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The Effect of Economic Openness on Multifactor Productivity: Empirical Evidence from Selected Asian Countries*

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Abstract

Variation in demand, natural resource availability, and technological advancement within a country are the main reasons for necessitating export and import activities between nations. Accordingly, this paper aims to analyze the effect of economic openness on Multifactor Productivity (MFP) in selected Asian countries (Vietnam, Thailand, The Philippines, Indonesia, Cambodia, China, Japan, Malaysia, South Korea, and Singapore) based on data for the period 1990–2018. The analysis conducted in the study employed the panel ARDL approach based on the estimation by Pooled Mean Group (PMG), Mean Group (MG), and Dynamic Fixed Effect (DFE). The Hausman test conducted indicates that the PMG estimation is better than that of MG and DFE since it has a higher variability value than the significance value. The results revealed that economic openness is able to elicit significant and positive effects on short-term and long-term MFP growth. In addition, the study established that other variable, such as the number of schooling years, are also able to produce a positive and significant effect on MFP growth in the long term. Since economic openness can impact MFP growth, every country should thus increase its export activities through more capital and worker inputs that will stimulate greater production.

Keywords: Asia, Multifactor Productivity, Economic Openness, ARDL

JEL Classification Code: I25, F16, O1, O50

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1. Introduction

Multifactor Productivity (MFP) is a metric for how efficiently all inputs are used. Higher-quality inputs will provide higher-quality outputs, especially when the inputs are used more effectively and efficiently. MFP is also known as Total Factor Productivity (TFP). Additionally, MFP represents total efficiency when capital and labor inputs are used simultaneously in the production process. A higher standard of living in the population can be achieved from a greater MFP contribution to the economic growth of a nation. This contribution can be made through a high-quality system, capital, and labor. Growth in MFP can be realized via the application of new machinery, innovative technology, and quality labor and system, to produce much greater output from the same total amount of input.

Various advantages can be enjoyed by a country if it is able to achieve high growth in MFP. Among these are

quality service, lower costs, high consumer satisfaction, high-quality products, and the achievement of sustainable economic growth. Based on Kim and Loayza (2019), there are several factors that contribute to the growth of MFP. These include innovation, education, market efficiency, physical and institutional infrastructures. Due to some limitations including data used, the study was only able to focus on selected countries such as Malaysia, Thailand, Indonesia, Singapore, Vietnam, Cambodia, The Philippines, Japan, China, and South Korea.

Figure 1 shows the contribution from the growth of capital, MFP, and labor in Asian countries for the period 2010–2017. For decades, MFP growth has played a primary role in steering towards higher economic growth. In 2010–2017, China and Vietnam contributed to MFP growth of 2.3% followed by Thailand at 2.2% and The Philippines at 2.0%. Other Asian countries such as Japan, South Korea, Singapore, Malaysia, Indonesia and Cambodia respectively contributed 0.9%, 0.8%, 0.2%, 0.4%, 0.1%, and 1.6%.

Accordingly, in the majority of the Asian countries studied, the contribution from capital growth had the greatest impact on output growth. China, Indonesia, Singapore, Malaysia, the Philippines, and Cambodia recorded annual rates of capital growth below 2%. Conversely, contribution to output growth through growth rate of labor showed the reverse, owing to less than 1% input from most of the selected Asian countries. With the exception of Japan, capital growth continues to be the primary determinant of economic development in most Asian countries. In the period 2010–2017, the contribution of MFP growth to output was higher than that of capital and labor.

An open economy is one that conducts international trading activities which involve the export and import of goods and services including the movement of capital between countries. Based on data from the World Bank, Asian countries such as Indonesia, Thailand, and The Philippines showed values of imports exceeding that of exports. In contrast, other countries such as China, Japan, South Korea, Cambodia, Malaysia, Singapore, and Vietnam showed the reverse. Also, an open economy may facilitate the influx of technology and expertise from other countries. This is a crucial aspect of a country's development. There is also evidence to show that a low productivity economy will subsequently increase its efficiency.

