

THE ROLE OF FINANCIAL DEVELOPMENT AND FINANCIAL OPENNESS IN THE GROWTH OF ASEAN NATIONS

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Abstract

This study aims at ascertaining the impact of financial development and financial openness on the growth of ASEAN nations. Panel data of six ASEAN nations (Indonesia, Malaysia, Singapore, Thailand, Vietnam and the Philippines) were taken and results were obtained through Mean Group Estimation. Our results show that by and large trade openness and stock market development played a significant role in the growth of ASEAN nations in the short-run as well as in the long-run. However financial openness and credit market development were not found significant for growth. Cross-sectional results show that only Indonesia and Malaysia witnessed a positive role of financial development in the short run, while Singapore witnessed a significant role of trade channel and credit market development. Philippines did not observe any role of financial development, financial openness and trade openness in their growth. Thailand experienced a positive role of financial openness in growth.

Keywords: Financial Development, Financial Openness, Trade Openness, Pool Mean Group Estimation, Dynamic Heterogeneous Panel.

JEL Classification: G390

Introduction

With the emergence of economic blocks and increase in trading of financial assets across the borders, it would not be out of interest to inquire in to the benefits of financial openness like economic growth. Whenever financial openness is associated with financial development, it is interesting to see the impact of both on growth. ASEAN is a good model to observe the effects of financial openness and financial development on growth.

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The Association of Southeast Asian Nations (ASEAN) was established with the objective of enhancing economic ties between countries. It took a step ahead and established ASEAN Economic Community (AEC). This forum would facilitate the free flow of goods, services, and capital across the region by the year 2020. The formation of ASEAN Economic Community (AEC) was a step towards enhanced integration encompassing the economic and market integration

The ASEAN financial integration was also augmented by preferential trade agreements. Although financial integration among ASEAN nations was not up to the mark, some progress in this area was made in the form of one stop investment centers and ASEAN Investment Area (A I A). On the pattern of European Economic Community, ASEAN nations thought of creating an ASEAN economic community (AEC) by 2020.

ASEAN has also taken a step towards the formation of ASEAN Bond Market which later on suffered from problems of market depth and liquidity. The role of sound institutional frame work and robust regulatory supervision also deserves attention. Less developed countries generally lack in institutional quality and financial depth³. ASEAN can be differentiated from Europe on the basis that in EU most of the countries had achieved robust level of financial development while in case of ASEAN many developing countries lacked in financial development and financial depth. When we talk about financial development we mean stock market development and credit market development. Most of the economies of ASEAN region are emerging economies offering robust returns to the investors and attracting foreign capital. Despite this ASEAN is far behind in reaping the fruits of financial integration. One of the reasons may be a rather weak institutional framework, inadequate regulatory supervision and lack of financial depth.

ASEAN nations experienced considerable financial integration during the last few decades. Countries like Indonesia, Malaysia, Singapore, and Thailand took concrete steps for capital market integration. After the financial crisis of 1997-1998, ASEAN nations experienced higher degree of integration. Generally financial integration results in growth, risk sharing, and consumption smoothing. These benefits are derived from financial integration when it is accompanied by financial development. This study is an endeavor to find out whether ASEAN nations (Malaysia, Indonesia, Singapore, Thailand, and Philippines) witnessed economic growth as a result of financial openness and financial development⁴.

Literature Review

This section provides ample previous research findings and discussion in respect of factors that may impact growth in the context of financial openness and financial development. That is financial

³ Financial depth is proxies by ratio of credit to private sector to GDP ratio.

⁴ Financial openness is measured by taking ratio of foreign assets and liabilities to GDP.

development (Capital market development (stock market development), credit market development (financial depth); financial openness and trade openness were discussed in the light of previous studies.

Let us see how the earlier research on the issue of financial openness is thought provoking for us. Financial openness has been a growing phenomenon in recent years. The evidence to this has been a considerable increase in quantum of international assets and liabilities which has become thrice of GDP since the mid-1980s (Lane & Milesi-Ferretti, 2007). It would be interesting to see whether financial openness served to enhance growth. This question is, no doubt, significant academically and from policy point of view. Some studies shed light on this phenomenon as in the case of Imbs (2004) and Kose, Prasad and Terrones (2003) establishing that financial openness has a positive effect on financial development which ultimately leads to growth. Kose et al. (2008) and Kose, Otrrock, and Whitman (2008) affirmed the same.

