THE ROLE OF FDI INTENSITY IN ACHIEVING PRODUCTIVITY DRIVEN GROWTH IN MALAYSIAN ECONOMY
AHMED, Elsadig Musa*

Abstract: This study investigates the decomposition of labour productivity growth into contributions of capital deepening, increased usage of Foreign Direct Investment intensity (FDI intensity), and the simultaneous contribution of the quality of these factors. This is expressed as the Total Factor Productivity (TFP) per unit of labour growth in achieving productivity-driven growth in the Malaysian economy. The results of this modified intensive growth theory model show that the productivity growth of Malaysia’s economy is input-driven and being based on FDI when the results of TFP per unit of labour growth were compared. The study also finds that there is a negative contribution of the TFP per unit of labour growth during the sub-period of 1987-1996, although the contribution of the labour productivity was one of the highest during this sub-period.

Keywords: FDI intensity, input-driven, TFP per unit of labour, Malaysia’s economy

JEL classification: E23; C22

1. Introduction

Productivity Report, 2006, presents that the productivity growth of Malaysia surpassed many of the Organisation for Economic Cooperation Development (OECD) countries such as Sweden (2.8%), Japan (2.5%), Germany (2.0%), Denmark (1.8%) and USA (1.5%). Among the Asian countries, Malaysia led in productivity growth as compared with Thailand (3.5%), Taiwan (2.7%) and Singapore (1.2%). The productivity level of Malaysia at US$11,716, was higher than India (US$1,276), Indonesia (US$2,128), China (US$2,885) and the Philippines (US$2,914). However, highly industrialised and matured economies such as Japan, Norway, and USA with high GDP per capita, high degree of innovation and a large pool of educated workforce recorded productivity levels of between 2.5 to 6.9 times higher than Malaysia. There is a need to ensure that Malaysia continuously attains high productivity growth to be globally competitive.

The Malaysian economy, in the meantime, is operating as a production-based economy based on manufacturing output. The productivity-driven economy is a dream that will be achieved by implementing the Malaysian national vision of 2020. This vision would transform Malaysia into a developed state if is properly implemented. Consequently, by 2020, the Malaysian economy should be driven by knowledge and the wealth thereof. The results of this study will be useful for productivity-driven policy formulation, if used by the Malaysian government policy makers.

Thanks to Malaysia’s comparative advantage in unskilled labour intensive that helped to attract foreign direct investment (FDI) in the latter half of the 1980s. The Malaysian

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government accelerated trade liberalisation policies and drastically eased restrictions with respect to capital ownership of foreign companies.

Economic Report, 2002, explains that there are a few reasons why Malaysia has experienced good economic growth over the past few years. One of the major factors was the aggressiveness of the Malaysian government to attract FDI into the country. Through several Government Ministries/agencies such as the Ministry of International Trade and Industry (MITI), Malaysian Industrial Development Authority (MIDA), and other State governments’ Agencies, Malaysia was able to attract overseas investors to invest in Malaysia. Between 1985 and 1990, FDI in Malaysia was at the average of USD 1.1 billion (in current dollars) per year. With continuous efforts and programmes, the FDI has increased to USD 5.0 billion (in current dollars) in 1993 and USD 5.3 billion (in current dollars) in 1996 and has decreased to USD 3.203 billion in 2002 and thereafter. The success of pulling the FDI into Malaysia was part of the Malaysian government’s program to transform the country from an agricultural based into an industrial based economy.


This study aims to investigate the role of FDI intensity through decomposition of labour productivity growth into contributions of capital deepening, increased usage of FDI intensity, and the simultaneous contribution of the quality of these factors expressed as the TFP per unit of labour growth in achieving productivity driven growth in the Malaysian economy.

This paper unfolds as follows. Section 2 describes the effects of FDI on productivity, whereas Section 3 contains descriptions on the estimation methods employed in this paper, and Section 4 demonstrates details of the data. Results of the empirical analysis are explained in Section 5. Finally, Section 6 presents the conclusion and policy implications.

