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The Impact of Financial Market Development on FDI in Developed and Emerging Countries

Catherine S F Ho and Lena C Booth

Global financial market has developed tremendously in the last two decades and has affected financial flows and the flow of international investments. With subdued global economic activities and generalized slowdown in emerging markets, countries need to manage vulnerabilities in the financial markets and rebuild resilience against potential shocks while lifting growth through the attraction of foreign investments. Sustainable macroeconomic policies must be in place coupled with financial stability to sustain global businesses. This paper examines the relations between financial market development and foreign direct investment (FDI) for the United States and Malaysia from 1981 to 2013. We divide financial market development into stock market and banking sector development. Our results show that higher stock market liquidity draws more FDI into the developed U.S., signifying higher foreign investors' confidence and the importance of equity capital financing opportunities to foreign investors. In Malaysia, banking sector development has a significantly negative effect on FDI inflows, suggesting two possibilities: FDI is considered a substitute for financial development, or excess liquidity in the banking sector is perceived by foreign investors as having higher risk of financial fragility, hence results in lower FDI inflows.

Keywords: Foreign direct investment, stock market development, banking sector development

JEL Classification: E42, E44, F21

1. Introduction

The financial system is a catalyst in stimulating economic development as it mobilizes savings and raises capital to finance investment projects. It also extends and creates contemporary credit facilities for domestic and international businesses. An efficient financial system that enhances financial stability and prevents cyclical financial crisis attracts more foreign direct investment (FDI). There are broad consensuses on FDI having positive impact and playing an important role in stimulating economic growth and modernizing a nation's economy (Zhang, 2001; Sghaier and Abida, 2013). However, few studies have examined the relation between the level of financial market development and FDI. Generally, FDIs enhance and complement domestic financial markets through more stabilized financial sourcing, the attraction of additional foreign capital, and building higher level of business confidence. Additionally, foreign firms may recover (or increase) their investment by issuing (or purchasing) equity in the capital market, thus enhancing the domestic stock market through increased liquidity.

Catherine S F Ho, Faculty of Business & Management, Universiti Teknologi MARA, Malaysia.
Lena C Booth, Thunderbird School of Global Management, Arizona State University, U.S.A.

In the current challenging global environment with economic and geopolitical uncertainties in both developed and fast emerging economies, actively exert effort in stimulating investments and growth is a major task for many nations. Following the Asian and global financial crisis, and the recent banking and debt crisis in Europe, there were major changes in the composition of capital flows. In developing countries, there was a shift in emphasis among policy makers on how to continuously attract more FDI. FDI is believed to have positive impact on productivity gains, knowledge transfers on technology and processes, managerial skills, human capital training, international production network, and access to markets. It is important to realize that a country's capacity to take advantage of these positive externalities depends on its domestic institutional advancements and economic conditions.

Lee and Chang (2009) argue that the degree of FDI contribution depends on the overall business climate in the recipient countries. A well-developed financial sector with healthy domestic credit and liquid liabilities represents comparative advantage that enhances the success of FDI. The level of financial development also helps determine the extent of the positive impact foreign investment brings since foreign investors resort to domestic financial institutions to carry out financial transactions (Deichmann *et al.,* 2003). The lack of efficient finance and banking facilities typically prevent developing countries from taking full advantage of technology transfer and other benefits from foreign investment. Less developed countries with a weak financial system are trapped in a vicious circle of low economic performance, and low levels of financial development in both the stock market and banking sector, resulting in poverty, famine and potential risk of crisis. Many developing countries recognize that strong financial sector development contributes to economic growth (Pradhan *et al*., 2014; Herwatz and Walle, 2014). They have adopted development strategies that prioritize banking sector and stock market development. They have also implemented policies such as liberalization and privatization of organizations, and reduction of government intervention to ensure transparency and efficiency of the financial markets.

Given the above arguments, it is not surprising that FDI and financial market development have a positive relation. FDI is generally considered to be complementary to stock market development. Claessens *et al*. (2001) provide evidence for 77 countries from 1975 to 2000 that FDI is positively correlated with both stock market and banking sector development, similar to findings of Mohtadi and Argawal (2004) from 1980 to 1997 for a group of 21 developing economies. Choong *et al.* (2004) argue that economies with more developed financial markets are better able to benefit from FDI and promote economic growth. A later study by Agbloyor *et al*. (2013) from 1970 to 2007 also finds significant relation between financial markets and FDI in African countries.