The importance of financial development can be judged from the fact that it helps countries reap the benefit of growth as well as absorb shocks. Credit market linkages may cause the spread of crises as highlighted by Kaminski and Reinhart (2000). The said phenomenon was empirically observed by Moto et al. (2007). International credit market openness may be beneficial as well as harmful. Recent financial crisis of 2008 may be attributed to cross border credit market openness⁵. The same was empirically tested and affirmed by Citronella and Goldberg (2010). Some researchers such as Baxter and Crucini (1995), Kehoe and Perri (2002), Heathcote and Perri (2002, 2003, 2004) and Faia (2007) established that with increase in degree of financial openness, business cycle correlation decreases. Therefore, financial openness may provide avenues for diversification and risk sharing. It is worth mentioning that empirically financial openness and cyclical co-movements are positively associated. However in theory it is otherwise (Imbs, 2006).

One of the aspects of financial openness is access to foreign equity markets for trading purpose. It was observed that equity market openness between developed countries is high while equity markets of emerging economies are less integrated. Hence, the degree of stock market openness is important from academic and empirical point of view. Korajczyk (1996) observed that the degrees of equity market openness influences economic growth, financial market development and explicit capital controls. Auzairy et al. (2012) stressed on the need to ascertain the determinants of equity market openness in order to achieve the regional and world financial market openness.

The degree of equity market openness has important implications for the investors as it may affect the diversification benefits for the investors. Ibrahim (2005) observed that the degree of equity market openness has major implications on the financial stability of a country. The study of forces behind the market openness is beneficial for international investors to understand the risks and returns of diversification. Especially with reference to ASEAN countries, Karim and Karim (2012) identified

⁵ Many economies in the world received shocks from sub-prime mortgage crisis that erupted in USA. This phenomenon is also referred to as financial contagion effect.

contagion effect, economic integration and capital market characteristics in order to contribute to the research on financial openness. Chuah (2005) reported that the level of financial openness of emerging markets is determined by the stock market development, trade openness and country risk.

Financial openness gives rise to financial development which brings about growth and other benefits. Hence, financial development is a bridge between financial openness and growth. The growth benefit would depend on the degree of financial openness and removal of some frictions in the markets. The impact of financial development on growth was tested on large data set by controlling the other factors of growth (King & Levine, 1993a, 1993b, 1993c). The positive impact of stock market development and credit market development on growth was observed by Levine and Zervose (1998). It is interesting that the effects of financial development on growth are non-linear and not uniform. An important finding was reported by De Gregorio and Guidotti (1995) that the growth effects of financial development vary across countries and time. That is growth supported by financial development is time and country variant. They added that such effects may become adverse. An important research finding came from Rioja and Valve (2004) that relationship between financial development and growth changes on the basis of different levels of financial development. Different regions of financial development were identified which may affect the growth of financially integrated countries⁶ (Rioja & Valve, 2004).

In the context of financial development and financial openness the study conducted by Masten et al. (2008) is quite relevant. Using panel data of countries they observed that growth benefits are reaped by the countries when the threshold level of ⁷financial development passes 90% of GDP then it gradually declines. When the level of financial development exceeds 160% of GDP, the growth benefits become insignificant. Although it was not a rigorous study to capture the threshold effects of financial development, yet a conjecture may be made that positive effects of financial openness accrue to the economies when countries experience financial development in the range of 60% and 150% of GDP.

Masten et al. (2008) added that countries having less financial development suffer from costs of financial market openness. They reported that the growth benefits accrue to the economies when a threshold level of financial development is achieved. The countries below this threshold level or above this level fail to achieve the desired benefits of market integration. The advanced countries (financially developed and enjoying more financial depth than emerging market economies) do not reap fruits of growth from financial openness. They added that financial market openness would not be fruitful for the countries having weak financial institutions (less financially developed). That is why financial development gains importance as a factor effecting growth.

