International Journal of Asian Social Science
ISSN(e): 2224-4441
ISSN(p): 2226-5139
DOI: 10.18488/journal.1.2020.1012.746.760
Vol. 10, No. 12, 746-760.

URL: www.aessweb.com

DETERMINANTS OF FOREIGN DIRECT INVESTMENT: AN ANALYSIS ON POLICY VARIABLES IN THE MALAYSIAN MANUFACTURING INDUSTRY

Norhanishah Mohamad Yunus

School of Distance Education, Universiti Sains Malaysia, Pulau Pinang, Malaysia.
Email: norhanishah@usm.my

Article History
Received: 24 September 2020
Revised: 19 October 2020
Accepted: 16 November 2020
Published: 30 November 2020

Keywords
Foreign direct investment
Policy variables
Direct domestic investment
Training investment
Human capital
Ordinary least square.

ABSTRACT

Using the current 2-digit levels of a panel data set during the period of 2000 to 2018, this study adds to the literature by investigating the determinants of policy variables that influence the increase of foreign direct investment (FDI) inward stock in nine manufacturing industries according to the industry classification. Applying the ordinary least square (OLS) estimator with a robust standard error, this study concludes that direct domestic investment from local investors and investment in employers' training play a very significant role to influence FDI inward stock in the medium-high and low technology industries. The study also found that degree holders working in the electrical and electronics (E&E), chemical, and machinery and equipment industries negatively influence FDI inwards due to their perceived level of absorptive capacity. The result implies that there is a mismatch of supply and demand of labour force and skills in dealing with the rapidly changing labour-market conditions. This study thus suggests that courses offered at tertiary institutions undergo a revision to make them more industry- driven. Human capital investment needs to focus on in-demand skills rather than skills deemed obsolete in the industries. Graduates, therefore, need to be equipped with transferable skills that can be "transferred" across different industries.

Contribution/ Originality: This study expands the body of knowledge about the determinants of policy variables by including human capital factors as an indicator of the level of "absorptive capacity" that influence the increase of FDI inward stock in a micro-level analysis at industry level.

1. INTRODUCTION

Foreign direct investment (FDI) contributes to the long-term economic development. Regardless of the types, any inflows will induce higher economic growth to the host economies. Hence, policies to attract FDI have become standard in most countries, irrespective of their level of development, geographical location or industrial structure (Masron, Zulkafli, & Ibrahim, 2012). Despite an econometric analysis showing which variables significantly impact inward FDI stock economically and statistically, most analysis, to date, did not highlight which of the (policy) instruments should be altered to attract FDI given a country's relative position with respect to the various policy

measures. The present study seeks to answer the important policy question of what should be done in order to attract FDI inward stock in the short run.

In this paper, this study addresses this question with the aim of providing some insights for policy makers seeking promising areas of action and an efficient means of conducting FDI attraction policies. This study provides a comprehensive analysis of policy variables that can be used to determine the FDI inward stock on nine manufacturing industries in Malaysia at a disaggregated level during the period of 2000 to 2018. In the context of Malaysia, an investigation on the potential policy to attract FDI inward stock is important as Malaysia begins to acknowledge the viable integration between skill upgrading and technology development capacity through FDI (EPU (Economic Planning Unit), 2010; EPU (Economic Planning Unit) & World Bank, 2007). This is particularly so as the volume of FDI inward stock is in a decreasing trend over the last few years. Available data shows that Malaysia's FDI in 2015 declined by forty-four per cent from 2014 and it continued to decrease by seventeen percent in 2017, as compared to 2016 (MIDA, 2017, 2018). This decrease raises a lot of questions on the benefits that Malaysia reaps from FDI. Since attracting more FDI remains a desirable objective, Malaysia needs to make itself more attractive to foreign investors.

Even though the decreasing FDI inward stock is due to the fall in the commodity prices and the ringgit, thus affecting investors' sentiment, we deem it important to take a closer look at a practical policy so as to increase the volume of FDI inward stock. The FDI attraction policy will be carried out not only to increase the number of FDI inward stock, but most importantly to ensure the function of FDIs' indirect technological and knowledge transfers to our labour based on the Key Performance Indicators (KPIs). If the previous trend of FDI inflow merely targetting the cheap labour supply and abundant natural resources continues, Malaysia is expected to lose FDI gradually and simultaneously anticipate smaller return.

