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**Keywords**

Tunnelling; Tunneling, related party transactions, business environment, ownership, ASEAN



# Managerial Ownership Influencing Tunnelling Behaviour

Agung Juliarto<sup>1</sup>, Greg Tower<sup>2</sup>, Mitchell Van der Zahn<sup>2</sup> and Rusmin Rusmin<sup>2</sup>

## Abstract

This study investigates the extent and the determinants of tunnelling behaviour in five ASEAN countries (i.e. Indonesia, Malaysia, Philippines, Singapore, and Thailand). Related party transactions (RPTs) in the form of loans to related parties are used as the proxy for tunnelling. With 200 firm-year observations over the period 2006-2009, this study finds a positive association between managerial ownership and the extent of tunnelling.

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**JEL Codes: M40**

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## Introduction

Based on a synthesised corporate governance theoretical framework, i.e. agency and resource dependence theory, this study provides a longitudinal international analysis – spanning five ASEAN countries (Indonesia, Malaysia, Philippines, Singapore and Thailand) – of the extent and determinants of tunnelling. The term tunnelling relates to efforts of controlling shareholders of parent firms to exploit minority shareholders by siphoning off firm's economic resources (Johnson et al. 2000). Tunnelling 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 behaviour (e.g. Aharony et al. 2010; Bae et al. 2002; Bai et al. 2004; Bertrand et al. 2002; Claessens et al. 2000; Friedman et al. 2003; Liu & Lu 2007). Many researchers (e.g. Claessens et al. 2000; Gao & Kling 2008; La Porta et al. 1999; Liu & Lu 2007) claim that the Asian tunnelling problem is assisted by weak corporate governance systems and concentrated ownership structures. For instance, they argue that unrestrained tunnelling was the main reason precipitating the 1997–1999 Asian Financial Crisis (AFC).

Though various methods of tunnelling have been suggested, much of the empirical research focuses on RPTs<sup>3</sup>. Weak corporate governance systems and prevailing corporate structures in many nations worldwide, provide a great scope for RPTs to be a convenient mechanism for the expropriation of firm value from minority shareholders (Cheung et al. 2006; Cheung et al 2009; Gao & Kling 2008; Liu & Lu 2007). There is a view that RPTs are a high risk factor for investors (Cheung, Rau & Stouraitis 2006; Cheung et al. 2009; Kohlbeck & Mayhew 2010). Abusive RPTs have increasingly become a challenge to the integrity of the Asian capital market (OECD 2009).

An overwhelming theme of prior empirical tunnelling research is the varying influence of corporate governance, whether at the national or firm-level. In the present globalised BE, 'corporate governance' is a frequently used catch-phrase sometimes used 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 system. Meanwhile, ownership structure is also a single facet of a broader range of firm-level corporate governance mechanisms. Further adding to the complexity of the issue is that within the concept of ownership structure, alternative structural combinations (e.g. levels of foreign, family or governmental ownership) can impact on ownership structure as an effective corporate governance mechanism. The complexity of corporate governance raises a number of unanswered and interesting questions in relation to tunnelling. Two are of prime interest to this study. These are: (1) Does the broader national-level corporate governance system influence the extent of tunnelling? (2) Do different ownership types (that constitute a firm's general ownership structure) influence the extent of tunnelling? This study addresses these issues in the context of Southeast Asia countries.

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<sup>3</sup> RPTs do not always have negative consequences. Studies ( Cheung et al. 2009; Khanna & Palepu 1997; Kim 2004) argue that certain group structures 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 & 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.

This study utilises OLS regression in its main analysis by using 200 firm-year observations data of listed firms from five ASEAN countries. Findings show evidence of a positive association between managerial ownership and tunnelling via RPTs. The other important findings are that BE, foreign ownership, and independent directors are not effective in mitigating tunnelling behaviour. Moreover, countries' legal systems and firm size clearly influence the extent of tunnelling. This paper offers insights via cross country study of tunnelling behaviour by ASEAN listed firms over the GFC period.

The remainder of this paper is organised as follows. The next section reviews the related literature and develops the hypotheses. The third section outlines the research approach of the study with discussion of results in fourth section. The paper concludes with key implications.

## Literature Review and Hypotheses

### *Previous Studies on Tunnelling*

Prior empirical research of RPT tunnelling has mostly been country specific, with many recent studies focusing on firms listed in the Peoples' Republic of China (PRC) (e.g. Cheung et al. 2006; Cheung et al. 2009; Guo 2008; Jian & Wong 2003; Jiang et al. 2010; Li 2010; Liu & Lu 2007). The PRC has been of major interest due to their unique institutional and corporate structures, and the detailed RPTs their firms are required to report (Aharony et al. 2010). In the PRC, the majority of firms are carve-outs (or spin-offs) from state-owned enterprises (SOEs), and often continue to share personnel functions, capital, and assets with the parent entity (Liu & Lu 2007; Ge et al. 2010). Consequently, it is alleged corporate management of the PRC firms often take action benefitting the largest shareholders (i.e. government).