2. The Effects of FDI on Productivity

A growing number of studies have been engaged in the analysis of the belongings of foreign direct investment (FDI) on productivity in the host country. Alfaro et al (2006) give details that there is a widespread belief among policymakers that FDI generates positive productivity effects for host countries. The main mechanisms for these externalities are the adoption of foreign technology and know-how, which can happen via licensing agreements, imitation, employee training, and the introduction of new processes, and products by foreign firms; and the creation of linkages between foreign
and domestic firms. These benefits, together with the direct capital financing it provides, suggest that FDI can play an important role in modernizing a national economy and promoting economic development. However, the empirical evidence on the existence of such positive productivity externalities is sobering.

In addition, they express that the macro empirical literature finds weak support for an exogenous positive effect of FDI on economic growth. Findings in this literature indicate that a country’s capacity to take advantage of FDI externalities might be limited by local conditions, such as the development of the local financial markets or the educational level of the country, namely, absorptive capacities. Borensztein et al (1998) and Xu (2000) show that FDI brings technology, which translates into higher growth only when the host country has a minimum threshold of stock of human capital. Alfaro et al (2004), Durham (2004), and Hermes and Lensink (2003) provide evidence that only countries with well-developed financial markets gain significantly from FDI in terms of their growth rates.

Meanwhile, Carmen et al (2005) explain that while in theory, the nexus between FDI and growth (in terms of output and productivity) is in general positive, the empirical literature is far less conclusive. Some studies find positive effects from outward FDI on the investing country (Van Pottelsberghe and Lichtenberg, 2001; Nachum et al., 2000), but suggest a potential negative impact from inward FDI on the host country. This results from a possible decrease in indigenous innovative capacity or crowding out of domestic firms. Thus, in their view, inward FDI, on average, is primarily intended to take advantage of host country characteristics instead of disseminating new technologies originating in the sending country. Other studies report more positive findings: Nadiri (1993) finds positive and significant effects from US sourced capital on productivity growth of manufacturing industries in France, Germany, Japan and the UK. Also Borensztein et al. (1998) find a positive influence of FDI flows from industrial countries on developing countries’ growth. However, they report also a minimum threshold level of human capital for the productivity enhancing impact of FDI, emphasizing the role of absorptive capacity. Blonigen and Wang (2004) stress explicitly cross-country heterogeneity as the crucial factor which determines the effect of FDI on growth.

Moreover, it is equally likely that the impact of FDI on the host economy differs greatly according to the receiving industry. As a very intuitive example, heavy FDI in the extractive sector in Nigeria has not improved the country’s growth performance (Akinlo, 2004). It is conceivable that the potential for positive spillovers does not solely depend on a country’s overall absorptive capacity, but that the latter varies across sectors or industries inside an economy. Thus, the impact of FDI differs depending on the receiving sector or industry in connection with the country specific absorptive capacity or stage of development. The economy wide effect of FDI will then further depend on the extent of intra-industry versus inter-industry spillovers.

Douglas and Hill (2004) appraise recent trends and effects of FDI in developing Asia; and the domestic policy changes in six Asian host economies (People’s Republic of China, India, Republic of Korea, Malaysia, Thailand, and Vietnam); and how these policies and experiences influence their attitudes toward managing FDI. Not surprisingly, these countries have differed in their approach to the formulation of international regulations.
governing FDI. To simplify, their negotiating positions have ranged from strongly in favour (Republic of Korea) to strongly opposed (India); from viewing it as a helpful spur to domestic liberalization (Thailand) to a constraint on development policy options (Malaysia); and from acceptance if implementation is gradual (People’s Republic of China) to concern over capability to address the difficulties and challenges of achieving compliance (Vietnam).

In addition, the surge in flows of FDI in the last two decades has had important effects on global value chains of production, developing countries, and attitudes toward such investment. Attitudes toward FDI and experiences with it in developing countries affect host economy policies, which in turn affect subsequent experiences. Both FDI policies and experiences, as well as their perceived feedback, influence attitudes toward negotiating a multilateral framework for investment.