Despite the dramatic increase in the total FDI flows to developing countries in the last few years, the bulk of the inflows has been directed to only a limited number of countries. It has been argued that developing countries might enhance their attractiveness as locations for FDI by pursuing policies that raise the level of local skills and build up human resource capabilities (Noorbakhsh, Paloni, & Youssef, 2001). Consistent with many empirical studies supporting human capital as a key determinant in increasing FDI inward stock, the Malaysian government, similarly, believes that the expansion of the number of tertiary education significantly determines the absorption of both FDI knowledge and technology and the country's development of technological capacities (EPU (Economic Planning Unit) & World Bank, 2007).

Nonetheless, the benefits of FDI inward stocks in enhancing human capital variables in terms of skills and knowledge remain little, regardless of whether it is taking place at the micro or macro level (Araújo, Bogliacino, & Vivarelli, 2009; Cleeve, Debrah, & Yiheyis, 2015; Slaughter, 2004) Hence, this study aims to add to the existing literature by investigating the role of human capital, in the form of educational attainment and training, in attracting the FDI inflows in Malaysia. In this study, the human capital variable, which is used as a policy variable, acts as an indicator of the level of "absorptive capacity" of workers to absorb the knowledge and technology from FDI spillovers (Noorbakhsh et al., 2001). The study will thus provide a preliminary picture of how Malaysian workers' skill and knowledge facilitate FDI spill-over technology and knowledge effects through inwards stock. The role of human capital in the FDI attraction policy is relatively less discussed in the empirical (Cleeve et al., 2015; Yunus, 2014).

The organization of this paper is as follows: Section 2 provides a review of the literature. Section 3 provides research-related details in terms of data description and scope of the study. Section 4 then outlines the methodology. Section 5 discusses the results. Finally, section 6 closes with a conclusion and policy implication.

2. LITERATURE REVIEW

Since the 1980s, Malaysia has relied heavily on multinational companies (MNCs) not only for trade but also for investment, aid, and technology transfer (Ariff, Yokoyama, & Kenkyūjo, 1992). According to the Malaysian Investment Development Authority (MIDA), for the first quarter of 2019, Japan was the major country contributing to FDI flows with RM8.4 billion (38.8%), followed by Austria with RM3.7 billion (16.9%) and Hong Kong with RM2.8 billion (12.9%) (MIDA, 2019). Current data also indicate a strong tie between Japan and Malaysia in trade and investment. Despite the emerging importance of Japanese MNCs in the Malaysian economy, particularly in technology transfer, no comprehensive study has been done to analyse the attractiveness of the current policy in the Malaysian manufacturing sector especially at the industry level.

With respect to the policy variables, only several empirical studies have been carried out based on FDI data at the industry level, but these remained limited to developed countries. Resmini (2000) used FDI flow data (i.e. FDI flows in US dollars in ten Eastern European Countries under four sub-categories of the manufacturing sector using the Pavitt classification; see (Pavitt, 1984) over the period of 1991-1995. Bénassy-Quéré, Gobalraja, and Trannoy (2007) used FDI stock data (i.e. capital expenditures by US majority-owned affiliates) in eighteen EU members for eleven industries between 1994-2002. They also studied the quality factors of institutions as determinants of home-based institutions and FDI-based hosts. The results suggest that efforts to improve the quality of institutions and bring them together towards resource countries can help developing countries to receive more FDI. Other findings suggest that including FDI institutional determinant is important in the empirical research of policy determinants.