Empirical research using the PRC firms generally highlight the existence of tunnelling (Jian & Wong 2003). Liu and Lu (2004) conclude that earnings management amongst the PRC firms is primarily induced by controlling shareholders tunnelling resources. Cheung et al. (2005) find minority shareholders in firm conducting RPTs with SOEs are left significantly worse off than counterparts in non-SOEs. Aharony et al. (2010) note PRC issuers are likely to use operational tunnelling to opportunistically manage earnings upward in the pre-initial public offering (IPO) period, and that pre-IPO period operational tunnelling is motivated in part by the prospect of opportunistic tunnelling in the post-IPO period.

Outside of the PRC, there is generally a paucity of empirical research of tunnelling in other national contexts. Nonetheless, evidence suggests tunnelling transcends international boundaries. Evidence of resource expropriation to benefit majority shareholders (i.e. tunnelling) is found in nation-specific studies of firms in Bulgaria (Atanasov 2005), Hong Kong (Cheung et al. 2006), India (Bertrand et al. 2002), Japan (Weinstein & Yafeh 1998), Russia (Atanasov et al. 2006), South Korea (Bae et al. 2002; Baek et al. 2006), Sweden (Bergstrom & Rydqvist 1990) and the United States (Atanasov et al. 2006). Whilst the dominant view is that tunnelling is relatively widespread, empirical evidence of tunnelling is not universal. Chang and Shin (2007), for example, see no clear evidence of tunnelling amongst a sample of South Korean conglomerates (i.e. chaebols).

To date the overwhelming focus of empirical research is focused on detecting tunnelling, with few studies formally examining possible determinants. Of the international tunnelling studies conducted to date (Friedman et al. 2003; Glaeser et al. 2001; Johnson et al. 2000), it is commonly argued legal system differences and variations in investor protection are key determinants of tunnelling. Johnson et al.'s (2000) study of European tunnelling cases state that "potential differences between civil and common law countries in how courts

approach tunnelling cases” (Johnson et al, 2000, p26) affected actions to expropriate resources from minority shareholders. Friedman et al. (2003) find “strong empirical evidence that entrepreneurs tunnel resources out of firms in countries with weak investor protection”(Friedman et al. 2003, p748).

At a firm level, the overwhelming focus is on ownership structure spanning variations of the majority ownership versus minority ownership theme; i.e.: (a) pyramid group structure, (b) large block holder versus minority shareholders, or (c) family-owned block versus non-family minority shareholders. Bertrand et al. (2002), for example, provide evidence of tunnelling in Indian business groups whereby cash flows from firms lower in the pyramid to higher level firms where the controlling groups have greater ownership rights. Gao and Kling (2008), meanwhile, find cash flows with the entity is higher where the founding family continues to maintain controlling interest.

Four predictive variables are explored in this study as possible influencing factors of tunnelling activities. The first is national corporate governance (BE) and the remaining three are various aspects of key ownership structures (family, managerial and foreign).

### *Business Environment (BE) and RPTs Tunnelling*

The national-level corporate governance system is an important focus of this study. A nation's BE is considered to be fundamental in determining the national-level corporate governance system. These systems in turn impact on tunnelling behaviour.

To better determine the impact of a national-level corporate governance system on tunnelling, a synthesised framework of the four major theoretical perspectives of corporate governance is utilised. The four major theories are: agency theory, resource dependence theory, stakeholder theory and institutional theory (Udayasankar et al. 2007). The first two theories aid in establishing a nation's competitive BE whilst the latter two underpin the regulatory business environment (RBE). The BE is a product of its competitive and regulatory environments.

The rawest, and most basic, objective of a firm is to develop a sustainable competitive advantage and remain a viable going-concern. Agency theory holds an implicit number of assumptions. One important assumption postulated suggests inefficient firms (i.e. firms with high levels of agency costs) face threats from competitors in the BE through the advent of the market for corporate control (Jensen and Ruback 1983). Agency theory presumes an efficient and competitive business environment (CBE) 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 argues a firm can benefit strategically from board capital that ultimately implies an organisation 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 labour market (e.g. Dalton et al. 1999; Hillman & 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 BE 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 & Mahoney 2006). 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.

For the RBE, arguably stakeholder theory and institutional theory are most relevant. Stakeholder theory advocates (Donaldson & Preston 1995; Hillman & Keim 2001; Roberts 1992) 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 & Scherer 1993).

Institutional theory suggests firm value is best derived by the firm being in consonance with its institutional environment (e.g. Arthur 2003; Hart & Milstein 2003; Oliver 1997). These arguments have found support with prior empirical research (e.g. Lee & Pennings 2002; Thornton 2002) that suggest 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 BE. Researchers have identified various institutional pressures that influence the regulatory aspects of the BE such as the legal system (e.g. La Porta et al. 1997, 1998, 2002), trade agreements (e.g. Levy & Prakash 2003), social co-operatives and state ownership (Shleifer & Vishny 1997). Other empirical evidence of the impact of institutional factors is widespread. Wurgler (2000), meanwhile, finds strong institutional structures prevent overinvestment in declining, unproductive industries and firms. Leuz, Nanda and Wysocki (2003) show institutional actors can prevent negative financial accounting practices such as earnings management.