In contrast, there are explanations as to why financial development and FDI may have a negative relation. When multinational companies find financial markets in the host countries inadequate for their needs, they will resort to FDI. According to Claessens et al. (2001) and Al Nasser and Gomez (2009), FDI is considered a substitute for investment in the capital markets as it is a way to circumvent the difficulties of investing through capital markets. This suggests that FDI is higher in countries that are riskier, financially underdeveloped, and institutionally weak. Empirically, in a study of 97 countries, Dutta and Roy (2011) show a significantly

negative relation between financial development and FDI, after controlling for political risk. Similarly, Bala Umar, Ismail, and Sulong (2015) document that in the short-run, all the stock market development indicators have an inverse and significant relation with FDI in Nigeria.

The negative relationship between financial market development and FDI could also stem from the notion of financial fragility suggested by Loayza and Ranciere (2006). They argued that high level of liquidity in the banking sector - financial liberalization - could result in financial fragility in the short-run, i.e. higher volatility and an increased risk of financial crisis. This will in turn result in short-term negative economic growth. This implies that high level of financial fragility could deter investors and result in lower FDI.

Contrary to previous studies, the result from this study for an emerging Malaysian market finds no significant relation between stock market development and FDI, while there exists a negative relation between banking sector development and FDI. On the other hand, the result for developed U.S. confirms the positive relation between stock market development and FDI but lack significant evidence to support banking sector development and FDI.

In summary, there is little consensus among financial experts on the relation between financial sector development and FDI. Previous empirical studies on this relation do not provide definitive conclusions. Many of the studies also document how FDIs help improve domestic financial markets, not vice versa. Also, most studies focus on role of financial market development and the link between FDI and economic growth, with no deep understanding of direct causality between financial market development and FDI, especially in emerging markets where financial markets are in the development stage. From the literature review of research in this area, to the best of knowledge, there is limited empirical evidence specifically addressing the impact of financial market development on FDI flows. Only a handful of studies provide evidence on this: Adam and Tweneboah (2009) for Ghana, Al Nasser and Soydemir (2010) for Latin American countries, Kholdy and Sohrabian (2008), Agbloyor *et al.* (2013) for Africa, and Soumaré and Tchana (2014) for emerging economies.

This research takes cues from the recent emphasis on the role of domestic institutions, especially how the lack of local financial market development could limit the economy's ability to attract FDI. It aims to investigate the direct impact of financial market development on FDI flows for a developed and an emerging country, United States and Malaysia respectively. Financial market development in this study consists of both the stock market and banking sector indicators. The sample period spans from 1981-2013.

The rest of the paper is structured as follows: Section 2 reviews the theoretical and empirical literature on financial market development and FDI. Section 3 describes the data and methodology applied in the empirical analysis and Section 4 presents the empirical findings. Section 5 ends with a summary of the major findings and offers some policy implications.

2. Literature Review

Theories that commonly explain FDI flows are market imperfection theory, internationalization theory, and the product life-cycle hypothesis. The market imperfection theory explains foreign investment as a strategy to profit from tangible or intangible competitive advantage that is not shared by competitors in foreign countries (Hymer, 1970). The competitive advantage allows firms to capitalize on the market imperfection for products and factors of production. The internationalization theory explains the gradual process of a firm's international involvement,and the interrelated steps it shouldfollow in order to achieve success. The evolution of foreign entry starts with exports by local agents to new markets, and later by setting up licensing and manufacturing plant. Rugman (1981) articulates that the sequential process of internationalization involves exporting; licensing; establishment of local warehouses and direct local sales; local assembly and packing; formation of a joint venture; and eventually foreign direct investment. The product life cycle hypothesis, on the other hand, provides evidence of the maturity of product process and shifting of production to the most cost-efficient location.

Lokesha and Leelavathy (2012) define foreign direct investment as the process where domestic investors of a home country acquire assets located outside of the home country with the intention of controlling the activities of the enterprise. FDI is very important for both developed and developing countries in guiding sustainable development and growth (Aamir *et al.*, 2011; Ramrattan and Szenberg, 2014).Generally, empirical studies have focused on macroeconomic and country specific determinants of FDI (Suliman *et al.*, 2015; Ho *et al.*, 2013; Aamir *et al.,* 2011 and Ho and Rashid, 2011). This study, however, investigates how financial market development, which consist of both banking sector and the stock market development, affects FDI.

