A Conceptual Paper on Cross-Border Vertical Integration of Thailand Firms in Southeast Asia Countries: Financial Perspectives

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A considerable number of established and successful Thailand firms have increased their investments in domestic and regional markets. Their international expansions could be due to positive drivers such as financial strength. But the financial factors which contribute to their markets expansions have not been thoroughly explored. Thus, this study examines the effects of financial perspectives on cross-border vertical integration of Thailand firms in Southeast Asia countries, and applies the theory of coinsurance effects. Internationalization helps to reduce cost of capital and increases the availability of getting additional financing. The variables used in measuring finance perspectives include profitability, liquidity, firms' leverage and foreign exchange rate. Moreover, the study seeks to investigate the impact of vertical integration on the performance of Thailand firms in ASEAN countries. In achieving these objectives, the study also accounts for firm size, firm age, cultural distance, geographic distance and Gross Domestic Products. The study plans to employ regression analysis on panel data for 2012-2016 period using secondary data from 48 Thailand firms with vertical integration and 50 firms with non-vertical integration. The study also assesses the effectiveness of vertical integration in South East Asian countries by comparing their impacts on short-term and long-term. This study has fundamental implications because it emphasizes the financial factors which affect higher value-added and effective firms' performance as firms expand through cross-border business. The finding would be useful to stakeholders in decision-making within the context of cross-border vertical integration. From the findings, the study makes some recommendations.

Keywords: Cross Border Vertical Integration, Financial Perspectives, Thailand Firms, Southeast Asia

1. Introduction

Over decades, markets have brilliantly grown into more integrated leading the globalization to be an important strategic concern for companies. Consequently, the international investments have significantly raised through international acquisition in the other countries. Some of the Southeast Asian countries have become preferred destination states by foreign corporations as host economies. This trend is positively influenced by the economic reforms, which the Southeast Asian countries (hereafter called SEA) have focused on improvements in their investments' environment. Outward investment tends to increase to countries at lower investment development path stages to overcome cost disadvantages in labour-intensive industries and to seek markets or strategic assets (Sim, 2006). Thailand is an emerging market, which goes outbound at a quick pace in recent years even being a latecomer in the worldwide expansion (Subhanij and Annonjarn, 2016). Thailand's outward foreign direct investment is flourishing as large and small accelerate international expansion in line with the government's commitment to supporting such investment and helping companies' secure cheaper raw materials. (Bangkok Post, 2016). Through the heavy promotion of ASEAN Economic Community (AEC), a majority of Thailand companies aim to gain the benefits from the regional economic forming as well as the firms in other countries members, especially through cross-border investment. This integration has the potential to bring multiple economic benefits through trade creation, the facilitation of exports to the rest of the world, more efficient markets and the opportunities to build stronger economic institutions. The main challenges are zero tariffs, to improve cross-border infrastructure, limit the use of tariff barriers with other countries, extend liberalized market access to service sectors and strengthen institutions at the level of regional governance. With the development of transition countries, the most widespread of the organization form is vertical integration, which occurs when a firm consists of enterprises of the same supply chain (Markchak, 2003). Consequently, it remains unclear for Thailand context. However, there is a limited study on firms' vertical integration in the perspectives of Financial and governance. Hence, considering all relevant factors will help firms avoid failures in operating their business internationally. The study mainly aims to explore the contributing factors that lead to Thailand firms expanding their investments in Southeast Asia. Specifically, the study attempts to achieve the following objectives (1) to determine the financial factors on cross-border vertical integration of Thailand firms in ASEAN countries; (2) to assess whether country-specific factors- exchange rate, cultural distance, geographical distance, and GDP influence firms' vertical integration and (3) to investigate the effectiveness of vertical integration on the performance and their costs of capital of Thailand firms in ASEAN countries.