Impromptu corporate governance mechanisms evolve out of competitive pressures between firms and an incentive for a firm to differentiate itself from competitors (Chakrabarti 2008). On this basis, the CBE is closely associated with corporate governance practices and standards; and, therefore, agency theory and resource dependence theory (Udayasankar & Das 2007). In a strong and efficient CBE, firms will be under pressure to conform to business-derived corporate governance norms and standards. Furthermore, firms have an incentive to regularly update and develop alternative corporate governance mechanisms so they can be differentiated from competitors. A firm failing to conform with corporate governance practices and standards in a strong and efficient CBE is likely to be punished (e.g. loss of value) by investors and providers of key resources (e.g. labour, material suppliers). In a weak and inefficient CBE the fear of being punished by investors and key resource providers will be diminished (La Porta et al. 1998, 1999). Consequently, firms have little incentive to conform and develop new corporate governance practices and standards. Overall, a strong and efficient CBE is likely to provide firms less scope and opportunities to tunnel resources away from minority shareholders via RPTs. As regulatory efficiency (a key assumption of institutional and stakeholder theories of corporate governance) increases, 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 organisational legitimacy and effect (Udayasankar & Das 2007). In a highly efficient RBE, therefore, a firm is likely to have less scope and incentive to adopt practices and conventions (such as those expropriating resources from minority shareholders) for fear it will draw unwanted regulatory and political attention. Given strong CBE and RBE will diminish opportunities for RPTs tunnelling, it is hypothesised:

**H<sub>1</sub>:** *There is a negative association between the strength of a nation's BE and the extent of tunnelling via RPTs.*

### *Ownership Structure*

This section outlines prior research considering the influence of three key ownership structure features (i.e. family, managerial and foreign) on accounting issues. Based on this review testable hypotheses addressing the association with tunnelling via RPTs are formed.

Various ownership patterns exist across economies. Dispersed shareholdings supported by a well-functioning legal and regulatory framework have provided an efficient base for capital accumulation (La Porta et al. 1999; Shleifer & Vishny 1997;). A recent stream of literature brings into question the assumption of diffused ownership and suggests in many economies that concentrated ownership is more typical (Anderson & Reeb 2003; Claessens et al. 2000; La Porta et al. 1998, 1999). In East Asia, concentrated ownership in the form of family ownership dominates other types of ownership (Claessens et al. 2000). Family ownership has an informal powerful influence on the way that organisation are run, with positive and negative outcome (Schulze, Lubatkin & Dino 2003). Family control may reduce agency cost by helping to align ownership with control ( Fama & Jensen 1983; Jensen & Meckling 1976). On the other hand, family control may increase the likelihood of expropriation of non-family minority shareholders and can harm performance (Bloom & Van Reenen 2006). A concentrated pattern of ownership potentially allows insiders to have tighter control over the firm, however it also creates opportunities to expropriate wealth from other shareholders (Faccio, Lang & Young 2001; Villalonga & Amit 2006). A more common occurrence, a family controlled entity, uses a variety of means to transfer a significant proportion of free cash flows from a company in which they have small cash flow rights into a company in which they have large cash flow rights and control (Johnson et al. 2000). Controlling shareholders could transfer wealth, or get special benefits, by self-dealing transactions between the controlling shareholders and the controlled firms (Gilson & Gordon 2003).

Guo (2008) reveals that the presence of controlling shareholders and higher control rights leads to higher levels of tunnelling via RPTs. In a similar spirit, Li (2010) investigates tunnelling by controlling shareholders in China's public firms, and finds that tunnelling is pervasive and severe. Given that many listed firms characterised by family controlling shareholders are common in Southeast Asia, this study assumes that the higher percentage of family ownership, the higher the tunnelling threats. Accordingly, these arguments lead to the following hypothesis:

***H<sub>2</sub>: There is a positive association between a firm's family ownership and the extent of tunnelling via RPTs.***

Warfield, Wild and Wild (1995) document that higher CEO stock ownership helps alleviate some of the agency problems that arise in corporation by aligning the interest of manager and shareholders. As long as managers are minority shareholders, their ownership role might also mitigate the danger of tunnelling (Gao & Kling 2008; Liu & Lu 2007). On the other hand, Klein (2002) finds a positive correlation between CEO shareholdings and earnings management, which is consistent with recent events and accounting scandals. If the CEO manages earnings to increase their overall compensation, then there will be a positive relation between CEO shareholdings and earnings management (Klein 2002). This indirectly indicates the possibility of expropriation. Morck, Shleifer & Vishny(1988) suggest that high shareholding by top managements may cause moral hazard and information asymmetry problems between the inside (management and directors) and outside investors. In a similar vein, Santiago-Castro and Brown (2011) find a positive association between CEO ownership and the potential for expropriation of minority shareholders' rights. Thus, managerial

shareholdings appear to lower the level of monitoring that may negatively affect minority shareholders, without the presence of other internal corporate governance mechanisms. Their finding supports the agency theory argument that when managers' shareholdings grow as a fraction of personal wealth, their interest becomes more aligned with the majority shareholder (Jensen & Meckling 1976; Weisbach 1988). As manager shareholdings increase, their objectives more closely match those of the controlling shareholder, and consequently minority shareholders may lose an important monitoring device for good corporate governance. Gibson (2003) also suggests that minority investors in emerging markets controlled by a large shareholder, i.e. family, should be aware that managers may favour the large shareholder at the expense of the minority shareholders. This discussion leads to the following hypothesis:

**H<sub>3</sub>:** *There is a positive association between a firm's managerial ownership and the extent of tunnelling via RPTs.*

Foreign ownership can be seen as one effective mechanism that can complement the current governance structure in order to monitor the management from non-value maximising activities (Dahlquist & Robertsson 2001). Foreign investors may also have better monitoring capabilities, which can help firms to move away from an over-reliance on concentrated ownership (Khanna & Palepu 2000). Djankov and Murrell (2002) find in their extensive survey of the research on transition economies that when investment funds, foreigners, and other outsiders become influential owners, ten times as much restructuring takes place in former SOEs.