Mercelin and Mathur (2014) define banking sector development as the process of improvement in the quality and efficiency of banking services through appropriate and sound regulation and deregulation, fostering competition to reduce cost of doing business, reducing barriers to entry, and supplying a diversified set of innovative banking and financial products to all levels of the economy. Stock market development is defined as the process of improvement in the quality and efficiency of the stock market services to facilitate the raising of debt and equity capital for domestic and international investments (Classens *et al.*, 2001). Understanding the policy implications of the nexus between banking sector development, stock market development and FDI is of great importance in the field of finance and economics.

The theoretical understanding of the finance-growth relation postulates that banks play an important role in sustaining the growth of an economy by adopting new financial products and technologies. Levine (1997) provides a comprehensive discussion in which financial systems promote economic growth through capital accumulation and technological innovation. Subsequent studies explore the empirical link between financial systems and capital accumulation. Rajan and Zingales (1998) provide evidence that industries which are reliant on external finance grow faster in more developed financial markets. Love (2003) finds that financial market development reduces the reliance of internal funds for corporate investments therefore promote capital accumulation and growth.

Choong (2012) finds evidence that domestic financial system, namely the banking sector development, is a significant prerequisite for FDI. The evidence suggests that the effect of FDI is contingent on the absorptive capacity of recipient countries with respect to the development of the domestic financial system. Given the influence of financial development on FDI's success, it is crucial that policy makers develop and improve the domestic financial system to more effectively channel and transform the advantages embodied in FDI inflows. A later study by Pradhan, *at el.* (2014) deliberates the relation between banking sector development, stock market development, investment and economic growth. They recommend making banking sector more accessible and nurturing stock market development as that would facilitate additional capital for investment purposes and enhance growth. Alfaro et al. (2004) conclude that countries with better financial systems, through significant banking sector development, can exploit FDI more efficiently. Their results are robust across different measures of financial market development and are consistent with findings from Carkovic and Levine (2003), and Hermes and Lensink (2003).

A study on the Africa countries by Adeniyi *et al.*(2012) concludes that the extent of financial sophistication, specifically liquid liabilities of the banking sector, matters for FDI in African countries. Their evidence suggest that financial market development play a role in not only domestic but also foreign investment decisions. In addition, Lee and Chang (2009) confirm that healthy development of the financial system, represented by healthy domestic credit and liquid liabilities, is a drawing force for FDI. A well-developed financial sector represents comparative advantage that enhances the success of FDI.

Even though the extent of financial development may vary from developed to developing countries, Edison *et al.* (2002) argue that a more developed financial system, in terms of domestic credit and banking transactions, is more effective in absorbing capital flows and eventually resulting in economic prosperity. Hermes and Lensink (2003) also indicate the importance of domestic financial system as a precondition for positive growth effects of FDI through technological change.

Different periods of the business cycle may also affect investments differently. Gochoco-Bautista *et al.*(2014) conclude that during the period of global financial crisis, changes in financial development led to a large change in FDI. This suggests that promoting financial development through financial depth, financial access, financial sector stability and efficiency is an effective tool to mitigate external shocks through foreign investments. For Malaysia, Ang (2008) investigates the relation between FDI and financial development, and finds that private saving and FDI depend positively on financial development in the country. Samargandi, Fidrmuc and Ghosh (2015) conclude that optimizing the financial deepening, i.e. strengthening the appropriate type and quality of finance rather than expanding the financial sector per se, is most effective in increasing investment and productivity.

Desbordes and Wei (2017) empirically investigate the effects of home (source) and host (destination) countries' financial development on FDIs. They also attempt to establish causality by exploiting sector-specific financial vulnerability. Their results show that both the source and destination financial developments have a significant positive influence on green field, expansion, and mergers and acquisitions FDI. This is because financial developments directly increase companies' access to external financing and indirectly promote manufacturing activities. They conclude that the

economic impacts of source and destination financial developments are similar but their direct and indirect effects vary across margins and types of FDI.

