



Are the FDI inflow spillover effects on Malaysia's economic growth input driven?

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ABSTRACT

This paper inspects the influence of human capital, labour force, and absorptive capacity, physical capital as a control variable, foreign direct investment (FDI) inflows and gross domestic product (GDP) on Malaysia's productivity growth. A time series quarterly data from the period of 1999 to 2008 was used. The effects of FDI inflows on human capital, labour force, absorptive capacity and physical capital were investigated. The Ordinary Least Squares (OLS) regression was applied to estimate the data in the first step and in the second step productivity indicators were calculated. The results show that the FDI inflows and inputs used are negatively contributed to total factor productivity (TFP). Meanwhile, FDI plays a significant role in achieving economic growth through input driven as indicated by the contribution of the TFP. In this regard, a significant positive relationship between human capital, labour force and absorptive capacity which determines the spillover effect on Malaysian economic growth (GDP) was found and the physical capital has shown negative relationship.

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1. Introduction

The [Organisation for Economic Cooperation \(OECD\)](#), 2002 stated that the total benefits of FDI for developing economies are well documented. Given the appropriate host-country policies and a basic level of development, a preponderance of studies show that FDI triggers technology spillovers, assists human capital formation, contributes to international trade integration, helps create a more competitive business environment and enhances enterprise development. All of these contribute to higher economic growth, which is the most potent tool for alleviating poverty in developing countries. Moreover, beyond the strictly economic benefits, FDI may help improve environmental and social conditions in the host country by, for example, transferring “cleaner” technologies and leading to more socially responsible corporate policies.

Additionally, the FDI inflows helps as a compound for speedy economic growth experienced by East Asian countries by allowing these developing countries to jump into the development stages and to catch up with the western developed countries, it constitutes also an important advocate for improved social norms. In this respect, FDI plays a major role in the larger development agenda of the host countries ([Xiaolun, 2002](#)). According to the author since the Golden Age investment boom after World War II toward the East Asian economic miracles in the 1980s, there is ample evidence to demonstrate that investment is a key ingredient to sustained economic growth.

Moreover, according to [Ramlee and Abu \(2004\)](#), the investment in human capital (knowledge workers) is a very critical factor in

determining the knowledge based economy (K-economy) existence, which is driven by human and technology knowledge, requiring a high skilled and creative human capital to facilitate the K-economy activities. In this respect, human capital theory views education and training as an investment that can yield social and private returns through augmented knowledge and skills for economic development and social progress as stated by [Schultz \(1963\)](#). Furthermore, the economic argument in favour of knowledge-based education and training is linked to the perceived need of the global emerging K-economy. That is based on the assumption that economic growth and development currently are knowledge driven and human capital is considered to be the centre of this development besides digital technology in the form of information and communication technology (ICT). But, the fact is that people will make the change, this ICT could be used as a means to facilitate economic activities which require human knowledge. Thus, the role of human capital is very crucial in developing the innovation activities to turn them into cutting products (knowledge products) and in this regard, the K-economy is called innovation economy. [Dahlman and Nelson \(1995\)](#) define national absorptive capacity as “the ability to learn and implement the technologies and associated practices of already developed countries”. National absorptive capacity is more than the sum of the absorptive capabilities of domestic firms and includes also the ability of human capital to develop new skills in general and managerial skills in particular which could aid to develop the domestic firms in a competitive manner.

Furthermore, the absorptive capacity in this study addresses how the local people are benefiting to develop their skills through the FDI inflows brought by multinational companies (MNCs) which located their direct investment activities in their countries and used

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substantial economic, financial and technological incentives. Moreover, measuring the role of absorptive capacity in determining whether domestic firms benefit from productivity spillovers from FDI should be expressed in the productivity performance of these economies. If the economy is showing technological progress, it means that the economy has transferred the technology of MNCs to domestic firms and has developed human capital capacity that can be relied on to develop a productivity driven economy. This is called as the spillover effect of FDI. Otherwise, it is considered to be an input driven economy which uses the FDI inputs to produce output without showing technical progress and less human capital skills development.

1.1. FDI role in Malaysia's economic growth

Malaysia is the fourth most open economy in the world with exports and imports accounting for most of its total gross domestic product (GDP). Trade was the lifeblood of the Malaysian economy. FDI has long been its backbone. Economic openness has brought much prosperity to this multi-racial country, as evidenced by the rapid pace of economic growth and development since its independence from Great Britain in 1957. It is noteworthy that the country's per capita income now exceeds US\$4,000 mark, placing Malaysia in the league of the advanced developing economies. It is pertinent to mention in passing that Malaysia is Australia's 10th largest trading partner and that Australia is Malaysia's 14th largest trading partner (Ariff, 2005).