Young et al. (2008) suggest the important role of foreign ownership such as foreign institutional investors in institutional reform. They further state that as emerging economies become more open, this exposure to outside ideas and influence will likely accelerate governance reforms. Foreign institutional investors are outside the domestic social networks from which the institutional norms of behaviour are generated, and they are therefore more likely to push for transparent deals and pressure governments to improve minority shareholder protection (Peng 2003). In other words, they may be more pressure-resistant to locally-generated principal-principal problems (Kochhar & David 1996; Tihanyi et al. 2003). Demands for transparency imply reducing asymmetry information and consequently, prevent opportunistic behaviour. Similarly, increased protection of minority shareholders by governments creates a pressure for firms to act in ways not detrimental to minority shareholders. This study expects that the higher foreign ownership can improve firm monitoring function against opportunistic behaviour including tunnelling. Hence:

**H<sub>4</sub>:** *There is a negative association between a firm's foreign ownership and the extent of tunnelling via RPTs.*

In summary, four corporate governance mechanisms (BE, family ownership, managerial ownership, and foreign ownership) are hypothesised as possible predictors of tunnelling via RPTs.

## Research Approach

This study uses a sample of publicly traded firms listed on the stock exchange in five ASEAN countries from 2006-2009<sup>4</sup>. The total data set is 200 firm-year observations. Ten firms are randomly chosen in each country and observed over four years. The selected ASEAN countries sample are Indonesia, Malaysia, Singapore, Thailand, and Philippines. These five

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<sup>4</sup> Financial firms are excluded from the sample since they are under a different regulatory regime.

countries are picked because they all have established stock exchanges with sufficient English language information including full comprehensive annual reports. Moreover, these ASEAN countries are the chosen focus because they traditionally have weaker corporate governance systems but higher ownership concentration resulting in higher problems with tunnelling and expropriation by majority owners (Claessens & Fan 2002; Claessens et al. 2000; Gao & Kling 2008; Haw et al. 2004; Liu & Lu 2007; Peng, Wei & Yang, 2011).

By way of determinants of tunnelling, this study focuses on examining the influence of the national corporate governance business system and the firm-level ownership structure. In respect to the national corporate governance system, this study concentrates on BE and competitive and regulatory structures. As for firm-level ownership structure, the study considers three features: (a) family ownership; (b) managerial ownership; and (c) foreign ownership levels. All RPTs data as well as ownership data and other financial data are gathered from firm financial statements and annual reports. Those data are collected from the ORBIS database and stock exchange websites in each sample country.

To analyse the extent of tunnelling, this study uses RPTs as a proxy. Jian and Wong (2003) suggest that lending transactions to RPTs are commonly referred to as financial tunnelling. Jiang, Lee and Yue (2005) document robust evidence that ‘other receivables’ largely represent corporate loans extended to other firms (mainly the controlling shareholders) by the listed firm and thus is a good measure of tunnelling. The ratio ‘other receivables to total assets’ is used as the measure of tunnelling by Jiang et al. (2005), Liu and Lu (2007), Li (2010) and Jiang, Lee and Yue(2010). Other researchers adopt the difference between other receivables and other payables divided by total assets as the measure of financial tunnelling (Guo 2008; Jian & Wong 2003). Meanwhile Gao and Kling (2008) measure the extent of tunnelling using as proxy the difference between accounts receivable and accounts payable divided by total assets. This research uses lending to related party divided by total assets (RPTLendTA) as the measure of tunnelling, which is consistent with Jiang et al. (2005), Liu and Lu (2007), Li (2010), and Jiang et al. (2010). Cheung et al. (2009) also suggest that direct cash payment and loan by listed firms to its controlling shareholder are clear examples of tunnelling. In addition, related parties’ loans are a useful example of this because they are traceable through public sources, and do not require a ‘fair value’ test, such as would be needed in other asset transfers between related parties. In terms of predictors of tunnelling, this study focuses on BE, family ownership (FAMOWN), managerial ownership (MANOWN) and foreign ownership (FOROWN).