There are a few studies in Africa that provide international evidence on this subject. A recent study by Agbloyor, Abor, Adjasi, and Yawson (2013) on financial markets and FDI in Africa from 1990 to 2007 argues that countries with more advanced banking system and better developed stock markets can attract more FDI flows. Acheampong and Wiafe (2013), using auto-regressive distributed lag (ARDL) model and quarterly time series data from International Financial Statistics and Bank of Ghana, examine the impact of FDI on stock market development from 1990 to 2010. They find that FDI has a positive impact on stock market development in Ghana, supporting the complementary hypothesis. Other variables such as inflation and exchange rate are also shown to have a positive impact on stock market development. Additionally, their results support a bi-causality between FDI and stock market development. Applying the same model to Nigeria for the period 1970-2013, Bala Umar, Ismail, and Sulong (2015) find contradicting results. They show that, in the long run, there is an inverse relationship between the rate of stock turnover and FDI, but a positive and significant relation between the value of stock transaction and FDI. In the short-run, all the stock market development indicators have an inverse and significant relationship with FDI. Their study suggests that higher level of stock market development adversely limits Nigeria's ability to attract FDI. Gebrehiwot, Esfahani, and Sayim (2016) also examine the long-run relation but in eight countries in the sub-Saharan African region between 1991 and 2013. The authors employ both the banking and stock market development variables as indicators for financial market development. They find a significantly positive relation between FDI and only one of the banking sector development indicators (amount of credit relative to GDP), but no relation with other banking indicators. Similarly, FDI and stock market capitalization relative to GDP have a significant positive relation, but no relation between FDI and other stock market indicators such as market turnover ratio or stock value traded, both relative to GDP.

Abzari, Zarei, and Esfahani (2011) analyze the link between financial development and FDIs among D-8 group of countries for the period 1976 to 2005. They argue that despite proven positive effects on economic growth, financial market development has not been expanded in many developing countries. The study aims to investigate whether FDI could stimulate financial development in these D-8 countries. The results show positive and significant causality links between FDI and financial market development in five out of the eight countries. The authors conclude that even countries with political dictatorship could improve their financial institutions with FDI flows. Study in Croatia by Arcabic, Globan, and Raguz (2013)on the long-term and short-term relations between stock market and FDI shows that in the short-run, stock market movements directly affect the amount of FDI. Their results are consistent with the argument that positive trends in the stock market signify market vitality, openness of the economy, and favourable investment climate. However, they find no significant relationship between stock market and FDIs in the in the long run.

Appling unit root test and co-integration approach, Sbia and Alrousan (2016) study the long run relationships between financial development, FDI, capital and economic growth in the United Arab Emirates. The results show that co-integration between financial development and economic growth exists. The findings also reveal that an increase in capitalization and FDI expand domestic production and promote

economic growth. Additionally, the study documents a bi-directional causality between financial development and capital use. The results suggest that financial development complements FDI, and properly structure each of these policies will help achieve long-term sustainable economic growth in the UAE.

Sahina and Ege (2015) examine if FDIs have an impact on financial development in Greece, Bulgaria, Macedonia, and Turkey for the period 1996 to 2012. Their study is based on the notion that FDIs increase the funds available to the financial system which in turn helps the financial markets develop. They find that FDIs have a positive impact on financial development in all countries except Macedonia, where FDIs have no impact. In addition, they find a bi-directional causality in Turkey, suggesting financial development also affects FDIs positively in Turkey.

In a study examining the impact of FDIs on stock market development between 1985 and 2011 in Pakistan, Malik and Amjad (2013) find that FDIs play a positive role in supporting stock market development. The results hold true both in the aggregate stock market and in sectors with high concentration of FDIs in recent years. For other sectors, the relationship of FDIs is negative. Their results also show a bi-directional causality between FDIs and economic growth, and a unidirectional causality between aggregate stock market development and economic growth.

There are also studies that provide evidence with big data sets consisting of many countries. Zakaria (2007) examines the relation between FDI and financial development in 37 countries and finds that FDI affects the development of domestic stock markets in developing countries. Dutta and Roy (2011), in a study of the association between political risk, financial development and FDI for 97 countries, find a concave relation between financial development and FDI for each level of political risk. They document that financial development has a negative impact on FDI beyond a critical level of financial development. In the multivariate analysis, their results show a significant negative relation between financial development and FDI, after controlling for political risk. They conclude that efficient financial structure does not help attract FDIs if the country is politically unstable. Munemo (2016) investigates the impact of financial market development on the relation between FDI and business start-up, a salient feature of entrepreneurship, for a panel of 92 developing countries. The author conjectures that financial market is an important channel for FDI to influence entrepreneurship. The results show that the ability of FDI to crowd-in business start-ups depends largely on the host country's financial market development. This suggests that developing countries could more fully absorb the positive externalities from FDI inflows in stimulating entrepreneurship only after financial development reaches a certain threshold. Hence, to enhance entrepreneurship, developing countries should improve their financial market conditions via good policies and regulatory environment.