⁶ Here we mean different levels of stock market development and financial depth.

⁷ Financial development is calculated as ratio of domestic credit to gdp and market capitalization to GDP.

Trade openness is a factor which deserves special attention in the context of financial openness and growth. This is a well documented fact that capital market openness follows economic integration. Clausing and Dorobantu (2005) reported that investors would divert funds to those markets (economies) which are open to trade and enjoy stable economic environment. Davis (2012) also incorporated bilateral trade integration in a model. Therefore the inclusion of trade openness as an explanatory variable to augment growth is justified from literature.

Data Model and Methodology

For the purpose of our study panel data of countries from ASEAN regions (Malaysia, Indonesia, Singapore, Thailand, & Philippines) was collected. Yearly observations of these countries from 1970 to 2012 were taken. Our data consists of dynamic heterogeneous panel, since countries differ in level of financial development, trade openness and degree of financial openness. Data was taken from World Development Indicators, World Bank publication, external wealth of nations data set compiled by Lane, Milesi-Ferretti and ⁸IFS published by IMF. This data contains the yearly observations of our variables of interest. Yearly observations were taken since it is more appropriate to measure growth, financial development and financial openness on a yearly basis. Moreover for our variables like growth, financial development, financial openness and trade openness, monthly and quarterly observations would not serve the purpose from analytical point of view. Usually in case of macroeconomic variables yearly observations are more suitable than quarterly or half-yearly data.

As far as measurement of financial openness is concerned, net foreign asset position of countries was taken in to account. We have relied on Lane, Milesi-Ferretti (2007) who used ratio of net foreign assets to gross domestic product (GDP) to measure the degree of financial openness. This measure incorporates foreign assets and liabilities in the form of portfolio investment in equities. Moreover, correlation of returns on financial assets was also computed to ascertain the convergence of returns. The reason being financial openness results in convergence of returns on financial assets traded in different markets. On the basis of the volume of trade and available data, five countries from ASEAN were taken in our sample.

Variables and Measurement

Our model includes independent variables i.e. financial development further decomposed in to Stock market development (STCKMKTDEV) and Credit market development (CMKTDEV), Trade Openness (TRADEOPEN) and degree of financial openness (FINOPEN). Stock market development is a proxy for capital market development and measured by ratio of market capitalization

⁸ IFS stands for International Financial Statistics published by IMF every year.

to GDP. Credit Market Development or financial depth was measured by taking ratio of domestic credit to private sector to GDP. Trade openness was worked out by obtaining ratio of sum of exports and imports to GDP. Financial openness was worked out by taking absolute ratio of net foreign assets to GDP. As far as measurement of dependent variable GDP growth is concerned, it was measured by as a percentage change in gross domestic product (GDP).

Model Specification

On the basis of cited relationship between growth, financial development and financial openness, our growth model is proposed. Financial development and economic growth are correlated with each other. Financial development positively influences the economic growth. Similarly financial development is also influenced by the growth. There is simultaneity in the specification of relationship between financial development and economic growth. Other variables to be included in the model are trade openness (TRADEOPEN), financial openness (FINOPEN), financial development (STKMKETDEV & CMKTDEV). It is assumed that the dependent and independent variables are linearly related to each other.

Let us look at equation (1) which shows the relationship of growth with variables i.e. trade openness, stock market development, credit market development, and financial openness. It has been observed that countries establish economic ties in the form of bilateral trade before financial openness. Therefore, trade openness was included in the model. Stock market development and credit market development represent financial development which may impact growth.

$$GROWTH = \pi + \alpha \text{ TRADEOPEN} + \beta_1 \text{ STKMKTDEV} + \beta_2 \text{ CMKTDEV} + \beta_3 \text{ FINOPEN} + \mu \dots\dots\dots (1)$$

It is established that economic growth is also influenced by other factors in addition to the above said independent variables. The effect of other independent variables is captured in error term μ . The above equation may have an intercept π which shows that the economic growth assume a value π when the slopes of independent variables and error term are zero.