2. Vertical Integration

Vertical Integration (VI) takes place when a company controls over several production steps to promote financial growth and efficiency in its business, a company exhibits backward integration when it develops or acquires the business of the company's provider that produce some of the inputs used in the production of its products. The advantages of vertical integration are to assist the firms in transferring knowledge; control effectively and most importantly cost efficiencies and finally bring the wealth back to their home countries. The firms need to minimize all relevant costs as much as possible in order to gain more profit. In publicly listed firms that expand their operation in overseas, the agency cost surges as management may make decisions for their private interests. In such cases, agency costs or monitoring costs may increase. Additionally, availability of finance could influence the decision for outward investments. An internationalization firm is found to lead to lower cost of capital. Singh and Nejadmalayeri (2004) found that internationally diversified firms support higher level of debt financing that directly results in the reduction of overall cost of capital despite higher equity risk. More significantly, even after controlling for the effects of the degree and composition of debt financing, equity risk, firm size, managerial agency costs, and asset structure, higher degree of international diversification results in lower overall of cost of capital.

Vertical integration can have significant impact on business performance while some observers claim that adequate vertical integration can be a crucial strategy to survive. While some argue excessive vertical integration can cause corporate failure (Buzzell, 1983). This particular topic is still in debate. As well as vertical integration can be highly important strategy but it is scandalously difficult to implement successfully. So before the management makes decisions to vertically integrate their business especially oversea, they are required to consider adequately analysis of risks due to high investment, complex and hard to reverse. In order to gain benefit of vertical integration in terms of cost efficiency and control, good corporate governance is required. Bhuyan (2005) claims that most of the reasons that firms choose to vertically integrate have to do with reducing costs or eliminating externalities that are associated with buying from or selling to other firms. Economic theory has shown that vertical integration may be induced by transaction costs, market imperfections, and other factors. Downstream firms with the largest market share are more likely to integrate vertically as they tend to gain a great market share. Therefore, those downstream firms lean towards to be away from competitors and vertical integration enables the firms to escape from tough competition (Matsushima and Mizuno, 2012).

3. Thailand Firms and motivations

In some developing countries with relatively higher financial development, firm internationalization corresponds with a greater level of debt when firms have more growth opportunities (Gonenc and de Haan, 2014). Despite the fact of Thailand is typically characterized by severe information asymmetry, more acute agency costs, and less developed financial market. In addition, sources of capital are the owner-managers' capital, supplemented by bank borrowing and equity financing. These firms are normally highly ownership concentrated and are the largest shareholders in the firms (Khanna and Yafeh, 2005; Wiwattanakantang, 1999). As an emerging market, Thailand constitutes a distinctive setting for studying this issue. Due to the prevalence of bank loans, Thailand firms rely less on capital market financing, potentially making liquidity less relevant in capital structure decisions. Public capital markets in Thailand are relatively young. In addition, several large Thailand firms are part of a conglomerate that has its own commercial banks, which provide funding for firms in their business group. These characteristics make capital market financing less prevalent among Thailand firms and may make the effect of liquidity on capital structure much less pronounced, if not disappear entirely (Wiwattanakantang, 2001).

What motivate Thailand's firms invest overseas? The pushing factors have been increasing domestic operation costs, the shortage of inbound manpower and regional economic integration; other key drivers for Thailand's outbound investment consist of international market expansion of Thailand products and services (Thailand Board of Investment, 2015). The market-seeking motive is a significant main desire of Thailand firms to grow, expand markets and support trade and distribution channels (Wee, 2007). To capture a greater portion of cross-border value chain, it increases profit margin, and knowledge transferring, technical capability production and service expertise. The main driver to motivate Thailand to invest abroad is the pressure from the globalization in order to seek the competitive advantage as well as the regional integration forces Thailand firms to gain the benefit from the liberalization (Sermcheep, 2017). Southeast Asia is ominously a large market with good long-term growth prospects. Thailand usually flows to developed countries to serve the local market and vertical investment to developing countries to source production of intermediate goods, Thailand investors have simultaneously entered into developed and developing countries, with all types of investment going mostly to developed countries (Subhanij and Annonjarn, 2014). In 2015, Thailand's firms invest invested Singapore as the most preferred destination following by Laos, Malaysia, Indonesia, Philippines, Vietnam, and Cambodia, respectively (Bank of Thailand, 2017). However, some companies operate internationally and become successful, while some are not. Due to the failures of some Thailand firms in ASEAN market indicate there are ultimate issues of cross-border vertical integration which need to be examined. From previous studies, there are no any studies mentioned about the key causes of failure in operating internationally of Thailand firms in Southeast Asia. The effectiveness of vertical integration of Thailand firms in AEC is not known because the AEC is supposed to improve the cost efficiency of the firms.