Jankovic and Yatrakis (2011) confirm that relationships exist among country risk ratings, financial market, and expected returns in transitional economies. They argue that such relationships are useful for developing policies to improve capital markets and attract external capital. Chee and Nair (2010), applying panel data method for Asia and Oceania countries from 1996 to 2005,argue that financial sector development enhances the contribution of FDI growth in the regions. In summary, previous studies have not fully examined the interactions between financial

development and FDI. Some recent studies that shed light on this relation have inconclusive findings.

3. Data and Methods

The establishment of measurable factors to capture financial market development is not an easy task, due to a number of reasons. Financial services are provided by a wide range of financial institutions and agents; yet banks and stock markets both play major roles in the financial development of a country. Hence, it is inevitable that there exists more than one way to compile accurate and comparable measures of financial services data over a span of several decades. Financial market development variables can be classified into two broad categories: the banking sector factors and those relating to the stock or equity market. In this study, we employ four different measures of financial market development to capture the changes in stock market and banking sector on FDI in the United States and Malaysia. To analyze the impact of financial development on FDI, annual data from 1981-2013 for these two countries are collected from International Financial Statistics of the International Monetary Fund (IMF), World Development Indicators and Global Development Finance Series Database from World Bank, and Global Market Information Database from Euro monitor International.

For the banking sector variables, two measures are included. First measure is the liquid liabilities of the financial system, defined as the currency plus demand and interest-bearing liabilities of banks and non-financial intermediaries as a ratio of GDP (BL). This measure reflects the overall changes in the level of development in the banking sector as it measures the size of total liquid assets in the economy. This measure also indicates financial deepening, similar to Levine et al. (2000), as it provides a measure for the overall size of the financial sector. Second, the total assets of banks as a ratio of GDP (BA) which measures the size of the banking sector that provides a spectrum of financing sources to domestic and international firms. This measure provides indication of the changes in the size of the banking sector in relation to the economy as a whole.

Stock market development is generally measured by stock market size, liquidity, volatility, and integration with world stock market as detailed in Garcia and Liu (1999), as well as Boyd *et al.* (2001). This study employs two proxies of stock market development to capture the changes in size of the stock market and its liquidity:1) relative size of the stock market (SMC)as quantified by total stock market capitalization as a ratio of GDP, and 2) stock market liquidity (SMT) as measured bythe value of stock trading (value of trades of domestic shares on domestic stock exchanges) relative to the size of the economy, GDP. Higher trading volume of shares reflects higher liquidity of the domestic stock market (Levine and Zervos, 1998). A more active and liquid stock market means larger investments could be supported. In addition, the study also controls for country specific variables such as household consumption and domestic investment.

The model function is stated as:

$$FDI_t = \theta_0 + \gamma_1 SMT_t + \gamma_2 SMC_t + \gamma_3 BA_t + \gamma_4 BL_t + \gamma_5 HHC_t + \gamma_6 DINV_t + \mu_t \quad (1)$$

where *FDI* represents foreign direct investment; *SMT* is value of stock trading as a ratio of GDP;*SMC* is the stock market capitalization as a ratio of GDP;*BA* is the total assets of banks as a ratio of GDP;*BL* is the currency plus demand and interest-bearing liabilities of banks and non-financial intermediaries as a ratio of GDP; *HHC* is the overall domestic consumption measured by household consumption divide by GDP,*DINV* is the domestic investment measured by gross fixed capital formation divide by GDP; and μ is the error term representing the effects of omitted variables. It is assumed that μ is characterized by an independently, identically distributed, random variable with a mean of zero and constant variance, and subscript *t* represent years. This list of factors is as shown in Table 1.

Ordinary least Square (OLS) multiple regression analysis is employed to investigate the financial market development effects on FDI inflow of each country and to explore the significance of these factors on FDI inflow as shown in equation (1). Additionally this approach also provides accurate predictions of the equation, and measures the extent, direction and strength of association of each determinant in explaining the change in FDI.

Table 1: Proxy for Variables and Expected Relation with FDI

Variables	Proxies	Expected Relation
Foreign Direct Investment (FDI)	Foreign Direct Investment/GDP	
Stock Market Capitalization (SMC)	Stock Market Capitalization/GDP	Positive
Stock Market Liquidity (SMT)	Value of Stock Market Trade/GDP	Positive
Banking Sector Asset (BA)	Total Bank Assets/GDP	Positive
Banking Sector Liquidity (BL)	Liquid Liabilities of Banking Sector/GDP	Positive
Household Consumption (HHC)	Household Consumption/GDP	Positive
Domestic Investment (DINV)	Gross Fixed Capital Formation/GDP	Positive

The changes in the variables are computed as measures of the respective transformed factors to ensure stationarity and to avoid spurious analysis of results. Unit root test results for both countries are shown in Table 2. This study applied both Augmented Dickey-Fuller (ADF) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) unit root tests in order to check stationarity of the time series. The data series are also corrected for multicollinearity, autocorrelation or heteroskedasticity problems with Variance Inflation Factor, White tests and Newey-West corrections.