Economic growth may depend on its lagged values as well as on the lagged values of dependent variables. Therefore our equation takes the following ARDL form.

$$GROWTH = \pi + \alpha \text{ TRADEOPEN} + \beta_1 \text{ STKMKTDEV} + \beta_2 \text{ CMKTDEV} + \beta_3 \text{ FINOPEN} + \eta \text{ GROWTH_L1} + \eta_1 \text{ STKMKTDEV_L1} + \eta_2 \text{ FINOPEN_L1} + \alpha_1 \text{ TRADEOPEN_L1} + \mu \dots\dots\dots (2)$$

Where L1 represents the lagged values of the growth, and other dependent variables, financial development, trade openness, and financial openness. One Lag was included on the basis of Akaike Information Criteria (AIC). Equation (1) and (2) enjoy support from J. Scott Davis (2014), Imbs (2004) where trade integration and financial integration were incorporated in a model. Lane,

Milessi and Feretti (2007) used financial openness in the context of financial integration. Model specification has ample support from literature.

The rationale for selection of methodology

The methodology was selected keeping in view the attributes and nature of the data as well as the objective of research. We have macro level data of different countries. These countries differ in level of financial development, trade openness, and financial openness. Our variables like financial development, degree of financial openness and trade openness are not fixed rather time varying. Therefore our panel is a dynamic heterogeneous panel.

Transformation of data to eliminate the country specific effects is not a satisfactory solution to the problem. This technique suffers from two short-comings. The first one is the elimination of those variables which do not change with time. Thus, it would render us unable to measure the time invariant effects which may lessen the explanatory power of the model⁹. The second issue is when variation across different cross-sections is not taken into account; our estimator no longer remains an efficient estimator. The first issue is more problematic when the primary objective of the research is to ascertain those parameters which do not depend on time.

Historically, we know that when countries integrate, their level of financial development, growth rates, financial openness would not be same across the board. The differences in parameters in the long run as well as in the short run are of great importance to us since it would enable us to appreciate the impact of our variables like financial development and financial openness in respect of each country in the long run as well as in the short run.

Given the objective of study we had to choose from three alternatives, fixed effect estimators, random effect estimators and mean group estimators. However we preferred Pool Mean Group Estimator to the other methods. In choosing Mean Group Estimation, we have relied on Pesaran et al. (1999) and Vermeulen and Haan (2014). Mean group estimator helps us measure cross-section wise long-run and short-run coefficients. That is why it is preferred to other estimators.

Results and Discussion

Table 1 gives us long run coefficients of trade openness, stock market development, credit market development and financial openness for six ASEAN countries. The results speak for the significant role of variables like trade openness, stock market development and credit market development. In the long run trade openness and stock market development and credit market development were found significant to enhance growth. Stock market development had a higher

⁹The variables which keep on varying with time must be taken in to consideration.

coefficient than other parameters. However financial openness took negative sign which implies that financial openness may have a negative impact on growth in the long run. These results hold for all six countries in our sample in the long run.

Table 1
Estimated Long-run Coefficient for ASEAN Countries

ARDL(1,1,1,1,1)		
Regressors	Coefficients	Is Significant at 5% Sig. level
TRADEOPEN	0.0105 (2.83)*	Yes
CMKTDEV	0.0218 (8.95)*	Yes
STCKMKTDEV	0.03336 (9.84)*	Yes
FINOPEN	-0.0126 (-2.73)*	Yes

*Values in parenthesis show Z-statistics & shows significance of coefficient at 5%.

Table 2 gives us short run coefficients of trade openness, credit market development, stock market development and financial openness. The results speak for the significant role of variables like trade openness and stock market development. In the short run trade openness and stock market development were found significant for growth. Stock market development had a smaller coefficient than that of trade openness. However credit market development and financial openness took negative sign but not found significant. These results hold for all six countries in our sample in the short run.

