scores. For calculation purposes *BRI*, *FTI*, *LSI* and *GSI* score are equally weighted. Keeping with the underlying range of each respective component score, the

*regulatory* business environment and *competitive* business environment scores are scaled to range between zero and ten. Mathematically, the *regulatory* business environment (*RBE*) and *competitive* business environment (*CBE*) scores for nation *l* and at year *t* are defined in equations 1 and 2 respectively:

$$RBE\_Score_{it} = [(LSI_{it} + GSI_{it}) * 0.5] \quad [1]$$

$$CBE\_Score_{it} = [(BRI_{it} + FTI_{it}) * 0.5] \quad [2]$$

This study uses descriptive and comparative methods for the data analysis. Three comparative analyses of *RBE* and *CBE* are conducted. First, the analysis is conducted within the five ASEAN countries. Second, a comparison is conducted between these five ASEAN countries and representative developed countries (i.e., Australia, UK, and US). This study then benchmarks the five ASEAN countries and the two most important newly industrialized countries (i.e., China and India). Pearson correlation is used to highlight possible relationships between *RBE* and *CBE* in the five ASEAN countries. Finally, a cluster model linkage of these *regulatory* and *competitive* business environments to probable tunneling activities is posited.

## 4. FINDINGS

### 4.1 Regulatory Business Environment

Regulatory business environment is a product of the legal environment and effective government involvement. This environment is measured by using *LSI* and *GSI*. The *LSI* is based on seven prime data points covering judicial independence, impartiality of courts, intellectual property protection, military intervention in the judicial process, legal system integrity, legal enforcement of contracts, and restrictions on sale of real property. This index focuses on protection of persons and their rightfully acquired property that is central element of economic freedom and civil society. Whereas the *GSI* covers four major data components (government consumption, government transfers, government enterprise and investment, and tax rates) reflecting both the involvement of the government in the business environment and efficiency of the regulatory environment (Gwartney et al. 2009).

Table 1. Average GSI and LSI Components (2004-2007)

	Indones ia	Malay sia	Philipp ines	Singapo re	Thaila nd	Ave ASEAN <sup>1</sup>	Austr alia	UK	USA	Ave Dev Cys <sup>2</sup>	Chi na	Ind ia	Ave NIC <sup>3</sup>
A Legal Structure Index (LSI)													
1 Judicial independence	3.6	6.9	3.7	7.5	5.8	5.5	8.8	8.4	7.1	8.1	4.1	7.3	5.7
2 Impartial courts	4.0	7.3	3.3	8.3	5.6	5.7	8.0	7.9	6.8	7.6	4.4	6.3	5.3
3 Protection of property rights	4.1	7.5	4.8	8.9	6.3	6.3	8.6	8.4	8.1	8.4	5.2	6.7	5.9
4 Military interference in rule of law and the political process	4.2	8.3	6.0	8.3	6.5	6.7	10.0	10.0	6.7	8.9	5.0	6.7	5.8
5 Integrity of the legal system	4.9	6.5	3.9	8.3	4.2	5.5	9.5	9.3	8.1	9.0	7.5	6.7	7.1
6 Legal enforcement of contracts	1.2	5.2	3.8	8.5	6.2	5.0	7.3	6.4	7.8	7.2	6.9	3.3	5.1
7 Regulatory restrictions on the sale of real property	5.7	6.5	7.8	8.9	8.5	7.5	8.1	8.3	9.6	8.6	8.3	6.4	7.4
<b>LSI</b>	<b>4.0</b>	<b>7.0</b>	<b>4.6</b>	<b>8.4</b>	<b>6.0</b>	<b>6.0</b>	<b>8.7</b>	<b>8.5</b>	<b>7.7</b>	<b>8.3</b>	<b>5.7</b>	<b>6.3</b>	<b>6.0</b>
B Government Size Index (GSI)													
1 General government consumption spending as a percentage of total consumption	8.4	5.7	7.8	5.8	6.9	6.9	4.7	4.3	6.3	5.1	3.8	7.0	5.4
2 Transfers and subsidies as a percentage of GDP	6.8	8.4	7.5	8.8	8.4	8.0	6.9	6.3	6.6	6.6	8.3	8.8	8.5
3 Government enterprises and investment	7.3	3.9	8.3	7.0	7.0	6.7	10.0	10.0	8.0	9.3	0.0	4.0	2.0
4 Top marginal tax rate	5.9	8.3	7.0	10.0	7.0	7.6	4.5	6.0	7.6	6.0	6.0	6.8	6.4
<b>GSI</b>	<b>6.9</b>	<b>6.8</b>	<b>7.7</b>	<b>7.7</b>	<b>7.3</b>	<b>7.3</b>	<b>6.5</b>	<b>6.7</b>	<b>7.1</b>	<b>6.8</b>	<b>4.5</b>	<b>6.6</b>	<b>5.6</b>
<i>Regulatory Business Environment (RBE)</i>	<i>5.44</i>	<i>6.88</i>	<i>6.15</i>	<i>8.03</i>	<i>6.65</i>	<i>6.63</i>	<i>7.62</i>	<i>7.57</i>	<i>7.42</i>	<i>7.53</i>	<i>5.12</i>	<i>6.46</i>	<i>5.79</i>