Table 2: Unit Root Test Results for the U.S. and Malaysia

	USA			Malaysia		
Variables	ADF Test t-stats	Model (lag)	KPSS Test KPSS statistic	ADF Test t-stats	Model (lag)	KPSS Test KPSS statistic
FDI	-6.7276***	C(0)	0.2121	-6.6373***	C(0)	0.2485
SMT	-3.6226**	C(2)	0.2021	-2.0226**	N(2)	0.3076
SMC	-5.7042***	C(0)	0.2236	-4.7626***	C(0)	0.1088
BA	-7.3553***	C(0)	0.2028	-5.2012***	C(1)	0.1113
BL	-4.9329***	C(0)	0.1739	-5.7434***	C(0)	0.2751
HHC	-7.6819***	C(0)	0.2541	-5.2155***	C(0)	0.4193*
DINV	-4.8745***	C(0)	0.0849	-3.9570***	C(0)	0.1116

Note: ADF test has null hypothesis of the existence of a unit root in the time series while the null for KPSS tests is that the time series is stationary. ***, ** and * denote statistical significance at 1, 5 and 10 %, respectively.

4. Empirical Findings

The empirical results for domestic financial market development and other control factors on the flow of FDI into Malaysia are presented in Table 3. Both stock market capitalization and stock market liquidity are not significant in affecting FDI into Malaysia. There is no evidence supporting the size of the banking sector driving FDI into Malaysia either. The banking sector liquidity, however, has a negative and significant relation with FDI flows. This suggests that the higher the liquid liabilities in the Malaysian banking sector, the lower the FDI flows to the country. Our finding is consistent with the argument by Dutta and Roy (2011) that financial development has a negative impact on FDI beyond a critical level of financial development. Their results using data from 97 countries show a significant negative relation between financial development and FDI, after controlling for political risk. The negative relation is also consistent with Bala Umar, Ismail, and Sulong (2015) who observe a negative and significant relation between all the short-run stock market development indicators and FDI in Nigeria. Additionally, according to Claessens et al. (2001) and Al Nasser and Gomez (2009), FDI is considered a substitute for investment in financially underdeveloped, and institutionally weak countries. The observed negative relation implies Malaysia has achieved a certain level of financial development.

The negative relation can also be viewed from the notion of financial fragility suggested by Loayza and Ranciere (2006). They argued that high level of liquidity in the banking sector - financial liberalization - could result in financial fragility in the short-run, i.e. higher volatility and an increased risk of financial crisis. Financial liberalization, however, is shown to promote economic growth in the long run. If financial fragility is perceived by foreign investors when size of banking sector liquid liabilities increases, it will negatively affect FDI flows. The negative coefficient also

indicates that size of banking sector liquid liabilities is not a proxy for health of the financial system, which is expected to positively affect FDI flows.

Table 3: Results for Financial Market Development on FDI in Malaysia

This table presents the regression results as shown in equation (1):

$$FDI_t = \theta_0 + \gamma_1 SMT_t + \gamma_2 SMC_t + \gamma_3 BA_t + \gamma_4 BL_t + \gamma_5 HHC_t + \gamma_6 DINV_t + \mu_t$$

where *FDI* represents foreign direct investment; *SMT* is the stock market liquidity as measured by the value of stock trading as a ratio of GDP; *SMC* is the relative size of the stock market and is measured by stock market capitalization as a ratio of GDP; *BA* is the total assets of banks as a ratio of GDP and it proxies for the size of the banking sector; *BL* represents liquid liabilities of the financial system which is the currency plus demand and interest-bearing liabilities of banks and non-financial intermediaries as a ratio of GDP; *HHC* is the overall domestic consumption as measured by household consumption/GDP,*DINV* is the domestic investment measured by gross fixed capital formation/GDP; and μ is the error term and it represents the effects of omitted variables. It is assumed that μ is characterized by an independently, identically distributed, random variable with mean zero and variance and subscript *t* represent years.