This study uses the *Economic Freedom of the World Index (EFWI)* published by the Economic Freedom Network (EFN) as the primary data source for developing respective measures for the BE<sup>5</sup>. 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). An individual nation’s RBE is defined as the aggregate of LSI and GSI scores, whereas a CBE is a melding of the BRI and FTI scores. BE is an aggregation of RBE and CBE. For calculation purposes BRI, FTI,

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<sup>5</sup> The *EFWI* ranking of 130 nations is the result of a joint venture involving 71 national research institutions and foundations(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, labour and business. Four aspects of the *EFWI* (i.e. legal structure index (LSI), government size index (GSI), business regulation index (BRI) and freedom to trade internationally index (FTI)) are utilised to represent the four major theoretical threads underlying corporate governance. The four components selected reflect specific aspects of regulation and competitiveness that constitutes business environment (BE). Each component is normalised as a score ranging from zero to ten.

LSI and GSI score are equally weighted. Mathematically, the calculations of these scores for nation  $l$  are as follows:

$$\text{RBE\_Score}_l = [(\sum \text{LSI}_{l,2004-2007})/(\# \text{ Years}) * 0.5 + (\sum \text{GSI}_{l,2004-2007})/(\# \text{ Years}) * 0.5] \quad [1]$$

$$\text{CBE Score}_l = [(\sum \text{BRI}_{l,2004-2007})/(\# \text{ Years}) * 0.5 + (\sum \text{FTI}_{l,2004-2007})/(\# \text{ Years}) * 0.5] \quad [2]$$

$$\text{BE Score}_l = (\text{RBE\_Score}_l + \text{CBE\_Score}_l) * 0.5 \quad [3]$$

The LSI<sup>6</sup> score component of the *EFWI* is used as a proxy representing the influence of a nation's institutional structure on the nation's RBE. Whereas, to gauge stakeholder strength that may precipitate a greater need to employ stakeholder management strategies, the GSI score from the *EFWI* is used as the relevant proxy<sup>7</sup>.

The competitive component the BE score is an aggregate of BRI and FTI. 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. This study uses the FTI score component of the *EFWI* as the proxy for the influence of resource dependence on the CBE. For interpretive purposes a nation with a higher FTI will enable firms operating in that nation to have a more efficient market for access key resources, thereby, prompting a stronger CBE.

This study defines family ownership as an individual, or group of family members who hold more than 25% of firm's voting rights and is the largest controlling block in the firm (Achmad et al. 2009; Claessens et al. 2000; La Porta et al. 1999). Therefore, a firm has a family controlling shareholder if the sum of a shareholder's direct and indirect voting right is more than 25%. An arbitrary value 25% of voting rights is used as this is usually enough to have effective control of a firm (Chernykh 2008; La Porta et al. 1999; OECD 2009). Family ownership (FAMOWN) is measured by using a dummy variable, one if a firm's ultimate owner is family and zero otherwise.

Managerial ownership (MANOWN) is measured by percentage of shares held by insiders, i.e. CEO and directors (Gao & Kling 2008; Jiang et al. 2010), whereas foreign ownership (FOROWN) is percentage of shares held by foreign investors both individual and institutional (Dahlquist & Robertsson 2001; Dow & McGuire 2009; Young et al. 2008). Five control variables are also used in the model. Based on past studies, the control variables included are independent directors (IBD), legal origin (LO), size (LNSIZE), the debt ratio (DEBT), and year dummy variables (Cheung et al. 2009; Doupnik 2008; Gao and Kling 2008; Guo 2008; Johnson et al. 2000; Leuz et al. 2003). The summary of the measurement of the variables is presented in Table 1.

This research uses several statistical techniques for the data analysis. Descriptive statistics and univariate statistics including t-Test and ANOVA are employed to enhance the main analysis. Multiple regression analysis is used as the main statistical test of predictors of tunnelling.

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<sup>6</sup> This approach follows prior work (e.g. La Porta et al. 1997, 1998, 2000) emphasising the importance of legal structure as a relevant barometer of the strength and influence of a nation's institutional framework

<sup>7</sup> Governments, depending on size and strength, can assist in fostering growth of special interest groups whilst pursuing broader social agendas. A higher score of GSI indicates greater government involvement in the business environment suggesting heightened stakeholder strength and regulatory efficiency.

**Table 1**  
Variable Measurement

Variables	Measurement	Type
<i>Dependent Variable</i>		
RPTLendTA	Loans to related party divided by total assets.	Continuous
<i>Independent Variables</i>		
Business Environment (BE)	<p>BE Score<sub>i</sub> = (RBE_Score<sub>i</sub> + CBE_Score<sub>i</sub>)*0.5  Where:  BE : Business environment score.  RBE : Regulatory business environment score.  CBE : Competitive business environment score.</p>	Continuous
Family Ownership (FAMOWN)	This variable is measured by using a dummy variable, “1” if a firm ultimate owner is family and “0” otherwise (Achmad et al. 2009; La Porta et al. 1999).	Categorical
Managerial Ownership (MANOWN)	Percentage of shares held by senior managers (board members and top management).	Continuous
Foreign Ownership (FOROWN)	Percentage of shares held by foreign investors (individual and institutional).	Continuous
<i>Control Variables</i>		
Independent directors (IBD)	The number of independent directors divided by total number of board directors.	Continuous
Legal Origin (LO)	Equals “1” if a country follows civil law legal system, and “0” if a country follows common law legal system. Countries included in the civil law system are Indonesia and Philippines, whereas common law system are Malaysia, Singapore, and Thailand (Doupnik 2008; La Porta et. al. 1999).	Categorical
Size (LNSIZE)	Natural logarithm of total assets.	Continuous
Debt (DEBT)	Total debts divided by total assets.	Continuous
Yeardum	Year dummy variables: Yeardum1 : “1” if year 2006 and “0” otherwise. Yeardum2 : “1” if year 2007 and “0” otherwise. Yeardum3 : “1” if year 2008 and “0” otherwise. Yeardum4 : “1” if year 2009 and “0” otherwise.	Categorical

## Results

Table 2 summarises the descriptive statistics of dependent variables, explanatory variables and key firm financial data.