Given this background, this paper contributes to the existing literature, and it can shed light on policymakers to formulate an appropriate economic openness policy. Policy to encourage more exporters is required if the productivity in recipient economies has improved in response to the demand. This study also improves previous studies in terms of the effect of economic openness on MFP growth in the following ways. To begin with, this research will add to and improve on previous research on the openness of an economy and the growth of MFP. Previous studies did not delve deeply into the subject. Second, by giving various incentives, it can improve existing policies to attract more exporters. The policies that can be used to expand economic openness in Asian countries are to ensure economic stability, trade size, variety choices, and reduce the trade barriers. In addition, the study should help to improve current policies aimed at increasing domestic output, particularly those based on export activities. Therefore, further studies need to be performed to analyze the effects of economic openness on MFP growth using different dimensions. Therefore, this study is the first to examine the effect of economic openness on MFP growth using the Panel ARDL approach. Based on the aforementioned discussion, the future looks promising. It is anticipated that this study will yield new results that will serve as a good reference for all relevant parties.

The objective of the study is to analyze the effect of economic openness on the growth of MFP in selected Asian

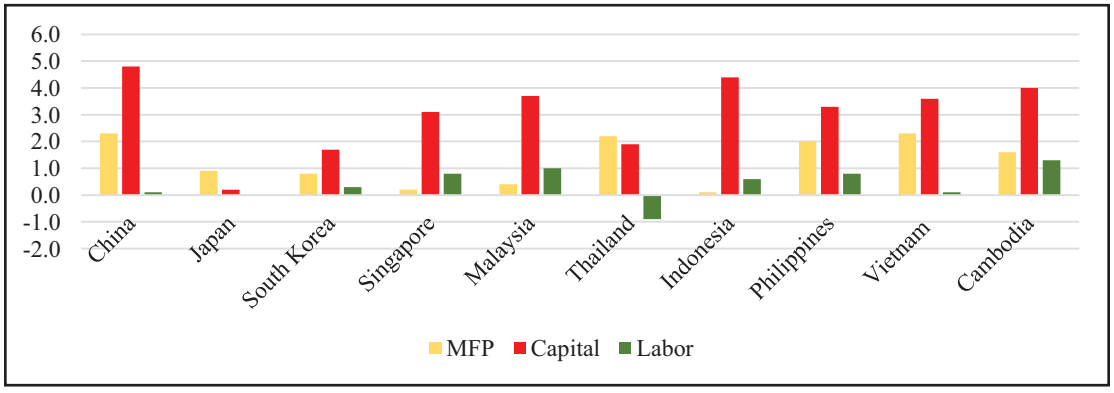

Figure 1: Contribution of MFP Growth, Capital and Labor in Asian Countries from 2010–2017 (%)

Source: Asian Productivity Organization, 2019.

countries. The study is divided into five main parts. The first part is the introduction. The second will deliberate on past studies. The third part will deal with the methodology. The fourth will discuss the results and the fifth part will form the conclusion.

2. Literature Review

Trade spillover effects will result in technology transfer to local enterprises and, and indirectly increase human resource capabilities in Asian countries. Furthermore, with the exception of Japan and South Korea, the contribution of physical capital input to GDP is significant but low in terms of TFP growth, with most countries showing negligible technological progress (Elsadig, 2012). Massive exports in the manufacturing sector shall increase the growth rate since this has occurred in the post-crisis period in Sweden in the 1990s. This outcome indirectly caused an economic spillover in both the manufacturing and service sectors.

Despite this, trade openness has resulted in a non-significant increase in TFP in the Malaysian service sector in the short-run (Haddad et al., 1996). Abidin et al. (2018) established that economic openness will produce a significantly negative impact on TFP growth in the ASEAN+3 countries. Such impact was due to the migration of labor to countries that offer greater advantages and pay. The study by Ramzan et al. (2019), using the GMM estimator, revealed that countries with a low level of TFP growth will indirectly influence trade openness that is negative. Openness in trade can elevate growth output when the economy is at the stage of TFP development. This shows clearly that the higher the level of TFP growth in a country, the higher will be the contribution of trade openness to output growth.