Table 2
Estimated Short run Coefficients for ASEAN Countries

Short-run Coefficients		
Regressors	Coefficients	Is Significant at 5% Sig. level
Δ TRADEOPEN	0.1304 (3.2)*	Yes
Δ CMKTDEV	-0.04399 (-1)	No
Δ STKMKTDEV	0.0003 (2.07)*	Yes
Δ FINOPEN	-0.0149 (-0.82)	No
Constant	1.1491 (4.6)*	Yes
ECT	-0.7363 (-15.62)	Yes

Values in parenthesis show Z-statistics. * shows significance of coefficient at 5%.

In the short run trade openness and stock market development were found significant for growth. Trade openness had a large coefficient as compared to other variables. Coefficient of stock market development was small but significant. However financial openness and credit market development were not found significant in the short run.

Table 3 provides country wise results of pool mean group estimation in the form of short run coefficients of regressors. In the short run, Indonesia experienced positive role of stock market development, credit market development, trade openness and financial openness for growth. Financial openness (FINOPEN) had a large coefficient as compared to other variables which show that financial openness had a comparatively large impact on growth in the short run.

Table 3
Estimated Short run Coefficients for ASEAN Countries

	ARDL(1,1,1,1,1)					
	Regressors					
<i>COUNTRY</i>	<i>TRADEOPEN</i>	<i>CMKTDEV</i>	<i>STKMKTDEV</i>	<i>FINOPEN</i>	<i>CONST.</i>	<i>ECT</i>
Indonesia	0.06(2.7)*	0.03(2.35)*	0.10(4.4)*	0.2(2.2)*	-0.1(-0.3)	-2(-1.1)
Malaysia	0.02(2.27)*	0.01(2.07)*	0.01(2.4)*	0.21(0.6)	0.5(0.3)	-1.2(-4.5)
Philippines	0.02(0.97)	-0.01(-0.11)	-0.001(-0.1)	0.03(0.4)	-1.03(-1.6)	-0.3(-2.6)
Singapore	0.18(2.55)*	0.02(2.6)*	-0.01(-1.8)	0.01(1.65)	-0.6(-1.7)	-0.2(-2.03)
Thailand	0.34(1.8)	-0.13(-0.8)	-0.1(-1.5)	0.53(2.2)*	3.6(1.92)	-1.1(-4.9)
Vietnam	0.21(0.8)	0.004(0.1)	0.01(0.66)		-2.8(-2.1)*	-0.42(-2.2)

Values in parenthesis show Z-statistics. * shows significance of coefficient at 5%.

In case of Vietnam, no variable was found significant for growth. Capital market development and financial openness did not provide any support to GDP growth. Trade openness was also found insignificant for having an impact on growth.

In case of Malaysia, trade openness and financial development (credit market development and stock market development) were found significant for growth in the short run. However financial openness did not play any role in growth for Malaysia. Philippine did not observe any role of financial development, trade openness and financial openness in the short run. Singapore is a developed nation and enjoys good institutional strength and financial development. For Singapore credit market development and trade openness were found significant for growth in the short run. Moreover, its stock market development and financial openness did not lend support to growth in the short run. For Thailand, financial openness was found significant for growth in the long run. However, trade

openness and financial development (credit market development and stock market development) were found insignificant for growth in the short run.

Conclusion

Our results show that when we estimate the growth model for panel data, trade openness and stock market development were found significant for growth for all countries except Vietnam in the short run and the long run¹⁰. However, credit market development and financial openness were found significant but assumed as a negative sign. Therefore, we may infer that in the long run credit market development and financial openness played a negative role for growth. In the short run credit market development and financial openness were not found significant. It implies that by focusing on stock market development and trade openness growth may be enhanced in the short run as well as in the long run.

Cross section wise results show that Indonesia may enhance its growth through trade channel, financial development and financial openness. Vietnam and Philippine found no role of financial development, trade channel and financial openness. Malaysia could enhance growth through trade channel and financial development. Singapore could augment short term growth through trade channel and credit market development. Thailand may witness positive role of financial openness in fostering short term growth. Summing up it may be inferred that for countries having low level of financial development, there is a great potential of fostering growth through trade channel and financial development¹¹.

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¹⁰ This means capital market development has a greater role to play in growth of ASEAN nations.

¹¹ The role of stock market development is greater than that of financial depth in fostering growth.

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