Likewise, Oguchi et al (2002), state that FDI helped economic growth in many Asian countries during the 1970s and 1990s. For example, Malaysia actively accepted foreign investment to accelerate its economic growth during that period. One merit of FDI that is often mentioned is technology transfer that accompanies new investments. Host economies expect direct productivity improvements with FDI as well as indirect spillover effects. However, the results of empirical studies on the effects of FDI on productivity are mixed. For example, Oguchi (1994) compared production functions of Korean and Japanese firms that were operating in the Masan free trade zone and determined that Korean firms were more productive. Ramstetter (1993) also found that there was no significant difference in the production functions of Thai local manufacturing firms and foreign operating in Thailand. Lichtenberg and de la Potterie (1996) examined the effects of FDI on productivity by cross section analysis of 13 countries and did not find significant positive effects. In contrast, Ramstetter compared foreign multinationals and local firms in Asian countries and found that foreign multinationals tended to rate higher than local firms in many characteristics (i.e. labour productivity, capital deepening, and capital productivity). Thus, empirical results on the productivity effects of FDI are mixed.

There are various possible reasons for these seemingly unexpected results. Young (1991) points out that when the FDI requires adjustments in the host economy, including adjustment of labour allocations and quality, it takes time to take full advantage of the potential of new technology. Narayanan and Guan (1994) examined technology transfer in the electrical and electronics industries in Malaysia and found that, to have successful technology transfer, the receiving country must be ready to absorb new technology. In cases where labour is not ready for new technology, improvement in productivity cannot be realised with FDI. Another possible reason is that, in some cases, FDI might introduce technology that is obsolete in the supplying economy and that is not necessarily more productive than technology in the host country.

3. Methodology and Estimation Procedures

None of above mentioned studies used labour productivity approach. Economists are more interested in intensive growth, which is expressed as growth in output per worker (labour productivity). Moreover, an economy’s standard of living is not determined by its
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According to Lipsey (2006), the measurement of foreign direct investment serves two broad purposes. One, which is the traditional one, views foreign direct investment as a financial flow, one of the ways in which source countries use surplus savings and, for the recipients, one of the ways in which their capital formation or the acquisition of other assets can be financed. The stocks of direct investment, often calculated by cumulating the flows over time, are for the source countries, one of the forms in which they hold assets abroad. For the recipient countries, they are a measure of foreigners’ claims on their capital, the income on which, like the interest on foreign borrowing, is a burden on their current accounts. The other purpose of the measurement of direct investment is to measure the activities of multinational firms, the determinants of these activities and their effects on the home countries and host countries involved.

Nevertheless, the rational of internalising the FDI as an explanatory variable separated from the fixed capital (value of fixed assists) is due to the fact that direct investment which proxies the FDI is mainly derived from Transnational Corporations (TNCs) investment. It should be noted, that Malaysia has always been quite open to FDI, and over time have become progressively more so.

The production function for an economy can be represented as follows:

\[ GDP = F(K, L, FDI, T) \] (1)

where real aggregate output GDP is a function of real fixed capital K, number of employment L, real direct investment FDI and time T, that proxies TFP as a technological progress of the economy.

The Divisia Index basically decomposes the aggregate output growth into contribution of changes in inputs (such as aggregate capital, labour, FDI growth), and TFP growth. In other words, considering the data at any two discrete points of time, say T and T-1 the growth rate of aggregate output GDP for an economy can be expressed as a weighted average of the growth rates of aggregate capital (K), aggregate labour (L), and FDI plus a residual term typically referred to as TFP growth rate. Hence the TFP growth of an economy is computed as the difference between the rate of growth of GDP and weighted average of the growth in the aggregate capital, labour, and FDI. This approach calculates the productivity indicators without considering statistical analysis to show the reliability of the results generated.