In contrast, the study by Edwards (1998) showed that economic openness had a positive effect on TFP growth. Mohamed et al. (2005) found similar results when they quantified the relationship between openness in the economy and TFP growth for the period 1983–1990 in Tunisia. They established that the indicator for economic openness was positive on TFP growth in the manufacturing sector. Furthermore, exporting to a global market might improve a manufacturing company's demand and supply. Indirectly, this resulted in a quick increase in productivity and product diversification.

In addition to the above findings, Miller and Upadhyay (2000) also found that higher openness can increase total factor productivity. Outward-oriented countries experience higher total factor productivity, over and above the positive effect of openness. Even trade openness has a positive impact on total factor productivity but openness has had no appreciable impact on the total factor productivity growth in the agricultural and industrial sectors (Abizadeh & Pandey, 2009). Kim et al. (2009) examined the relationship between trade and TFP growth in South Korea for the period 1980–2002 and found that imports had a bigger impact, which was highly important to TFP growth. As such, globalization will elicit several effects including the widening of trade gaps between developed and developing economies, as well as foreign investment gaps, which are primarily concentrated in a few countries like China, Mexico, Brazil, and Singapore; information and communication technology (ICT) development gap; and the induction of international migration. This migration to more advanced economies is indirectly the root cause for developing countries to lose their human resource. Besides, Vo and Ho (2021) stated that the ASEAN countries can increase their economy trade openness and join free trade agreement to attract more FDI inflows.

Globalization plays an important role as well as has an impact on the services sector either directly or indirectly. Globalization processes such as foreign labor participation, international trade, foreign direct investment, and so on are said to affect the TFP of the services sector. Hence, globalization has a great influence on the TFP of the services sector in Malaysia. This is because all variables such as FDI, economic openness, and technology have a significant relationship in the long run. Kim et al. (2007) found that only imports have a significant positive effect on TFP growth. Furthermore, the positive impact of imports is not only because of competitive pressures from foreign markets but also from technological transfers embodied in imports of capital goods from developed countries. Study by Ho et al. (2021) found a positive relationships in ASEAN countries between the financial development and the economic growth, through the trade openness. Other than that, trade openness of importing country shows a significant determinants of Vietnamese bilateral export value (Tu & Giang, 2018).

Additional to these findings, globalization can also be measured based on foreign investment, foreign labor, and trade openness, in an economy that can influence trade liberalization (Sulaiman et al., 2017). Data employed in this study is from the manufacturing industry for the period 1990-2010, sourced by the Department of Statistics, Malaysia. The research also established that technology and foreign labor did not show a significant relationship. These findings are in contrast to those by Ismail et al. (2012) who discovered that the globalization process was able to produce positive as well as negative impacts on TFP growth in the Malaysian manufacturing sector. Based on inventory data in the manufacturing sector for the 1990-2009 period, they found that the ratio between capital-labor and professional workers produced positive and significant impacts. In their study, globalization referred to FDI variables, foreign labor, and economic openness in the TFP growth model. Results showed that all globalization variables had an impact on TFP growth in the manufacturing sector.

Moreover, Banerjee and Roy (2014) found that R&D, education, and absorption from foreign technologies

have a significant influence on the growth of TFP in India in 1950–2010. This is supported by the findings of a study conducted by Arazmuradov et al. (2014) that education factors and FDI have a positive and significant impact on TFP growth which can ultimately lead to an increase in economic growth based on the SFA method in 15 countries in 1995–2008. A similar study was continued by Tuncay (2015) and found that the variables research and development, education, FDI, and financial development were the main determinants to the increase in TFP growth in Turkey in 1989–2011.