Note: <sup>1</sup>Average scores of ASEAN countries group; <sup>2</sup>Average scores of developed countries group; <sup>3</sup>Average scores of newly industrialized countries group.

Table 1 shows that average LSI scores of Indonesia and Philippines are at low level, i.e. below the half way point of five on a ten point scale. The other three ASEAN countries scores lie from 6 to 8.4 with an overall six average. Whereas newly industrialized countries (China and India) have average LSI scores similar with ASEAN countries. The developed countries (Australia, UK, USA) have high average LSI scores (8.3). Those findings unsurprisingly indicate that developed countries have better legal systems than most of ASEAN countries and newly industrialized countries. Australia, UK, and Singapore have the 'best' legal institutions whereas Indonesia, Philippines, and China are the 'worst'.

In regard to the government size index (GSI) for the period 2004-2007, ASEAN countries group has the highest score (7.3) followed by developed countries group (6.8) and newly industrialized countries group (5.6). Singapore and Philippines have the highest average GSI scores and China is the lowest. The high score of GSI means that a country

relies on personal choice and market rather than government budget and political decision making (Gwartney et al. 2006; 2009).

Aggregation of the LSI and GSI allows for the calculation of the overall Regulatory Business Environment (RBE) score. Table 1 shows that the developed countries have the highest average (7.53), followed by ASEAN countries (6.63) and then newly industrialized countries (5.79). Individually, Singapore leads the pack (8.03) with three developed countries next highest (7.42-7.62). On the other side Indonesia and China have the lowest scores (5.44 and 5.12).

In summary, the results indicate that three of the ASEAN countries (Malaysia, Philippines, Thailand), typically have a moderate level of average RBE scores, i.e. between 6.15 and 6.88. India has a similar score (6.46) whereas Indonesia and China have the lowest scores with judicial independence and impartial courts particularly problematic. Although the developed countries show high scores, Singapore

has the highest RBE scores. This implies that Singapore has the best regulatory business environment over the entire 2004-2007 time period. Singapore demonstrates the best property right protection and tax rate policy (see Table 1). As regulatory efficiency (a key assumption of institutional and stakeholder theories of corporate governance) increases, such as in Singapore, various coercive forces will pressure firms to develop corporate governance mechanisms that conform to practices and standards legislated and enforced by the nation's regulatory framework, and that benefit organizational legitimacy and effect (Udayasankar and Das 2007). These coercive forces restrain firm from abusive practices such as tunneling.