According to Mahadevan (2001), the TFP growth studies on the Malaysian manufacturing sector have used the nonparametric translog-divisia index approach developed by Jorgenson et al. (1987). This approach does not require the explicit specification of a production function, but the major drawback is that it is not based on statistical theory and, hence, statistical methods cannot be applied to evaluate their reliability, thus casting doubts on their results. This study attempts to fill this gap by developing this model into a parametric model and providing statistical analysis for it in the first step as follows:

\[
\ln GDP_t = a + \alpha \cdot \ln K_t + \beta \cdot \ln L_t + \lambda \cdot \ln FDI_t + \varepsilon_t \\
T = 1965 - 2006
\] (2)
where
\[ \alpha \] is the output elasticity with respect to capital
\[ \beta \] is the output elasticity with respect to labour
\[ \lambda \] is the output elasticity with respect to FDI
\[ a \] is the intercept or constant of the model\(^1\)
\[ \varepsilon_T \] is the residual term\(^2\)
\[ \ln \] is the logarithm to transform the variables.

Following Dollar and Sokoloff, (1990), Wong (1993), Felipe (2000) and Elsadig (2006), when constant returns \( \beta = (1 - \alpha - \lambda) \) to scale is imposed, equation (2) becomes:
\[
\ln GDP_T^T = a + \alpha \ln K_T + \lambda \ln FDI_T + (1 - \alpha - \lambda) \ln L_T + \varepsilon_T
\]  
\[ T = 1965 - 2006 \]  

For the purposes of this study, equation (3) was transformed by dividing each term by L (labour input).

However, there are two options in dividing the variables by L: -
1. Dividing the variables (data) by L before the analysis, in which the equation is given as:  
\[
\ln (GDP/L)_T = a + \alpha \ln (K/L)_T + \lambda \ln (FDI/L)_T
\]
This was not used in this study.
And the second option is;
2. Dividing the variables by L during the analysis through programming the variables that was used in this study, as follows:-
\[
\ln (GDP/L)_T = a + 
\alpha \ln (K/L)_T + \alpha^2 \left[ \ln (K/L)_T^2 \right] + \lambda \ln (FDI/L)_T + \lambda^2 \left[ \ln (FDI/L)_T^2 \right]
\]

The output elasticity was calculated with respect to capital deepening and FDI intensity, i.e. \( \alpha = \alpha 1 + \alpha 2 \) and \( \lambda = \lambda 1 + \lambda 2 \), respectively. That has followed Dollar and Sokoloff, (1990) and Elsadig (2006). The production function can be in the form:
\[
\Delta \ln (GDP/L)_T = a + \alpha \Delta \ln (K/L)_T + \alpha^2 \left[ \Delta \ln (K/L)_T^2 \right] + \lambda \Delta \ln (FDI/L)_T
+ \lambda^2 \left[ \Delta \ln (FDI/L)_T^2 \right] + \varepsilon_T
\]
\[ T = 1965 - 2006 \]

Then, it follows that

\(^1\) The intercept term, as usual, gives the mean or average effect on dependent variable of all the variables excluded from the model.
\(^2\) The residual term proxies for the total factor productivity growth that accounting for the technological progress of the economy through the quality of input terms.
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\[ \Delta \ln(GDP/L)_T \] is the labour productivity (output per worker)

\[ \bar{\alpha} \Delta \ln(K/L)_T = \alpha_1 \Delta \ln(K/L)_T + \alpha_2 [\Delta \ln(K/L)_T]^2 \] is the contribution of the capital deepening

\[ \bar{\lambda} \Delta \ln(FDI/L)_T = \lambda_1 \Delta \ln(FDI/L)_T + \lambda_2 [\Delta \ln(FDI/L)_T]^2 \] is the contribution of the FDI intensity

\[ \varepsilon_T \] is the residual term that proxies for TFP per unit of labour growth \((\Delta \ln(TFP/L)_T)\)

\(\Delta\) is the difference operator denoting proportionate change rate

Since the intercept (a) has no position in the calculation of the productivity growth rate indicators, it becomes:

\[ \Delta \ln(GDP/L)_T = \bar{\alpha} \Delta \ln(K/L)_T + \bar{\lambda} \Delta \ln(FDI/L)_T + \Delta \ln(TFP/L)_T \] (5)

where \(\bar{\alpha}\) and \(\bar{\lambda}\) denote the shares of capital deepening and FDI intensity, and \((TFP/L)_T\), is the translog index of TFP per unit of labour growth. To calculate the average annual growth rate of the TFP per unit of labour and labour productivity as well as the contribution of the capital deepening and FDI intensity, equation (5) becomes

\[ \Delta \ln(TFP/L)_T = \Delta \ln(GDP/L)_T - [\bar{\alpha} \Delta \ln(K/L)_T + \bar{\lambda} \Delta \ln(FDI/L)_T] \] (6)