Moreover, FDI has been hailed as the most important contributing factor to Malaysia's phenomenal economic performance since the 1970s and is seen as the engine for growth, especially in the export-manufacturing sector. Malaysia is one of the most favoured locations of FDI. For example in 1995, Malaysia was the second largest recipient of FDI among the Asian economies with a total amount of US\$5.8 billion (UNCTAD, 1996). FDI has played a very important role in shaping Malaysia's economy over its history. As the whole world is becoming a global village, capital would move from one area to another depending on the country, which offers the highest rate of return. Apart from returns from countries, other criteria that determine the selection of FDI are; meeting the investors' needs in terms of good financial practices and the ease of moving capital. The future growth of the Malaysian economy will have to depend on the efficacy of the various policies and measures enacted by the government in order to realise her Vision 2020. More effort is now needed to attract FDI due to intense competition from emerging economies such as Thailand, Myanmar, Indonesia and China.

Furthermore, Oguchi et al. (2002), state that FDI had assisted 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 not clear. For example, Oguchi (1994) compares 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 finds that there was no significant difference in the production functions of Thai local manufacturing firms and foreign firms operating in Thailand. Lichtenberg and de la Potteries (1996) examine 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, capital productivity). Thus, empirical results on the productivity effects of FDI are not conclusive.

Meanwhile, 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. On the other hand, Narayanan and Guan (1994) examined technology transfer in the electrical and electronics industries in Malaysia and find 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.

To close, following are some selected studies in Malaysian TFPG which were based on growth accounting method. Starting with Syrquin (1991) who found that in a study between 1960 and 1989, the TFP growth (TFPG) contribution was 3% for 1960–1970 and 0.5% for 1980–1989. In a similar study between 1970 and 1990, Kawai (1994) found TFPG of 2.5% for 1970–1980 and 0.7% for 1980–1990. Similarly, Gan and Soon (1998) in their study between 1974 and 1995 found TFPG contribution of 1.6% for 1974–1995 and 2.2% for 1990–1995 and between 1980 and 1997 Ab. Wahab (2004) found that TFPG contribution of 1.3% for 1990–1997. While econometric estimation studies of Wang and Thomas (1993) between 1960 and 1987 find that TFPG contribution is 2%, World Bank (1993) report between 1960 and 1990 found TFPG of 1.3%, and Gan and Robinson (1993) study between 1975 and 1991 found that TFP was negatively contributed during the first half of 1980 and positively contributed after 1985. Likewise, between 1960 and 1990 as well as between 1978 and 1992 Zarina and Shariman (1994) also found that TFPG has negatively contributed to Malaysia's economic growth. Therefore, the above-mentioned studies that were based on econometric estimation had a gap which had not shown the calculation of the productivity indicator contributions and based their findings on the estimated coefficients of explanatory variables used to satisfy only the econometric requirements to validate and to reach homogenous measures of the explanatory variables involved. On the other hand, those studies that used growth accounting approach had calculated the productivity indicators without providing econometric results to show the reliability of the results generated.

Consequently, this study attempts to close these gaps by providing statistical analysis which is lacking in the divisia translog index approach (growth accounting) that is developed by Jorgenson et al. (1987) and proposed a combined approach of econometric and growth accounting approach to fill these two research gaps. This paper is aiming to investigate the degree of FDI contribution to productivity performance in Malaysia and to inspect whether this productivity is based on FDI; is human capital and absorptive capacity contribution productivity driven or input driven?

1.2. FDI spillover effects implications on sustainable productivity growth

According to Rajneesh (2004) productivity growth among developing countries relies considerably on the ability of their economic units to acquire and internalise knowledge developed elsewhere if they are to "catch up". Laggard "economic units" (countries or firms) must possess the ability to absorb, internalise and utilise the knowledge potentially made available to them. This ability is known as "absorptive capacity", or the appropriate supply of human capital and technological capability to be able to generate new technologies and consequently use productive resources efficiently. In turn, this is expected to translate into productivity growth for firms as well as countries. Accordingly, absorptive capacity is significant for development because it permits domestic economic actors to internalise knowledge that exists elsewhere (either within the domestic economy or externally) that is made available directly or indirectly to them. The author further explains that the

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