#### 4.2 Competitive Business Environment

Business Regulation Index (BRI) and Freedom to Trade Internationally Index (FTI) score are used to measure the competitive business environment (CBE). BRI is a composite of seven data points covering: (i) price controls; (ii) burden of regulation; (iii) time with government bureaucracy; (iv) freedom to establish a business; (v) irregular payments; (vi) licensing restrictions; and (vii) cost of tax compliance

(Gwartney et al 2006; 2009). Whereas the FTI covers five major data points including taxes on international trade, trade barriers, size of trade sector relative to expected, black-market exchange rate, and international capital market controls. BRI is developed to measure whether regulations restrict entry into markets and interfere with the freedom to engage in voluntary exchange that in turn they will reduce competition. The higher BRI score, the more freedom for market to determine price and lesser regulatory activities that retard entry into business and increase the cost of producing product. In regard to FTI, the components in this area are designed to measure a wide variety of restraints that affect international exchange: tariffs, quotas, hidden administrative restraints, and exchange rate and capital controls. In order to get a high score in this area, a country must have low tariffs, a trade sector larger than expected, easy clearance and efficient administration of customs, a freely convertible currency, and few controls on the movement of capital (Gwartney et al. 2009). BRI and FTI components for the period 2004-2007 are presented in Table 2.

Table 2. Average BRI and FTI Components (2004-2007)

	Indonesia	Malaysia	Philippines	Singapore	Thailand	Average ASEAN	Australia	UK	USA	Average Developed Countries <sup>2</sup>	China	India	Average Newly Industrialized Countries <sup>3</sup>
A Business Regulation Index (BRI)													
1 Price controls	1.5	3.3	2.8	6.8	3.5	3.6	7.5	5.3	6.5	6.4	1.8	4.0	2.9
2 Administrative requirements	4.7	5.9	2.6	7.3	4.6	5.0	3.4	3.5	4.2	3.7	4.3	3.1	3.7
3 Bureaucracy costs	5.4	3.1	4.8	4.7	3.3	4.3	4.1	4.6	4.3	4.3	3.1	4.8	3.9
4 Starting a business	5.1	8.5	7.3	9.5	8.3	7.8	9.5	9.1	9.5	9.4	6.8	6.9	6.8
5 Extra payments / bribes	3.9	7.0	3.7	9.4	5.9	6.0	8.9	8.5	7.4	8.3	5.8	5.6	5.7
6 Licensing restrictions	7.2	6.4	7.6	9.3	8.4	7.8	7.8	8.6	9.9	8.8	4.3	6.0	5.2
7 Cost of tax compliance	5.9	8.3	8.2	9.4	7.8	7.9	8.8	8.8	6.9	8.2	2.7	7.0	4.8
<b>BRI</b>	<b>4.6</b>	<b>5.8</b>	<b>5.0</b>	<b>8.0</b>	<b>5.8</b>	<b>5.8</b>	<b>7.0</b>	<b>6.7</b>	<b>6.9</b>	<b>6.9</b>	<b>4.1</b>	<b>5.2</b>	<b>4.7</b>
B Freedom to Trade Internationally Index (FTI)													
1 Taxes on international trade	7.9	6.5	8.0	10.0	7.0	7.9	8.5	8.6	8.3	8.5	8.0	5.5	6.7
2 Regulatory trade barriers	6.6	7.0	6.7	9.1	6.4	7.2	8.0	7.7	8.0	7.9	6.2	6.3	6.3
3 Size of trade sector relative to expected	7.2	10.0	8.2	10.0	10.0	9.1	2.4	3.8	4.6	3.6	10.0	7.4	8.7
4 Black-market exchange rates	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
5 International capital market controls	4.5	4.0	3.3	7.6	4.0	4.7	5.0	8.5	6.9	6.8	3.4	3.6	3.5
<b>FTI</b>	<b>7.2</b>	<b>7.5</b>	<b>7.2</b>	<b>9.3</b>	<b>7.5</b>	<b>7.8</b>	<b>6.8</b>	<b>7.7</b>	<b>7.6</b>	<b>7.4</b>	<b>7.5</b>	<b>6.6</b>	<b>7.0</b>
Competitive Business Environment (CBE)	5.92	6.66	6.11	8.64	6.63	6.79	6.92	7.20	7.22	7.11	5.81	5.89	5.85

Note: <sup>1</sup>Average scores of ASEAN countries group; <sup>2</sup>Average scores of developed countries group; <sup>3</sup>Average scores of newly industrialized countries group.