Thus, equation (6) expresses the decomposition of labour productivity growth into the contributions of capital deepening, increasing usage of FDI intensity, and the simultaneous contribution of the quality of these factors. This is expressed as the TFP per unit of labour growth

4. Sources of Data

The data for this paper were collected from various sources. Real Gross Domestic Product (GDP), real aggregate fixed capital, real direct investment which proxies Foreign Direct Investment (FDI) and number of employment was collected from Asian Development Bank, Key indicators of developing Asia and Pacific countries, Statistical and Data Systems Division, international financial statistics of International Monetary Fund yearbook, and Department of Statistics, Malaysia.

5. Results and Discussion

Autoregressive estimator (Auto) was applied to Equation 4 of the model that was generated from a production function to measure the shift in the production functions of the Malaysia’s economy. An annual time series data over the period of 1965-2006 for real GDP, real aggregate fixed capital, number of employment and real FDI were employed.

An autoregressive estimator was used instead of other estimators as the main problem faced this model is autocorrelation. An OLS was tried but it did not serve the correct desire. It should be noted, that autoregressive estimator functions as OLS in 1st order or AR (1).

Analysis of the data using Equation 4 shows that the estimated coefficients of the explanatory variables of the model were significant at 5% level. The estimated coefficient of the intercept has been significant at 10% level. According to Durbin-Watson and Durbin h values the model has no problem of autocorrelation. In addition, the adjusted R^2
and t-values did not indicate multicollinearity in the model (Table 1). Since the model used in this study was specified in first differences and the calculated growth rates were used in the discussion of results and findings of the study, the model was found to be stationary. Engle and Granger (2003), state that if economic relationships are specified in first differences instead of levels, the statistical difficulties due to non-stationary variables can be avoided because the differenced variables are usually stationary even if the original variables are not.

<table>
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<tr>
<th>Table 1: Output Elasticity of Malaysian Productivity Indicators 1965-2006</th>
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<td>Intercept</td>
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<td>Capital Intensity</td>
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<tr>
<td>FDI- Unit of Labour</td>
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<tr>
<td>Adjusted R²</td>
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<tr>
<td>Durbin-Watson</td>
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<td>Durbin-h</td>
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Note: Figures in parentheses are t-values. ** Indicates significant at 5% level. * Indicates Significant at 10% level. Figures in Table 1 were estimated using Equation (4)

5.1 Empirical Analysis

An analysis was carried out to compare the productivity indicators within the Malaysian economy for the entire period of 1965-2006. In order to study the effects of government policies in improving the economy’s productivity growth as well as the impact of FDI intensity on productivity in addition to Asian financial crisis of 1997 in Malaysian economy and whether Malaysia’s productivity growth is an input or productivity-driven. The study period was divided into four phases, these phases, which corresponds to the major policy changes, namely, 1971-1979, 1980-1986, 1987-1996 and 1997-2006. The period of the 1970s witnessed the birth of Malaysia’s era of export-oriented economy. The policy shifted from import-substitution to labour-intensive and export oriented industries with electronics and textiles as the main areas of emphasis and growth. The decade of 1980s saw a further diversification of the economy into more advanced industries. The Heavy Industries Corporation of Malaysia (HICOM) was conceived in 1980s. As a result of these polices, the range of economic activities and sources of growth had become more diversified. The period of 1987-1996 witnessed further diversification of the economy into more advanced industries. During this period the economic structural transformation took place in the Malaysian economy, and the manufacturing sector became the engine of growth. Finally, the period of 1997-2006 was the period during and after the Asian financial crisis of 1997 that its negative impact continued until 2000 with enormous damage to the Asian economies in general and the Malaysian economy in particular.
Meanwhile, the use of TFP overcomes the problems of single productivity indicators such as labour productivity and capital deepening by measuring the relationship between output and its total inputs (a weighted sum of all inputs), thereby giving the residual output changes not accounted for by total factor input changes. Being a residual, changes in TFP are not influenced by changes in the various factors which affect technological progress such as the quality of factors of production, flexibility of resource use, capacity utilisation, quality of management, economies of scale, and so on and so forth (Rao and Preston, 1984). Consequently, the improvement and slowdown of TFP contribution to the Malaysian economy in terms of average annual growth rates are dependent on the inputs used in the production of the economy that were reported to be of low quality and insufficient.