Badri and Purna (2014) also found that education factors have a weak effect on TFP growth compared to the effect of economic openness on TFP growth in South Asian countries. In addition, the study of Wang et al. (2014) showed that the effect of human capital overflow on primary education had no significant relationship with TFP growth while the effect of human capital overflow for secondary education showed a significant and positive relationship on TFP growth. However, it is different with higher education which shows a negative impact on TFP growth. Therefore, the study conducted by Ismail et al. (2014) in Malaysia found that the percentage of employees with higher education is not the main determinant of TFP growth despite having a high and positive coefficient value but output growth in the manufacturing sector and the percentage of foreign-owned companies are the major contributors to TFP growth. Le et al. (2019) also found that human capital has a positive impact on productivity in Vietnam.

It can be concluded at this juncture that economic openness is one of the factors that influence the growth of MFP. Nevertheless, the openness observed by a country will bear either a positive or negative impact on MFP growth. As such, the impact of economic openness on MFP growth in Asian countries must be investigated using multiple statistical methodologies. In addition, the findings of this study are also important because they can be applied to fill the gaps that exist in previous studies, either in Malaysia itself or foreign countries that only study the several factors that contribute to MFP.

3. Research Methods and Materials

It is not possible to coordinate dynamic heterogeneity in the equilibrium of long-run relationships using the panel static method approach based on POLS analysis, Fixed effect, and Random effect (Pesaran et al., 1999). The methodology to be adopted in this study is based on the ARDL panel which is divided into the estimations on Pooled Mean Group (PMG), Mean Group (MG), and Dynamic Fixed Effect (DFE). This approach is used to analyze the effect of economic openness on MFP growth for the period 1990–2018 in Asian countries (Malaysia, Thailand, Indonesia, Singapore, Vietnam, Cambodia, the Philippines, Japan, China, and South Korea). MFP growth represents the dependent variable whereas independent variables are the export-import for real GDP (proxy as economic openness), average years of schooling, and skilled workers. Furthermore, this study is divided into three groups namely, high-income countries (South Korea, Japan, and Singapore), medium-high income countries (China, Malaysia, and Thailand), and low-income countries (Indonesia, Vietnam, the Philippines, and Cambodia) All data used in the study was sourced from the World Bank and the Conference Board Economy Database.

Several tests on data were conducted in this study such as the panel unit root test and the estimation of heterogeneous panel which was divided into the Pooled Mean Group (PMG), Mean Group (MG), and Dynamic Fixed-Effect (DFE). The development of the basic model was based on the study by Solow (1957). Equation (1) shows the specific model that can be developed:

$$\mathrm{MFPG}_{it} = \beta_0 + \beta_1 \mathrm{EO}_{it} + \beta_2 \mathrm{YOS}_{it} + \beta_3 \mathrm{HS}_{it} + v_{it} \qquad (1)$$

MFPG refers to the growth of productivity factor whereas EO refers to the economic openness, YOS is the number of schooling years, and HS is the skilled workers. v is the error while i refers to the country and t to the year.

The stationarity in panel data should be examined so that the unit root test can be used for this purpose. The unit root test proposed by Levin-Lin–Chu (LLC) and Im–Pesaran–Shin (IPS) was used in the study. In addition, the unit root test was also used to verify that all variables used in the data panel are stationary for $I(0)$ or $I(1)$. Nevertheless, the condition for stationarity for the data is that it requires all variables to achieve the value of $I(1)$.

By indirectly using PMG, MG, and DFE estimations, we are able to show the long-term and short-term inputs on each variable. According to Pesaran et al. (1999), the approach is more suitable in identifying the estimate or the long-run coefficient without considering the basic regressor $I(0)$ or $I(1)$. Besides, this approach is more efficient and constant in controlling any relationship that may occur in the long term. The panel data is a combination of the time series data (T) and the cross-section (N). Hausman test was conducted at a later stage of this study to determine the best estimator between PMG, MF, and DFE.