To access a larger market, firms go internationalization will be able to incur higher financial strength with lower cost of capital, with the array of other benefits particularly in term of reducing production costs, knowledge sharing and ease in finding similar resource and input in productions. Profitability, total liquidity, risk and presence in foreign markets are key factors affecting the capital structure of firms (Pacheco and Tavares, 2015). The great advantage of internationalization is easy to synthesize with theories of location including competitive advantage and new economic geography, which emphasizes on economies of scale and transport costs (Buckley and Casson, 2011). In line with the advantage of vertical integration, which is efficacy of transaction cost, Geographical distance and cultural distance are metrics to be considered in doing international business, which may incur management costs. More geographical distance and cultural distance attract less foreign investment. Particularly, as communication and information exchange is important in context of foreign investment (Merz, Overesch and Wamser, 2017). While the co-insurance effect benefits appear when merging companies earn more financial streams which would reduce default risks and increase borrowing capacity of the merged firms (Byun et al., 2013; Menéndez and Alonso, 2003). The firms affiliated with bigger firms is lower cost of public debt than performing independently as the group-affiliated firms play a substantial part of value-added generation in both developed and developing countries (Altomonte and Rungi, 2013). Internationalization and integrated subcontracting are not always beneficial. There have been very few studies on vertical integration analyzing why and how Thailand firms vertically integrated invest in Southeast Asian countries. Prior studies focus on Thailand firms' oversea investment but do not specify the studied region (Cheewatrakoolpong, Sabhasri, and Bunditwattanawong, 2015; Lee and Sermcheep, 2017; Tientip Subhanij and Annonjarn, 2016; Wee, 2007).

4. Methodology

4.1 Variables

Financial Perspectives examine if the company's strategy contributes to the bottom-line improvement of the company which represents the long-term strategic objectives of the organization thus indicates the result of good performance in the other three scorecard perspectives. Financial performance is a lag indicator, provides the ultimate definition of an organization's success, and describes how to create growth in the shareholder value.

Profitability: Some argument of the vertical integration may not the appropriate strategy for firms to rely on in international business expansion in term of cost-effectiveness. The positive impact of trade liberalization on cross-border vertical integration of a firm does not certainly imply to increase an extensive margin (Lafontaine and Slade, 2007). Regarding the profitability of integration, the presence of complementary input suppliers gives rise to an expropriation conduct, which indicates that vertical integration may no longer be profitable. The threat of expropriation is particularly pronounced if an upstream supplier is efficient, points toward that it is less profitable for efficient firms to integrate (Reisinger and Tarantino, 2013). Profitability is calculated by earnings before interest and tax (EBIT) divided by sales during the year. Therefore, this study can be hypothesized that:

H_1: Profitability has a significant positive effect on cross-border vertical integration of Thailand firms in Southeast Asia countries.

Liquidity is a ratio between total current assets of the firm and the total current liabilities obligation within a period of one year or normal operating cycle of the firm whichever is greater. To survive, firms must be able to meet their short-term obligations by paying their creditors and be able to repay their short-term debts. Some degree of liquidity is good for the firm, but a very high liquidity ratio might suggest that the firm is sitting around with a lot of cash because it lacks the managerial acumen to put those resources to work. However, very low liquidity ratio means the firm may struggle to meet its short-term obligations as and when they fall due. Large firms have more ready access to alternative sources of liquidity in capital markets, it also appears to be the case that the incidents of excess cash are more often present in large firms (Dittmar and Mahrt-Smith, 2007). Then, it can be hypothesized that:

H_2: Firm liquidity has a significant positive effect on Cross-Border Vertical Integration of Thailand Firms in Southeast Asia countries.