However, the contribution of TFP per unit of labour growth to the Malaysian economy in terms of average annual productivity growth by including FDI intensity in the model was positive only during the entire period of 1980-1986. (Table 2).

Meanwhile, the highest contribution of labour productivity (GDP per worker) to the productivity growth of the Malaysian economy by involving FDI intensity was the contribution of the sub period of 1987-1996 at 1.68 percent (Table 2). On the other hand, the lowest contribution of labour productivity to the productivity growth of the Malaysian economy was the contribution of the entire period and sub-period of 1971-1979 (Table 2).

This was found to be the period of the perceived period of investment-driven. As a result, the performance of the economy of Malaysia was rapid compared with the period before the transformation of the economy into investment-driven that was supported by foreign direct investment (FDI). The TFP intensity growth has been very low and the labour productivity was not the highest one to contribute to the economy’s productivity growth. The reasons behind that were the qualities of human capital and the technology involved in the production. In contrast, the sub-period of 1971-1979 was found to be the period of labour-driven.

With this regard, the highest contribution of capital deepening to labour productivity in terms of average annual productivity growth of the Malaysian economy was during the sub-period of 1987-1996 which was 5.89 percent (Table 2).

Finally, the contribution of the FDI intensity was the highest one among the input terms during all periods of the study, apart from the entire period. By examining the role of FDI intensity to achieve productivity driven economy through TFP per unit of labour growth, it was found from the results that there was a positive contribution of FDI intensity to TFP per unit of labour growth in the Malaysian economy.

This reflects the role of comparative advantage in unskilled labour intensive that eventually helped to attract FDI in the latter half of the 1980s. Malaysia has accelerated trade liberalisation policies and drastically eased restrictions with respect to capital ownership of foreign companies. That fostered the significant increase of global capital.

In addition, FDI is the source of technology transfer to Malaysia through TNCs investment.

The results of this study indicate that the productivity growth of Malaysia’s economy is input-driven rather than productivity growth-driven and being based on FDI when the results of TFP per unit of labour growth were compared. The study also shows that there
was a negative contribution of the TFP per unit of labour growth during the sub-period of 1987-1996. The contribution of the labour productivity was one of the highest during this sub-period [supported by the enhanced flow of FDI]. It was also confirmed by Lall (1995) that Malaysian productivity growth is input-driven, as in other newly industrialised countries in Asia where their productivity was input-driven as stated by Young (1992, 1995) and Kim and Lau (1994). Sarel (1996) also express his concerns that some East Asian countries may face the same fate as the Soviet Union. This is because these countries invested primarily in labour and capital rather in technology over the past few decades and there was no real technological breakthrough that can sustain the progress of the industrial development.

Table 2: Productivity Indicators of Malaysian Economy, %

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</thead>
<tbody>
<tr>
<td>TFP Per Unit of Labour</td>
<td>-2.32</td>
<td>-2.73</td>
<td>0.75</td>
<td>-1.68</td>
<td>-1.30</td>
</tr>
<tr>
<td>Labour Productivity</td>
<td>-2.35</td>
<td>-2.85</td>
<td>0.81</td>
<td>1.68</td>
<td>1.27</td>
</tr>
<tr>
<td>Capital Intensity</td>
<td>2.55</td>
<td>-2.35</td>
<td>5.66</td>
<td>5.89</td>
<td>2.70</td>
</tr>
<tr>
<td>FDI- Unit of Labour</td>
<td>2.38</td>
<td>2.38</td>
<td>5.70</td>
<td>6.82</td>
<td>2.71</td>
</tr>
</tbody>
</table>