The model for a long-term relationship is written as follows:

$$\begin{aligned}\mathrm{MFPG}_{it} = \theta_i + \beta_{0i}\mathrm{MFPG}_{it-1} + \beta_{1i}\mathrm{EO}_{t-1} \\ + \beta_{2i}\mathrm{YOS}_{t-1} + \beta_{3i}\mathrm{HS}_{t-1} + \varepsilon_{it}\end{aligned} \qquad (2)$$

Estimation of MG with high lag will give a very consistent estimator for the average long-term parameter.

The model for long-term relationship for the PMG and DFE models can be expressed as follows:

$$\begin{aligned}\text{MFPG}_{it} = \alpha_i + \sum_{j=1}^{p} \lambda_{ij} \text{MFPG}_{i,t-j} + \sum_{j=1}^{p} \delta_{1ij} \text{EO}_{i,t-j} \\ + \sum_{j=1}^{p} \delta_{2ij} \text{YOS}_{i,t-j} + \sum_{j=1}^{p} \delta_{3ij} \text{HS}_{i,t-j} + \varepsilon_{it}\end{aligned} \quad (3)$$

i indicates the country (1, 2, 3...10), t indicates the year (1990–2018), j is the optimum lag, and α_i is the fixed effect. Thus, the short-term relationship with the error correction model can be expressed as follows:

$$\begin{aligned}\Delta MFPG_{it} = \alpha_i + \varphi_i (\text{MFPG}_{it-1} - \lambda_1 \text{EO}_{i,t} \\ - \lambda_2 \text{YOS}_{i,t} - \lambda_3 \text{HS}_{i,t}) + \sum_{j=1}^{p} \lambda_{ij} \Delta \text{MFPG}_{i,t-j} \\ + \sum_{j=1}^{p} \delta_{1ij} \text{EO}_{i,t-j} + \sum_{j=1}^{p} \delta_{2ij} \text{YOS}_{i,t-j} \\ + \sum_{j=1}^{p} \delta_{3ij} \text{HS}_{i,t-j} + \varepsilon_{it}\end{aligned} \quad (4)$$

λ_i represents the parameter in the long-term and φ_i is the error correction parameter that can measure the speed of adjustment MFPG on the long-term equilibrium following the changes in EO, YOS, and HS. φ_i can indicate the existence of long-term relationships. Thus, the value of φ_i that is significant and negative indicates the presence of cointegration between MFPG and EO, YOS, HS. This is due to the estimation of MG and PMG that is suitable in analyzing data panel which has a long time series and large dimensional cross-section. However, if the constraint of long-term homogeneity is valid, then MG estimation is not efficient. Hence, the PMC approach based on maximum likelihood is the efficient estimator. To determine the suitability of the PMG, MG and DFE approach the Hausman test needs to be conducted. The estimation of PMG, MG, and DFE requires the choice of lag that is suitable and equitable for the individuals in a country.

The Hausman test was used to determine the most accurate model for use in the study - either PMG or MG, or PMG or DFE. According to Pesaran et al. (1999), the PMG model is preferred since it gives value to the coefficient in the short-term that varies with the country studied while for the long-term coefficient, it is assumed that all countries are homogeneous. However, the estimator MG only allows for short-term and long-term coefficients that are heterogeneous between countries. The choice between PMG and MG estimators is based on the null hypothesis. If the hypothesis is accepted, the PMG estimator will be chosen since it is more efficient compared to MG. If the null hypothesis is accepted, however, PMG takes precedence over DFE, and vice versa.