Based on Table 2, listed companies have on average loan to related party (RPTLend) amounts are US\$ 14.47 million with minimum value zero and maximum US\$ 210 million. Of 200 observations, 27 observations did not indicate loans to related party (RPTLend = 0). The loans to related party ratio is 3.44 % of total assets (RPTLendTA) on average. The maximum value is 98.10% and minimum value is 0%. The average ratio is lower compared to 5.47 % average ratio of Chinese public companies (Li 2010). The BE score for five countries is 6.71 on average which is a moderate level of maximum score at 10. The highest score of BE for five countries is 8.34 with minimum score 5.68. In regard to family ownership (FAMOWN), 129 (64.5%) cases are categorised as family firm whereas the remaining 71 (35.5%) cases are considered as non-family firm.

**Table 2**  
Descriptive Statistics (N=200)<sup>a</sup>

Variables	Mean	Median	Stdev	Min	Max
RPTLend	14,470,000	1,435,000	30,557,000	0	210,000,000
RPTLendTA	0.0344	0.0033	0.1245	0.0000	0.9810
BE	6.7120	6.6408	0.9017	5.6817	8.3358
MANOWN	0.1552	0.0102	0.2387	0.0000	0.7815
FOROWN	0.2331	0.1417	0.2459	0.0000	0.9378
IBD	0.3849	0.3693	0.1430	0.1111	0.9000
Total Assets	1,508,763,989	862,817,591	1,960,058,153	824,236	11,077,000,000
LNSIZE	20.1515	20.5757	1.7929	13.6222	23.1281
Total Liabilities	749,415,930	337,592,492	1,034,197,197	293,331	5,814,269,000
DEBT	0.4740	0.4864	0.2058	0.0348	0.9374

Notes: Table 2 reports statistics descriptive of research variables and some key financial data.

RPTLend =Loan to related parties; RPTLendTA= RPTLend divided by total assets; BE= Business environment; MANOWN= Managerial ownership; FOROWN=Foreign ownership; IBD=Independent board of director; LNSIZE= Natural logarithm of total assets; DEBT= total liabilities divided by total assets.

RPTLend, Total assets, and Total liabilities are stated in US dollar.

<sup>a</sup> Apart from continuous variables presented above, this study has three categorical variables consisting of family ownership, legal origin and year dummy. Distribution of family ownership (FAMOWN) comprises 129 (64.5%) family firms and 71 (35.5%) non-family firm; Legal origin (LO) composition is 80 (40%) cases from civil law countries whereas 120 (60%) cases come from common law countries. A balance panel of 50 firms each year is used over period 2006-2009 totaling 200 firm-year observations.

Average managerial ownership of five countries is 15.52%, with maximum value at 78.15%. The high percentage of MANOWN for certain firms reveal that top management is at times also the owner of firms. These conditions are not uncommon in Southeast Asia countries firms. Foreign ownership has a mean value at 23.31% and a maximum percentage of 93.78%.

Sample firms have reported percentage of independent directors of between 11.11% and 90% with an average of 38.49%. This implies that most firms in these five Southeast

Asia countries have moderate levels of corporate governance practice in term of percentage of independent directors. Except for the Philippines, the other four countries require a minimum number of independent directors at one third of the total number of directors. The composition of the sample is 40% cases from civil law countries compared to 60% cases from common law countries.

Total assets of 200 firms-years observations range from US\$0.82 million to US\$11.08 billion with US\$1.51 billion on average. Those numbers show a high standard deviation of total assets among sample firm (US\$1.96 billion). To overcome skewness total assets are transformed by natural logarithm. Table 2 also shows that the sample has average total liabilities at US\$749.41 million with median at US\$337.59 million and leverage (DEBT) ranging from 3.48% to 93.74% with 47.40% on average.

Comparison of tunnelling activity (RPTLendTA) among the five countries and from year to year differences is provided in Table 3. ANOVA result shows there is a significantly different tunnelling (RPTLendTA) among the countries. Average tunnelling (RPTLendTA) for Indonesia, Malaysia, Philippines, Singapore and Thailand are 0.0303, 0.0049, 0.0955, 0.0329, and 0.0085 respectively. Tunnelling (RPTLendTA) for the five countries is lower than one in PRC firms at 0.0547 (Li 2010). The country showing the highest tunnelling activity (RPTLendTA) is Philippines and the lowest one is Malaysia. Both countries have different legal systems with Philippines following civil law and Malaysia employing a common law system. In addition, Philippines has the second lowest BE score among the five countries after Indonesia. The tunnelling behaviour (RPTLendTA) from year to year does not demonstrate any statistically significant difference. In 2006 the ratio is 0.0430 and decreases to 0.0260 in 2007. The ratio increases to 0.0351 in 2008 and slightly decreases to 0.0335 in 2009. There are similar practices over the entire study period.