Keller and Yeaple (2003) investigated the role of skill endowments in the structure of US outward FDI, as defined in terms of the sales of U.S. multinationals majority-owned affiliates abroad based on the 1994 benchmark survey, covering thirty-nine countries and fifty manufacturing industries. Stöwhase (2005) studied the tax responsiveness of FDI flows into several Europian Union (EU) countries on a sectoral level. By using effective tax rates to measure tax incentives, Stöwhase's study showed that FDI's tax sensitivity crucially depends on the economic sector. While investment in the primary sector is driven by factors other than tax incentives, investment in the secondary and the tertiary sectors is deterred by high tax rates. Meanwhile, using a unique database that includes robust data, Using the framework of a statistical model, Globerman and Shapiro (1999) studied the extent to which policy changes in Canada, that are specifically directed toward FDI inwards, have influenced both capital outflows to Canada and capital outflows from Canada. The study focused on how public policies targeted specifically at FDI have altered capital inflows, and uniquely links such policies to outward direct investment. Specifically, they examined the effects of major policy changes toward FDI implemented by the Canadian government over the period of 1950-1995. The results showed that free-trade agreements (FTA and NAFTA) appear to have significantly increased the levels of inward and outward foreign direct investment. However, Canada's attempt to screen FDI via the Foreign Investment Review Agency (FIRA) had no significant effects on either FDI or outward direct investment.

In the Malaysian context, research on policy variables aimed at attracting more FDI inward stock are scarce. Surprisingly, this issue garners little attention as most FDI studies focused on Total Factor Productivity, skilled labour demand, and labour productivity on a high aggregation (Elia, Mariotti, & Piscitello, 2009; Liu & Wang, 2003; Su & Liu, 2016; Yunus, Said, & Azman-Saini, 2015; Yunus & Masron, 2020). For instance, Karim, Winters, Coelli, and Fleming (2003) analysed the determinants of FDI from eleven countries between 1988 and 2000 remained focusing on a high-aggregation sector. They found that gross domestic product, lending interest rate, labour productivity, exports to home country, and imports from home country significantly influenced the level of FDI inward stock into Malaysia. However, exchange rate, exchange rate variation, wage and openness index were not important in influencing FDI.

To date, Malaysia lacks attractive policies in promoting short-term FDI. The government may have limited control over some policy variables in the short-term. The Malaysian government policy on FDI is instead more

concentrated in the long run and the evaluation of aggregate in FDI inward stock, as well as at a high level of aggregation in the manufacturing sector (Yunus et al., 2015). Thus, this study may help the Malaysian government to justify the cost invested and to reduce the regulatory constraints in order to attract more FDI inward stock in the short run.

Even though a plethora of studies highlight the need to consider human capital in devising policies aimed at attracting FDI inward stock, the empirical evidence in the literature in support of this recommendation for a large sample of developing countries is relatively scarce. Most studies on the relationship between human capital and FDI emphasised on economics growth (Hanushek, 2013; Kottaridi & Stengos, 2010; Su & Liu, 2016). Only a few studies recently focused on the role of human capital as an important determinant to attract FDI inward stock in developing countries. For instance, a study by Noorbakhsh et al. (2001) found that human capital is a statistically significant determinant of FDI inward stock and that its significance has been steadily increasing over time. Another study by Cleeve et al. (2015) and Stöwhase (2005) examined the role of human capital on FDI inward stock to sub-Saharan Africa between 1980 and 2012 to asses if changing skill needs influence FDI inward stock. Several measures of human capital were used to assess whether the quality of labour explains FDI flows over the study period. Various versions of an FDI models were estimated and the results showed that all measures of human capital significantly influence FDI, as are the traditional variables. There is no evidence of the increasing importance of human capital on FDI over time, thus probably reflecting the type of FDI flowing into the sub-Saharan Africa.

3. DATA DESCRIPTION AND SCOPE OF STUDY

This study focuses on nine manufacturing industries at a two-digit level at a disaggregated level because FDI have been associated with the manufacturing sector for a long time. The present study divided the sectors into medium-high technology industry and low-technology industry[1]. Medium-high technology industry consists of electrical and electronics (E&E), Chemical, Machinery and Equipment, and Transport Equipment. Low-technology industry includes Food and Beverage, Textiles, Wood, Publishing, Paper and Printing, and Furniture. These industries are supported by private investment, and the regulatory framework is changed to attract both domestic and foreign investments, thus potentially contributing to economic growth and labour productivity (EPU (Economic Planning Unit), 2006).