Firm Leverage shows the extent to which the totals assets of a firm are financed by loans, which the higher ratio shows the dependence of the company on external debt, financing and greater score being given to the firm by debt providers. Highly leveraged firms can mitigate conflicts between shareholders and managers concerning the choice of investment that means the choice of capital structure helps in mitigating agency costs and thereby influences firm performance (Berger, 2002; Myers, 1977). The different internalization level would make different financial decisions as the leverages of international firms were significantly lower than those of the

domestic firms (Lin, 2012). Whereas Singh and Nejadmalayeri (2004) found the leverage of a firm had positive relationship with internationalization level. Developing country financial markets are not fully integrated with foreign markets and therefore in the Geographic diversification and agency costs of debt of multinational firms study of Doukas and Pantzalis (2003) suggest that developing country firms can raise more capital at more favourable terms through foreign debt financing when they internationalize. Thus, the hypothesis can be as follow:
H_3: Firm Leverage has a significant positive effect on cross-border vertical integration of Thailand firms in Southeast Asia countries.

Exchange rate refers to the exchange rate of ASEAN currencies to US Dollar. As going internationalization, the project that in abroad definitely face the issue of currency risk, exchange rate fluctuates and has impact on the host and home country firms (Reddy, 2015). Therefore, it can be hypothesized that:
H_4: Exchange rate has a significant positive effect on cross-border vertical integration of Thailand firms in Southeast Asia countries.

Firms' performance: Richard et al. (2009) carried out a study that measured organisational performance as a dependent variable towards methodological best practice in business fields with the suggestion that a single dimension of performance measurement might limit the effectiveness of the commonly accepted measurement practices. In this research, there are two alternative measurements of firm performance, Tobin's Q (Q) and Excess Profit Margin (EPM), as firm value measurements. *(1) Tobin's Q* is the most commonly used measurement of firm value in empirical risk management studies (McShane et al., 2011, Gatzert and Martin, 2015). When the value of Tobin's Q is more than one implying that the market value of a firm's assets exceeds its replacement costs. In addition, there are difficulties in both measuring intangible assets and adjusting to changes in the replacement costs. This might be the problem of using Tobin's Q. *(2) Excess Profit Margin (EPM)* is used for short-term performance measuring by its profit margin, calculated as one minus the costs of goods sold over sales. This excess profit margin measure is more appropriate than other accounting income variables for the purposes of this study since it is perfectly correlated with average variable cost which is widely used by micro-economists to proxy factor productivity changes (Claessens et al., 2003).
H_5: Vertical integration has a significant positive effect on Thailand firms' performance.

The theoretical basis for this study is the effectiveness of cross-border vertical integration of Thailand firms in Southeast Asia countries, which focus on financial perspectives. The studies will totally use nine variables comprising of Profitability, Liquidity, Firm leverage, and Exchange rate additional with the five control variables as firm size, firm age, Cultural distance, Geographical distance and Gross Domestic Products (GDP) per capita. Table 1 shows the variables used in this study.

Table 1: Description of Variables

Variables	Indicator	Description
Dependent Variable: *Firm Performance*	Excess Profit Margin *(EPM)*	Calculated as one minus the costs of goods sold over sales.
	Tobin's Q *(Q)*	Market value of ordinary shares plus book value of preferred shares and debt divided by book value of total assets.
Independent Variables: *Financial*	Profitability *(Profit)*	Earnings per share
	Liquidity *(Liquid)*	Current assets/current liabilities
	Exchange rate (*EXC*)	The exchange rate of ASEAN currencies to US Dollar.
	Leverage *(Lev)*	Total liabilities/total assets (Ali et al., 2007)
Control Variables	Firm size *(FSize)*	Natural logarithm of market capitalization (Ali et al., 2007)
	Firm Age *(FAge)*	The number of years a firm has been incorporated.
	Cultural distance (*CultD*)	Language Dummy
	Geographical distance (*GeoD)*	Distance from host country to home country.
	Gross Domestic Products *(GDP)*	Gross Domestic Products (GDP) Per Capita

4.2 Models

The models used in the study is given below:

$$V = A + B_1 PROFIT + B_2 LIQU + B_3 LEV + B_4 EXC + B_5 ControlV + \varepsilon_i \quad \text{---(1)}$$