4. Results and Discussion

Based on the results of the data testing, the data can be analyzed since it was free of autocorrelation, heteroskedasticity, multicollinearity, and data stability issues. In the study, the ARDL panel approach was adopted to analyze the effect of economic openness on the MFP growth in selected Asian countries. The group of countries in the study is divided into three; namely high-income, middle-income, and low-income groups. Based on the panel cointegration test, it can be concluded that all the values of the panel PP-statistical and the panel ADF-statistical for the within- and between-dimension groups were significant at the 1% significance level. This shows that the null hypothesis i.e. no cointegration between MFP growth and the independent variables in the long run is rejected while the value of the panel v-statistical and the panel ρ-statistical are insignificant. A cointegration test can be performed if at least two of the panel statistical tests have a significant value. Thus, the results of the panel cointegration analysis indicate that a cointegration relationship exists between MFP growth and independent variables in the long run. When a long-run relationship exists, this analysis can be continued with regression analysis using the PMG model and MG.

Table 1 shows results from the unit root test by Levin-Liu-Chu (LLC) and Im-Pesaran-Shin (IPS).

Table 1: Unit Root Test

Variables	Levin, Lin, and Chu (LLC)		Im, Pesaran and Shin (IPS)	
	Level	First Difference	Level	First Difference
MFPG	−6.302***	−12.622***	−7.636***	−11.165***
EO	0.804	−7.589***	2.238	−9.480***
YOS	−2.931**	−3.609**	1.096	−7.357***
HS	2.583	0.745**	−4.316***	−11.542***

Note: *** and **Indicates significance at 1% and 5% respectively.

Table 1 shows results from the LLC unit root test. All variables (MFPG, EO, and YOS) are significant except for the skilled workers. This indicates that the null hypothesis in the study is accepted. However, all the variables are significant at the first difference indicating that all variables are stationary and thus the alternative hypothesis is accepted. To prove the accuracy of the LLC unit root test, the IPS unit root test also showed two variables (EO and YOS) that are not significant at the level but all variables are significant at the first difference. As such, the ARDL technique is used in this study.

Table 2 shows the PMG, MG and DFE models which used ARDL (1,1,1,1,1). The Hausman test was used to determine whether the PMG or MG model showed a non-significant value. Following this, PMG was chosen as a better model. The Hausman test was further used to similarly evaluate the PMG and DFE models. PMG was found to have a higher variability value than the significance level and was accordingly chosen. According to the PMG model, the economic openness variable has a significant negative impact on long-term MFP growth in the selected Asian countries. This indicates that an increase of 1% in economic openness will reduce the growth of MFP by −1.937%. This happens due to the migration of workers to host countries that offer higher pay and advantages. In addition, it is also possible that the domestic imports exceeded the exports. Since every country faced limitations in certain resources, they have to import the necessary goods and services from other countries to meet domestic demands.

These results are consistent with past studies such as Abidin et al. (2018) and Zulridah and Rahmah (2007). However, the results are not consistent with the estimations of the MG and DFE models which revealed that the economic openness variables had no effect on MFP growth in the long term. Additionally, there are other variables such as YOS that exert a significant impact on MFP growth in the PMG model. This indicates that an increase by one year in average schooling years will elevate MFP growth by 0.60%. The results are also consistent with Kumar and Chen (2013) but are inconsistent with the MG and DFE models.

Table 3 shows the results of short-term estimation from PMG, MG, and DFE. The ECT value from the estimation is negatively significant at 5% indicating the presence of a long-term relationship between variables. In addition, ECT also showed the speed of adjustment needed towards achieving equilibrium in the long term. The PMG model in the short term showed that MFP growth is not sensitive to all variables except for economic openness. This variable is able to contribute positively and significantly towards MFP growth. This indicates that the increase by 1% economic openness will raise MFP growth by

Table 2: Results of Long-Run Estimation for PMG, MG, and DFE

Variables	PMG		MG		DFE	
	Coefficient	*P*-value	Coefficient	*P*-value	Coefficient	*P*-value
EO	−1.937	0.002**	0.171	0.930	−1.239	0.077
YOS	0.600	0.002**	−0.207	0.779	0.438	0.069
HS	6.072	0.078	−3.884	0.730	1.059	0.763
Hausman Test	1.07	0.785			1.68	0.640

Note: **Indicates significance at 5%.