Table 4 shows Pearson correlation for all research variables. Based on the literature review and hypothesis development, this study predicts a negative correlation between tunnelling activity (RPTLendTA) and BE. This study proposes a positive relationship between tunnelling (RPTLendTA) and family ownership (FAMOWN) and managerial ownership (MANOWN) whereas tunnelling activity (RPTLendTA) is predicted to have a negative correlation with foreign ownership (FOROWN). Correlation results show all directionalities are as predicted. From the table we do not find a strong correlation among independent variables (highest correlation is between family and managerial ownership at 0.389). This implies that there is little chance of serious multicollinearity problems for the regression analysis.

**Table 3**  
ANOVA Tunnelling by Country and by Year

	<b>Indonesia</b>	<b>Malaysia</b>	<b>Philippines</b>	<b>Singapore</b>	<b>Thailand</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>RPTLend TA Mean</b>	0.0303	0.0049	0.0955	0.0329	0.0085	0.0430	0.0260	0.0351	0.0335
<b>N</b>	40	40	40	40	40	50	50	50	50
<b>F</b>	3.596					0.156			
<b>p- value</b>	0.007**					0.926			

**Notes:** Table 3 summarises ANOVA-test of RPTLendTA among five ASEAN countries over the period of 2006-2009 and ANOVA-test of RPTLendTA year by year.

\*\* denotes statistical significance at the 0.05 level.

**Table 4**  
Pearson Correlation Matrix

	RPTLendTA	BE	FAMOWN	MANOWN	FOROWN	IBD	LO	LNSIZE	DEBT	Yeadum1	Yeadum2	Yeadum3	Yeadum4
RPTLendTA	1												
BE	-0.060	1											
FAMOWN	0.105	0.147**	1										
MANOWN	0.377***	0.255***	0.389***	1									
FOROWN	-0.072	-0.339***	-0.07	-0.167**	1								
IBD	-0.092	0.416***	-0.006	-0.121	-0.017	1							
LO	0.187***	-0.732***	-0.290***	-0.252***	0.271***	-0.295***	1						
LNSIZE	-0.480***	0.137	-0.234***	-0.361***	0.036	0.187***	-0.117	1					
DEBT	-0.156**	0.030	-0.180**	-0.279***	0.014	0.046	0.054	0.300***	1				
Yeadum1	0.040	0.000	-0.03	-0.009	0	-0.039	0	-0.078	-0.029	1			
Yeadum2	-0.039	0.000	-0.006	-0.014	0.027	-0.011	0	0.012	-0.04	-0.333***	1		
Yeadum3	0.003	0.000	0.018	-0.007	0	-0.027	0	0.024	0.046	-0.333***	-0.333***	1	
Yeadum4	-0.004	0.000	0.018	0.03	-0.027	0.077	0	0.042	0.024	-0.333***	-0.333***	-0.333***	1

**Notes:** Table 4 displays Pearson correlations of research variables.

RPTLend =Loan to related parties; RPTLendTA= RPTLend divided by total assets; BE= Business environments; MANOWN= Managerial ownership; FOROWN=Foreign ownership; LO=Legal origin which equals one if civil law legal system and equals zero if common law legal system.D=Independent board of director; LNSIZE= Logarithm of total assets; DEBT= total liabilities divided by total assets; Yeadum1: equal one if year is 2006 and zero otherwise; Yeadum2: equal one if year is 2007 and zero otherwise; Yeadum3: equal one if year is 2008 and zero otherwise; Yeadum4: equal one if year is 2009 and zero otherwise.

\*\*, \*\*\*, significant at the 0.05 and 0.01 levels (2-tailed) respectively.

Table 5 reports multiple regression analysis of the relationship among BE, ownership structure, control variables, and the extent of tunnelling via RPTs. The BE variable does not explain the extent of tunnelling. This study does not observe empirical evidence about the influence of family ownership on the extent of tunnelling.

In line with expectations, the regression coefficient for managerial ownership is positive and statistically highly significant. This finding supports Hypothesis three that predicts a positive association between managerial ownership and tunnelling via RPTs. This finding suggests that the higher shareholding by managers increases the potential for the expropriation of minority shareholders' rights. Finally, the other ownership variable, i.e. foreign ownership, has no statistically significant coefficient. Thus, Hypothesis four is rejected.

Among the control variables, legal origin (LO) and firm size (LNSIZE), have statistically significant positive and negative signs respectively. This is consistent with previous studies that predict a positive relationship between civil law system and tunnelling. A growing body of research suggests that civil-law countries are less protective of minority shareholders than common-law countries (Doupiuk 2008; Johnson et al. 2000; La Porta et al. 1999). In regards to firm size (LNSIZE), this study finds that the lower the total assets, the higher potential of tunnelling. Given small firms are less likely to have ownership separated from control there could be more expropriation (Claessens et al. 2000). The three other control variables, i.e. independent boards of director (IBD), leverage (DEBT) and year dummy, do not help to explain the extent of tunnelling.