Equation (1) is used to measure the degree of relatedness between the primary and secondary segments of a firm. These relatedness measures have been adopted in this study to ensure consistency across economies and to provide a common benchmark. Due to different degrees of complexity or different types of diversification could be subject to different degrees of capital misallocation problem. We estimate the association between the dependent variables then adopting the economic model mentioned in Equation (1), (2) and (3).

$$EPM = A + B_1{}^*V + B_2 PROFIT + B_3 LIQU + B_4 FLEV + B_5 EXC + B_6 ControlV + \varepsilon_i \quad \text{---(2)}$$

$$Q = A + B_1{}^*V + B_2 PROFIT + B_3 LIQU + B_4 FLEV + B_5 EXC + B_6 ControlV + \varepsilon_i \quad \text{---(3)}$$

Where, V = Vertical Relatedness, *A* = Constant Value, *B* = the coefficient of the explanatory variables (Financial mechanisms), ε_{It} = The disturbance or error term (assumed to have zero mean and Independent across time period), PROFIT = Profitability LIQU = Liquidity, FLEV = Firm Leverage, EXC = Exchange rate, EPM = Excess Profit Margin, ControlV = Control Variables (Firm Size, Firm Age, Cultural distance, Geographical distance and GDP)

Some control variables have been included to monitor as they might affect the proposed relationships (Barroso et al., 2011). Firm size can be measured by the logarithm of market capitalization. Larger companies are more active in exporting and other international operations Firm age can be calculated by the number of incorporated years of a firm. Cultural distance, Geographical distance and Gross Domestic Products (GDP) per capita also indicate the impact of economic development in each country (Ellis et al., 2017). These country-specific factors are significantly important to international businesses. That could affect the attractiveness of a country as market or investment site. (Tricker, 2015). These features discussed are all geared towards making the operations effective to enable the firm to generate superior performance.

This study describes how effective Thailand companies vertically integrated invest in Southeast Asian countries and explores the impacts of financial factors towards firms' value added. The population of this study is drawn from 589 Thailand companies listed on the Stock Exchange of Thailand (SET) by targeting on 48 Thailand firms with vertical integration and 48 firms with non-vertical integration, covering Thailand companies from various industries or sectors. Five years data of 2012-2016 will be extracted from secondary sources, annual reports, companies' websites and SETSMART database then analyzing data by regression models (Ordinary Least Squares: OLS).

5. Conclusion

The results of the study may influence some methods of intervention in the international investment of Thailand firms, which probably become the guidelines and masterpiece for other new firms' investment in regional integration to gain benefits and contribution to the social, economic, and national levels. This study will reveal whether when many companies have to set up initiatives internationally, they lack the understanding of the factors that will influence their success and highlight implementation, which is critical to gain effectiveness in the understanding of practice. This will be benefit to practitioners, business advisors and regulators. Regulators, consultants and corporate governance advocates, all suggest that the good implementation of some financial factors can improve firm performance.

6. References

Ali, A, Chen, T.Y. & Radhakrishnan, S. 2007, Corporate disclosures by family firms. *Journal of Accounting and Economics*, vol 44, no. 1-2, pp. 238-286.

Altomonte, C. & Rungi, A., 2013. Business groups as hierachies of firms: Determinants of Vertical Integration and Performance, *Working paper series*, 1554/ June 2013. European Central Bank

Barroso, C., Villegas, M.M. & Pérez-Calero, L., 2011. Board influence on a firm's internationalization. *Corporate Governance*, 19(4), pp.351–367.

Bhuyan, S., 2005. An Empirical Evaluation of Factors Determining Vertical Integration in U.S. Food Manufacturing Industries. *Agribusiness*, 21(3), pp.429–445.

Buckley, P.J. & Casson, M., 2011. Marketing and the multinational: Extending internalisation theory. *Journal of the Academy of Marketing Science*, 39(4), pp.492–508.

Buzzell, R.D., 1983. Is vertical integration profitable? *Harvard Business Review*, 61(1), pp.92–102.

Byun, H.Y., Choi, S., Hwang, L.S.& Kim, R.G., 2013. Business group affiliation, ownership structure, and the cost of debt. *Journal of Corporate Finance*, 23(2013), pp.311–331.