Model	a	b	c	d	e	Full model
SMT	0.01594	0.0266	0.0247	0.0239	0.0161	-0.0115
	0.3432	0.2531	0.2926	0.3216	0.6337	0.6443
SMC		-0.0517	-0.0436	0.0115	0.0007	0.0502
		0.3292	0.3852	0.8735	0.9940	0.4465
BA			-0.1168	-0.1112	-0.0476	-0.0596
			0.2481	0.8719	0.4070	0.2240
BL				-0.8087	-0.6258*	-0.6046**
				0.1357	0.0566	0.0120
HHC					-1.0541	-2.0630**
					0.2576	0.0116
DINV						0.4815***
						0.0010
C	0.0143	0.0161	0.0177	0.0285	0.0268	0.0242
	0.3866	0.3310	0.2776	0.2326	0.2032	0.1333
Ad R^2	-0.0143	-0.0426	-0.0594	0.0302	0.1133	0.2613
F-sig	0.3432	0.4974	0.6063	0.2948	0.0451	0.0019

Note: ***, ** and * denote statistical significance at 1, 5 and 10%, respectively.

It is interesting to note that domestic investment is positive and significant in affecting FDI, indicating that when domestic investment increases, foreign investment increases as well. The result is consistent with domestic investment providing a signal of confidence in the economy, as increased confidence leads to higher investments from abroad. It is surprising that household consumption is negative and significant in the full model, indicating that a lower household consumption and expenditure attract foreign investment.

The regression results for the relation between U.S. FDI flows and test variables are presented in Table 4.The results show that financial market development has a positive and significant effect on FDI in the U.S. through stock market liquidity. The

stock market trade ratio is positive and significant in explaining FDI flows in the U.S. where a larger volume of trade in the stock market leads to higher FDI flows. The results make intuitive sense as a liquid stock market provides foreign investors and multinationals confidence about the country's financial system. It helps facilitate financing for those who wish to raise equity capital from the domestic stock market. High liquidity in the stock market also means the market is more efficient and stocks are more accurately valued through higher trade volumes. Additionally, a liquid equity capital market in a developed nation signifies the ability to support larger volume of investments. The result is consistent with empirical studies by Desbordes and Wei (2017), Gebrehiwot, Esfahani, and Sayim (2016), Agbloyor, Abor, Adjasi, and Yawson (2013), and Chee and Nair (2010) that countries with more advanced, better developed stock markets can attract more FDI flows.The results are also consistent with Arcabic, Globan, and Raguz (2013)'s argument that positive trends in the stock market signify market vitality, openness of the economy, and favourable investment climate, and hence have a positive impact on FDI flows.

Similar to the results of FDI flows to Malaysia, domestic investment has a positive and significant relation on FDI flows to the U.S. This indicates that confidence in the domestic economy has a positive impact on FDI flows in the U.S. Household consumption has a negative and significant coefficient on FDI before domestic investment variable was added. The coefficient is no longer significant after controlling for domestic investment. Stock market capitalization and both the banking sector variables are not significant contributors of FDI in the U.S. The results are consistent with Soumaré and Tchana (2014) who showed bidirectional causality between FDI and stock market development but not for banking sector development.

The results from Table 4 provide important policy implications. A key policy implication is that it is critical for the authorities to enhance liquidity in the financial sector as financial deepening facilitates mobilization of foreign capital formation and eventually stimulating foreign investments. A sustainable, strong, and liquid stock market in stils confidence among investors hence mobilizing domestic and foreign resources to increase productivity in the economy.

Table 4: Results for Financial Market Development on FDI in the United States

This table presents the regression results as shown in equation (1):

$$FDI_t = \theta_0 + \gamma_1 SMT_t + \gamma_2 SMC_t + \gamma_3 BA_t + \gamma_4 BL_t + \gamma_5 HHC_t + \gamma_6 DINV_t + \mu_t$$

where *FDI* represents foreign direct investment; *SMT* is the stock market liquidity measures the value of stock trading relative to the size of the economy as measured by GDP; *SMC* is the relative size of the stock market and is measured by stock market capitalization as a ratio of GDP; *BA* is the total assets of banks as a ratio of GDP which measures the size of the banking sector; *BL* represents liquid liabilities of the financial system which is the currency plus demand and interest-bearing liabilities of banks and non-financial intermediaries as a ratio of GDP; *HHC* being the overall domestic consumption measured by household consumption/GDP and *DINV* is the domestic investment measured by gross fixed capital formation/GDP; and μ is the error term and it represents the effects of omitted variables. It is assumed that μ

is characterized by an independently, identically distributed, random variable with mean zero and variance and subscript *t* represent years.