As shown in Table 2, Singapore again leads all countries scores (2004 to 2007). Average BRI scores of developed countries are higher than most ASEAN countries and newly industrialized countries. Better average scores are shown by FTI score for all countries. These average score are at moderate to high levels (6.6-9.3). Developed countries group secures position as the highest BRI score for period 2004-2007 whereas ASEAN group excels in FTI score among other groups.

Overall, Singapore maintains the highest CBE scores amongst the other countries in this study, whilst the four other ASEAN countries and new industrialized countries consistently have moderate scores. Developed countries maintain relative high CBE scores, however, their scores slightly fall over time.

In a strong and efficient competitive business environment, firms will be under pressure to conform to business-derived corporate governance norms and standards. Consequently, a strong and efficient competitive business environment (again using Singapore as a 'good' example) is likely to provide firms less scope and opportunities to expropriate resources from minority shareholders (tunneling).

**4.3 Regulatory and Competitive Business Environments for Tunneling Behavior**

Table 3 shows the Pearson correlation between *regulatory* business environment (*RBE*) and *competitive* business environment (*CBE*) in the five ASEAN countries. *RBE* and *CBE* have a very high positive correlation value 0.942; this is highly statistically significant at the 0.01 level.

**Table 3.** Correlation between *RBE* and *CBE* in the Five ASEAN Countries 2004-2007

**Correlations**

		RBE	CBE
RBE	Pearson Correlation	1	.942**
	Sig. (2-tailed)		.000
	N	20	20
CBE	Pearson Correlation	.942**	1
	Sig. (2-tailed)	.000	
	N	20	20

\*\* . Correlation is significant at the 0.01 level (2-tailed).

These Table 3 correlation findings imply that countries with good *regulatory* business environments also have good *competitive* business environments and vice versa.

Figure 1 diagrams the relative positions of representative countries on business environments which are combination of *regulatory* and *competitive* business environments. Consistent with the correlation results, a country with a good regulatory business environment also has a good *competitive*

business environment. A country with higher regulatory and competitive business environments lies on more to the right and upper position in diagram. Interestingly, the diagram indicates that Singapore has the highest position among all representative countries, followed by developed countries (Australia, UK, USA). At the middle positions are Thailand and Malaysia. Philippines and India have a similar lower position whereas China and Indonesia are at the lowest position.

Figure 1. Regulatory and Competitive Business Environments (2004-2007)

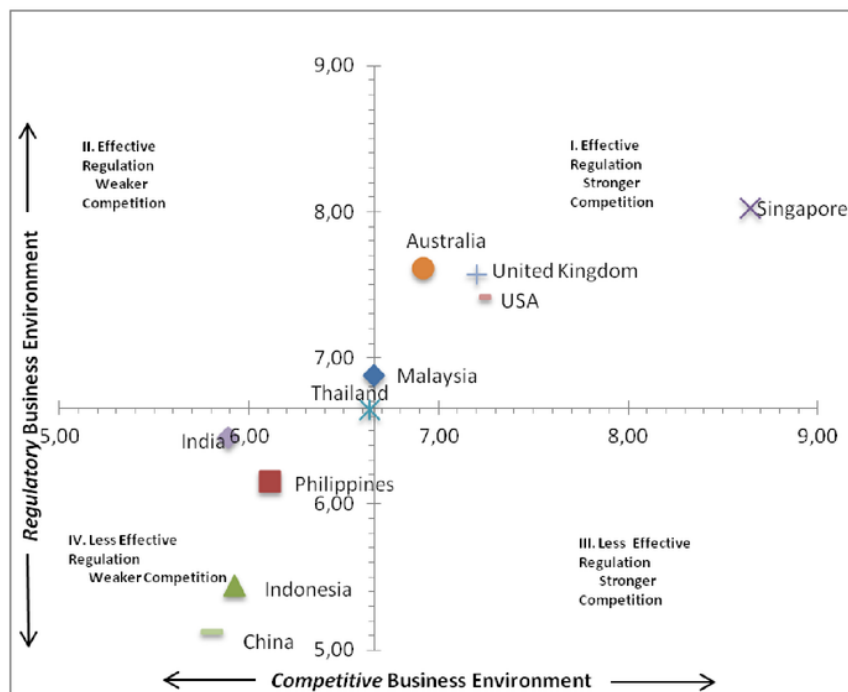


Figure 1 divides the countries into four quadrants which represent a combination of *regulatory* and *competitive* business environments. Countries in the first quadrant typically have high scores for both *regulatory* and *competitive* business environment. Quadrant II represents countries with effective regulation but weaker competition. If countries experience stronger competition but less effective regulation it will be placed in Quadrant III. The fourth quadrant is countries with less effective and weaker competition.