Note: Figures in Table 2 were calculated using Equation (6)

6. Conclusion and Policy Implications

This study claims to fill the gaps of previous studies by developing applications of intensive growth theory and introducing the TFP intensity (TFP per unit of labour). As well as, this study provides statistical analysis in the first step of the estimation to attain the coefficients of the explanatory variables that have been used by econometric approach. It can be reiterated here that in addition, a second step plugs the parameters of the variables into the model in order to compute the contribution rates of productivity indicators including the calculation of the residual of the model (TFP intensity) and labour productivity contributions being used by growth accounting approach.

The results of this study show that the productivity growth of Malaysia’s economy is input-driven rather than productivity-growth-driven, and it is based on FDI. This is observed when the results of TFP per unit of labour growth have been compared. The study also reveals that there is a negative contribution of the TFP per unit of labour growth during the sub-period of 1987-1996, although the contribution of the labour productivity was one of the highest during this sub-period that is supported by the enhanced flow of FDI. These findings are in line with the findings of the studies undertaken by Young (1992, 1995) and Kim and Lau (1994), in which the authors state that other Asian newly industrialised countries’ productivity was input driven. Sarel (1996) also expressed concerns that some East Asian countries may face the same fate as the Soviet Union. His perception bears reasonable assumptions as these countries invested primarily in labour and capital rather than in technology over the past few decades and there was no real technological drive that can sustain the progress of the industrial development. According to Krugman (1994), the high growth rates in East Asian are, however, not sustainable because Asian growth has come primarily from increases in the amount of labour and capital rather than in TFP (i.e., knowledge and
technical change). At some point, according to his argument, it will no longer be possible to continue raising levels of capital and labour. Consequently, East Asian growth rates must eventually fall in the absence of improvements in TFP.

These results also confirm that FDI intensity had a very significant role in achieving higher labour productivity contribution in the Malaysian economy through using huge input to produce output. Thanks to FDI that helped the manufacturing sector to become the engine of economic growth instead of agricultural sector when economic structural transformation took place in Malaysia’s economy in 1987.

Comparing the Japan Model of economic development with other Asian countries, Japan had developed real productivity with technological progress while other Asians countries including Malaysia gained the chance to develop their economies through input-driven without significant technological progress. South Korean Model benefited from Japan Model mainly from industrial and technical expertise developed by Japan during the occupation. As a result of this, South Korea inherited significant knowledge stoke that enabled the development of such companies as Daewoo, Samsung and LG that compete globally.

Thanks to Malaysia’s comparative advantage in unskilled labour intensive that helped to attract FDI in the latter half of the 1980s. Malaysia accelerated trade liberalisation policies and drastically eased restrictions with respect to capital ownership of foreign companies. As Ariff (2005) mentioned, it is the quality of the workforce that will make the real difference. The human factor plays a pivotal role. First-world infrastructure with third-world mentality will not produce the desired results, as Prime Minister of Malaysia Abdullah Badawi has warned. Investments in education, training and skill development will determine the capacity of a nation to change with changing times. As mentioned, it is companies, not countries that compete in the market place. By the same token, it is human capital, not physical capital that is crucial to the competitiveness of these enterprises. It is heartening that Malaysia is increasingly investing in human resource development instead of being preoccupied with infrastructure development.

The Malaysian economy, in the meantime, is operating as a production-based economy based on manufacturing output. The productivity-driven economy is a dream that will be achieved by implementing the Malaysian national vision of 2020. This vision would transform Malaysia into a developed state if it is properly implemented. Consequently, by 2020 the Malaysian economy should be driven by knowledge and the wealth thereof. The results of this study will be useful for productivity-driven policy formulation, if used by the Malaysian government policy makers.

In the end, due to unavailability of FDI data at Malaysian economic sectoral, industrial and firm levels, this study was conducted at the aggregate Malaysian economy level as a whole. A data of FDI in terms of direct investment was found to match with the time series data of the other variables in the study for the period of 1965-2006.

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