Table 3: Results of Short-Run Estimation for PMG, MG, and DFE

Variables	PMG		MG		DFE	
	Coefficient	*P*-value	Coefficient	*P*-value	Coefficient	*P*-value
ECT	−0.811	0.000**	−1.010	0.000**	−0.67	0.000**
ΔTO	6.973	0.000**	6.300	0.000**	4.407	0.000**
ΔYOS	1.165	0.436	−0.195	0.865	−0.435	0.620
ΔHS	−0.182	0.974	−3.499	0.604	−1.066	0.779

Note: **Indicates significance at 5%.

Table 4: Results on Short-Term Estimation According to Country Group

High-Income Countries				
	EO	**YOS**	**HS**	***C***
South Korea	3.096	1.375	28.042***	−4.862**
Japan	15.052*	2.313	18.876	−9.103**
Singapore	7.063***	0.212	−8.567	−0.142
Middle-High Income Countries				
China	5.278	8.219*	15.728	−0.777
Malaysia	13.983***	−1.072	5.241	−3.257**
Thailand	4.526	−2.122	−22.638**	−0.981
Low-Income Countries				
Indonesia	10.392	−5.624	−22.136	−2.446
Vietnam	3.702	−4.429	−12.397	−1.865**
Philippines	7.725	5.585	−7.902	−3.280
Cambodia	−1.086	7.197*	3.929	−1.002*

Note: ***, ** and *Show level of significance respectively at 1%, 5% and 10%.

6.97%. This is due to export to the world market that can generate productivity and product diversification for the business firm and which can indirectly be achieved at a faster rate. The results are consistent with those of the MG and DFE estimation models. For average schooling years and skilled workers ratio, there is no correlation with the PMG, MG, and DFE estimators.

Table 4 shows the results of short-term estimation according to the country group. The country groupings in this study are divided into three; namely, high-income, medium-high income, and low-income countries. In the high-income group (South Korea, Japan, and Singapore), the latter two countries showed that economic openness produced a significant positive effect on MFP growth in the short term. The average annual schooling years did not elicit a significant short-term effect on the three countries. However, the skilled workers in South Korea significantly and positively influenced MFP growth in the short term.

For the middle-high income countries (China, Malaysia, and Thailand), economic openness has a significant positive effect on MFP growth in the short term for Malaysia. The average year of schooling elicited a similar effect on China and skilled workers similarly impacted Thailand. At the same time, among low-income countries (Indonesia, Vietnam, the Philippines, and Cambodia), economic openness and skilled workers did not affect MFP growth in the short term. However, average schooling years significantly affected MFP growth in Cambodia but not in other countries.

5. Conclusion

In general, based on the PMG model estimation, this study has demonstrated that the long-term and short-term impacts of economic openness on MFP growth exist for the selected Asian countries studied. Although economic openness elicited a negative impact on MFP growth in the long term, the effect was reversed in the short term. The finding that economic openness does have a significant influence on MFP growth concurs with the results of past studies.

It can thus be implied from the study that the selected Asian countries, need to renew their competitiveness in attracting foreign investments especially in sectors with high added values. The large inflow of foreign capital is capable of enhancing income for the host country. For example, Malaysia and Indonesia can adopt the approach taken by Singapore, Thailand, and the Philippines where the policy of national openness is regarded higher than the procedure and cost involved in starting a business which are both more accessible and cheaper than in Malaysia and Indonesia. Additionally, all countries should create a better environment for investment. Such an environment should include, for example, stable exchange rates, politics as well as advantages for investment in the host country. The reason being that economic openness practiced by the host country will attract an inflow of technology, know-how, resources, and other advantages.

Additionally, with economic openness, the country can undertake export and import activities which may generate MFP growth and finally increase overall growth in output. Growth directed by productivity based on efficiency in the host country should enable it to achieve sustainable economic growth.

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