**Table 5**  
Multiple Regression Results<sup>c</sup>

Dependent Variable: RPTLendTA			
Predictors	Coefficients	t-statistic	p-value
Intercept	0.361	2.776	0.006***
BE	0.015	1.091	0.277
FAMOWN	-0.006	-0.331	0.741
MANOWN	0.163	4.256	0.000***
FOROWN	-0.030	-0.939	0.349
IBD	0.057	0.959	0.339
LO	0.084	3.627	0.000***
LNSIZE	-0.025	-5.272	0.000*** <sup>d</sup>
DEBT	0.007	0.177	0.860
Yeardum1	0.010	0.460	0.646
Yeardum3	0.009	0.451	0.652
Yeardum4	0.005	0.236	0.814
F Statistic	8.891	p-value	0.000***
R <sup>2</sup>	0.342		
Adjusted R <sup>2</sup>	0.304		

**Notes:** Table 5 reports OLS regression result for 200 firm-year observations.

Dependent variable: RPTLendTA; Independent variables: BE, FAMOWN, MANOWN, FOROWN; Control variables: IBD, LO, LNSIZE, DEBT and Yeardum1-4.

\*\*, \*\*\*, significant at the 0.05 and 0.01 levels.

<sup>c</sup> Similar results are also showed by stepwise regression method.

<sup>d</sup> t-test confirms that civil law countries 7.5% much higher RPTLendTA than common law countries 1.5% (p-value 0.047).

## Implications and Conclusion

This study extends empirical tunnelling research which looks at the national corporate governance level and firms' ownership structures as determinants of tunnelling behaviour in ASEAN countries. As the proxy of tunnelling behaviour, loans to related party are employed in light of their potential ways of expropriation of minority shareholders' rights. The findings of this study support the hypothesis concerning the positive link between level of managerial ownership and the extent of tunnelling.

Hypothesis one regarding the association between BE and tunnelling is rejected. This finding is not consistent with the arguments that national corporate governance represented by the BE influences tunnelling behaviour. In regards to institutional theory, the weak institutional pressures experienced by most Southeast Asian countries may be responsible for this condition. Such countries generally have good statutory regulations but are weak in implementation and enforcement (OECD 2009). Therefore, effective regulation is absent. From a stakeholder theory viewpoint, this finding posits ineffective government involvement in the BE. This is a common phenomenon of governments in developing countries that struggle to properly manage their stakeholder expectations. Consequently, they may be disregarded when managing a BE. Moreover, competition forces do not necessarily create pressures for firms in this region to run efficiently. Perfect competition as an important assumption in agency and resource dependence theory is not fulfilled.

Hypothesis two dealing with family ownership influence on tunnelling is rejected. This finding does not meet the expectation amid concerns that concentrated ownership in the form of family ownership dominates type of ownership in Southeast Asian firms. Such a condition potentially increases the opportunities of the controlling family to 'tunnel' out wealth from other shareholders (Claessens et al. 2000; Faccio et al. 2001; Villalonga & Amit 2006).

Hypothesis three is supported. This finding gives empirical evidence that managerial ownership explains the extent of tunnelling via RPTs. This result is in line with the agency theory argument that when managers' shareholdings grow as a fraction of personal wealth, their interest becomes more aligned with the majority shareholder. This condition implies that minority shareholders may lose an important monitoring device for good corporate governance. Consequently, minority shareholders in the five sample countries should be wary of a high percentage of shareholdings by top management. The finding may also prompt regulators in these countries to evolve more effective measures and policies protecting the minority shareholders.

This study fails to obtain empirical evidence that foreign ownership is a key governance mechanism against expropriation behaviour. The presence of many short term foreign investors (foreign portfolio investment) in emerging markets may partially explain the finding. Short term investors may only focus on profit taking actions. Such investors may pay less attention about long term sustainability of firms including potential threat of tunnelling behaviour. Emerging markets are not yet seen as part of 'normal' investor diversification strategy but rather as markets where higher risks (relative to developed markets) need to be offset by the possibility of above average gains as the main motivation for foreign investors to enter emerging markets of developing countries (WIDER 1990). Furthermore, it is often argued that foreign investors are at an informational disadvantage relative to local investors (Brennan & Cao 1997; Choe, Kho & Stulz 2005). Information asymmetries between foreign and local investors are particularly pronounced with respect to the evaluation of a firm's governance structure and the scope for expropriation by controlling insiders (Leuz, Lins & Warnock 2008).

The findings also suggest that common law countries give better protection on minority shareholders' rights than do civil law countries. Interestingly, the role of independent directors to restrain tunnelling behaviour is not supported by evidence in this study. Most firms in these five countries have satisfied the 'minimum' number of independent directors required by their domestic regulator. However, their conformity may be a formality. This study also documents that firm size as a control variable has a clear negative association with tunnelling. This implies that small firms

are more susceptible to tunnelling. The final important finding is that there are no significant differences of the extent of tunnelling via RPTs prior, during and after the global financial crisis in these five key Southeast Asia countries.

Given that many of the governance mechanisms proposed in this study, i.e. BE, foreign ownership, and independent directors, are empirically proven to be ineffective to curb RPT tunnelling, these findings should raise concerns for current good corporate governance prescriptions.

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