Figure 1 highlights hypothesized linkages between tunneling behavior and strength of *regulatory* and *competitive* business environments. Firms in Quadrant I countries experience both effective regulation and stronger competition forces which work together enhancing good governance. Consequently, firms in Quadrant I countries are expected to experience the least amount of tunneling behavior. Firms in Quadrant II and III countries only have one element of good governance, i.e. either effective regulation or stronger competition. This implies that there will be more tunneling in Quadrant II and III countries. The worst scenarios are firms in Quadrant IV countries which have less effective regulation and weaker competitive environments. It is posited that the most tunneling will occur with firms in Quadrant IV countries.

The Figure 1 clustering positions countries into two extreme groups, i.e., countries with effective regulation and stronger competition (Quadrant I) versus countries with less effective regulation and weaker competition (Quadrant IV) whereas certain countries such as Thailand and Malaysia are on the cusp. Two ASEAN countries in Quadrant IV (Indonesia and Philippines) typically have weak regulation and weak competition. In terms of regulation, these countries follow civil law traditions, observed by researchers to be poorest for shareholder protection (La Porta et al. 1997, 1998; La Porta et al. 1999; La Porta et al. 2000). Indonesia, Philippines as well as India also experience problems with bureaucratic inefficiency coupled with political interference (Udayasankar et al. 2008). China, in the lowest position in Quadrant IV, suffers from less effective regulation and weaker competition partially because it experiences very tight governmental control. The Chinese government has been explicit in insisting that control of listed companies not be relinquished (Jiang et al. 2010). Such business environments as in China are especially vulnerable for tunneling behavior. Tunneling such as in the form of loans to related parties are common practices in China (e.g. Jian and Wong 2003; Li 2010; Jiang et al. 2010). Overall, the highest levels of tunneling activities are predicted in these Quadrant IV countries.

Thailand and Malaysia are in a more moderate position for their *regulatory* and *competitive* business environments in comparison (located in the middle section of Figure 1). Both countries have a common law tradition which is more protective to minority shareholders. In addition, certain effective regulation in both countries induces better competition.

With high investment in infrastructure and numerous bilateral agreements, Singapore has been able to maintain its position as a highly ranked business environment, in term of its efficiency and ease of transactions (Udayasankar et al. 2008). Singapore compares well to developed countries (Australia, UK, and USA) which typically have strong regulation and relatively high competition.

Based on the cluster finding in Figure 1, this study advances propositions regarding linkages between their business environment and the extent of tunneling for representative countries. It is hypothesized that the most amount of tunneling would take place in China, Indonesia, Philippines and India. It is also predicted that mid level of tunneling behavior would be observed in Thailand and Malaysia. Whereas, the least amount of tunneling would occur in effective regulation and strong competition countries such as Singapore, Australia, UK, and USA.

## 5. CONCLUSION

Singapore consistently has the highest scores in *regulatory* and *competitive* business environments among all the sample countries in this study for the entire period 2004-2007. The *RBE* and *CBE* scores for the other four ASEAN countries are of moderate quality. These scores are similar with those of newly industrialized countries (i.e. China and India). Developed countries have better *regulatory* business environment scores than those in the other four ASEAN countries; however, Singapore scores remain supreme.

The study finds a strong positive correlation between *RBE* and *CBE* in the five ASEAN countries from period 2004-2007. This correlation finding shows that within each country, *competitive* and *regulatory* systems march hand-in-hand. This implies that if a country wants to improve its *competitive* business environment it should consider improving its *regulatory* business environment. Improving the business environment will support the efforts to mitigate expropriation problems such as tunneling via abusive RPTs.

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