Model	a	b	c	d	e	Full model
SMT	0.0914***	0.0926***	0.0925***	0.0910***	0.1094***	0.0884***
	0.0002	0.0002	0.0003	0.0014	0.0004	0.0044
SMC		0.1133	0.1388	0.1353	-0.4341	-0.2450
		0.5487	0.7041	0.7184	0.2930	0.4817
BA			-0.3222	-0.3326	0.5001	0.3305
			0.9369	0.9365	0.1919	0.3765
BL				0.3196	-0.0181	0.0364
				0.8277	0.8403	0.6606
HHC					-2.1214**	-0.6415
					0.0189	0.5353
DINV						0.3851*
						0.0733
C	-0.0045	-0.0056	-0.0051	-0.0048	-0.0066	-0.0047
	0.5577	0.4669	0.6603	0.6654	0.5282	0.6625
Ad R^2	0.3293	0.3093	0.2750	0.2381	0.3990	0.4605
F-sig	0.0002	0.0008	0.0012	0.0003	0.0000	0.0000

Note: ***, ** and * denote statistical significance at 1, 5 and 10%, respectively.

5. Conclusion

With the recent two decades of financial, banking and debt crises most developed and emerging markets recognize the importance of FDI and hence possess a favorable attitude towards it. FDIs are widely recognized to stimulate the domestic economy, improve use of resources, introduce new processes and networks, and expedite human capital development. Together with other positive externalities, foreign investments also help improve domestic regulatory environment that brings higher efficiency and lower costs. Most countries, including both developed and emerging nations, have established trade and investment agencies, along with both fiscal and monetary policies, to attract FDI. Even though these policies and regulations in place are commonly believed to be effective in attracting foreign investment, local financial market conditions can play an important role in ensuring the success of these investments. It is argued that the lack of development in the domestic financial market can adversely limit a nation's ability to take advantage of potential FDI benefits. In the absence of a well-developed financial market, long term, sustainable FDI flows also may be compromised.

In this paper, we focused on the role of financial market development on FDIs in a developed and a developing country, U.S. and Malaysia respectively. Our empirical evidence suggests that financial market development plays a significant role in contributing to the growth of FDI in the U.S. The positive effect of financial market development on FDI flows comes primarily through the stock market liquidity. A more liquid stock market results in significantly higher FDI flows to the U.S., signifying that foreign investors value the importance of equity capital financing opportunities. A liquid and efficient stock market also improves investors' confidence and attracts

FDIs. Variables related to the banking sector development are not significant contributor to the FDI flows in the U.S.

In Malaysia, the stock market development factors are not significant in affecting FDI flows. The banking sector liquidity, however, has a negative and significant coefficient on FDI. This suggests that in a developing country like Malaysia, excess liquidity in the banking sector is perceived by foreign investors as having higher risk of financial fragility, i.e. higher volatility and an increased risk of financial crisis. The fear of financial fragility leads to lower FDI flows. The observed negative relation also implies that Malaysia has achieved a certain level of financial development as FDI is often considered a substitute for investment in financially under-developed, and institutionally weak countries. In both U.S. and Malaysia, the domestic investment has a positive relation with FDI flows suggesting that the confidence of domestic investors has a spillover effect on foreign investors.

The empirical results present evidence that factors of financial market development impact FDI flows in emerging economy and developed markets differently. The stock market and banking sector development can have different impacts on FDI flows in different countries. Therefore, policy implications should not be generalized across all countries.

6. Implication and Limitation

With regard to the banking sector development-FDI nexus, efficient allocation of financial resources combine with sound regulation of the banking system is utmost significant. A strong banking system instils confidence among domestic and international businesses so that resources can be effectively allocated to productive uses in the nation. Healthy competition in the banking sector should be encouraged to reduce fees and costs of doing business, as well as to help small and large users gain access. It is also important that banking products are diversified and can offer sources of financing to entrepreneurs and businesses from every level of the economy. Excessive financial liberalization should be avoided as it could result in financial fragility - higher volatility and an increased risk of financial crisis in the short-run, and impacts FDI flows negatively.

The limitation of this study is that it focuses on only two major features of stock market and banking sector development. Future studies should include more measurements of financial market development. They should also explore a larger sample group of countries and longer data sets as they become available.

Lastly, in terms of stock market development-FDI nexus, a credible and robust stock market is crucial in a country's financial system as it facilitates equity issues to support future investment and growth. A robust stock market signifies market vitality, openness of the economy, and favorable investment climate, and is a precondition for positive growth in FDI flows.

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