Cheewatrakoolpong, K., Sabhasri, C. & Bunditwattanawong, N., 2015. *Asian Development Bank Institute*.

Claessens, S. et al., 2003. When does corporate diversification matter to productivity and performance? Evidence from East Asia. *Pacific-Basin Finance Journal*, 11(3), pp.365–392.

Dittmar, A. & Mahrt-Smith, J., 2007. Corporate governance and the value of cash holdings. *Journal of Financial Economics*, 83(3), pp.599–634.

Doukas, J. a. & Pantzalis, C., 2003. *Geographic diversification and agency costs of debt of multinational firms*,

Gonenc, H. & de Haan, D.J., 2014. Firm Internationalization and Capital Structure in Developing Countries: The Role of Financial Development. *Emerging Markets Finance and Trade*,

50(2), pp.169–189.
Khanna, T. & Yafeh, Y., 2005. Business Groups in Emerging Markets : Paragons or Parasites ? Business Groups in Emerging Markets : Paragons or Parasites ? *Journal of Economic Literature*, XLV(August), pp.331–372.
Lafontaine, F. & Slade, M., 2007. Vertical Integration and Firm Boundaries: The Evidence. *Journal of Economic Literature*, 45(3), pp.629–685.
Lee, C. & Sermcheep, S., 2017. *Outward Foreign Direct Investment in ASEAN*, Singapore: ISEAS – Yusof Ishak Institute.
Lin, F., 2012. Internationalization and Capital Structure of Taiwan Electronic Corporations. *International Business Research*, 5(1), pp.164–171.
Matsushima, N. & Mizuno, T., 2012. Why do Large Firms Tend to Integrate Vertically? *Bulletin of Economic Research*, 64, pp.s1–s21.
Menéndez-Alonso, E.J., 2003. Does diversification strategy matter in explaining capital structure? Some evidence from Spain. *Applied Financial Economics*, 13(6), pp.427–430.
Merz, J., Overesch, M. & Wamser, G., 2017. The location of financial sector FDI: Tax and regulation policy. *Journal of Banking and Finance*, 78, pp.14–26.
Pacheco, L. & Tavares, F., 2015. Capital structure determinants of Portuguese footwear sector SMEs: Empirical evidence using a panel data. *Tékhne*, 13(2), pp.145–157.
Reddy, K.S., 2015. *Determinants of Cross-border Mergers and Acquisitions: A Comprehensive Review and Future Direction*. Available at SSRN:http://dx.doi.org/10.2139/ssrn.2685548. [Accessed 12 October 2017].
Reisinger, M. & Tarantino, E., 2013. Vertical Integration with Complementary Inputs. *Working Paper*, (February), pp.1–39.
Sermcheep, S., 2017. The rise of outward foreign direct investment from asean. *Outward Foreign Direct Investment in ASEAN*. Singapore:ISEAS-Yusof Ishak Institute, pp. 5–29.
Sim, A.B., 2006. Internationalization Strategies of Emerging Asian MNEs–Case Study Evidence on Singaporean and Malaysian Firms. *Asia Pacific Business Review*, 12(4), pp.487–505.
Singh, M. & Nejadmalayeri, A., 2004. Internationalization, capital structure, and cost of capital: Evidence from French corporations. *Journal of Multinational Financial Management*, 14(2), pp.153–169.
Subhanij, T. & Annonjarn, C., 2016. Horizontal, vertical and conglomerate OFDI: Evidence from Thailand. *Journal of Applied Business Research*, 32(3), pp.747–764.
Thailand Board of Investment, 2015.
Tricker, B., 2015. *Corporate Governance: Principles, Policies and Practices.* 3rd ed. Oxford: Oxford University Press.
Wee, K.H., 2007. Outward foreign direct investment by enterprises from Thailand. *Transnational Corporations*, 16(1), pp.89–113.
Wiwattanakantang, Y., 1999. An empirical study on the determinants of the capital structure of Thai firms. *Pacific-Basin Finance Journal*, 7, pp.371–403.
Wiwattanakantang, Y., 2001. Controlling shareholders and corporate value : Evidence from Thailand. *Pacific-Basin Finance Journal*, 9, pp.323-362.