The present study examines the period of 2000 to 2018. Even though the current data is until 2019, there appears to be a panel data imbalance, especially for the variables of foreign and domestic investments, in certain industries in 2018. The period was chosen due to the dramatic increase of the amount of FDI inwards to the Malaysian manufacturing industries during the period of 2000 until 2016. In 2017, however, the global flow of FDI fell by twenty-three per cent. With only a very modest recovery predicted for 2018, this negative trend is a long-term concern for policymakers worldwide, especially for developing countries, where international investment is indispensable for sustainable industrial development (UNCTAD, 2018).

4. METHODOLOGY

This section estimates the attraction policies variables used to determine the FDI inward stock in the medium-high and low-technology industries during the period of 2000 to 2018. This study measures FDI inward stock as a foreign capital investment (*FDI*) acting as a dependent variable. The estimated model derived is as follows:

[1]Classification of manufacturing industries into categories based on R&D intensities according to OECD classification, 2011 (Hatzichronoglou, 1997)

$$lnFD_{it} = \alpha_o + B_1 ln\left(\frac{K}{L}\right)_{it} + B_2 lnFDI_{ij,t-1} + B_3 lnDI_{it} + B_4 lnRD_{it} + B_5 lnTRAIN_{it} + B_6 lnEDU_{it} + B_7 lnFS_{it} + B_8 lnLC_{it} + \varepsilon_{it} \quad (1.0)$$

where: *i* is an index of industry (*electrical* and *electronics*, *Food and Beverage*, *Textiles*, *Leather*, *Wood*, *Chemical*, *Rubber*, *Plastic*, *Basic Metal*, *Machinery and Equipment*, *Transport Equipment*, *Non-Metallic Mineral*, *Publishing*, *and Paper and Printing*). *t* is time index. *FDI* is FDI inward stock (measured as capital investment by foreign investors); $\frac{K}{L}$ denotes the ratio of capital to worker or capital intensity. FDI_{ijt-1} denotes lagged of FDI inward stock [2], *DI* (share of domestic direct investment from local investors); *RD* is research and development expenditure; *TRAIN* (cost of training per employee); *EDU* is the level of educational attainments (University degree and above; Diploma/HSC or equivalent; and Middle Certificate Education/Vocational (MCE/MCEV or equivalent); *FS* is firm size (measured by total sales) and ε_{it} is an error term that captures the time-varying firm specific shocks.

Before we estimate the model in this study, the first crucial step should be undertaken to measure the inwards of FDI stock. Following Potterie, Van, and Lichtenberg (2001) the dynamic nature of the panel data generation process underlying the FDI stock data is modeled using the following formula:

$$FDI_{it} = \sum_{j \neq i} \frac{f_i}{k_i} DI_{it}$$

where: *FDI* is the inwards of FDI stock- weighted foreign capital investment; f_{ij} is the flow of FDI towards industry *i* and k_i is the gross fixed capital formation of industry.

With the limitation in panel data at 2-digit industry level (171 observations), the present study employs ordinary least square (OLS) estimators with robust standard errors[3]. The robust standard errors are appropriate even under homoscedasticity. The robust standard errors option in regression is also efficient in dealing with normality minor problem because some observations might exhibit large residuals, leverage, or influence, as well as to capture the possible concerns about the effects of serial correlation on the standard errors (Black, Devereux, & Salvanes, 2003; Hoechle, 2007).

[2] The empirical specification includes these variables in addition to the lag of FDI inward stock to capture the impact of existing foreign investment on new FDI inflows. The present study has also included one-year lag (lagged FDI) with respect to the dependent variable in order to take into account the time needed for FDI inflows to react to lagged FDI (Bevan, Estrin, & Meyer, 2004).

[3] It is important to note that, before OLS was selected as a best method to analyse the results in this study, several model selection tests were tested such as Generalized Method of Moments (GMM), Random Effect and Fixed Effect Model but we could not yield the best results. For GMM, the condition to perform GMM is that the number of observations (N) must be greater than *T*. In this study, the number of industry (N) = 9 industries and year (T) = 19. For Random Effect estimator, this study cannot establish small sample properties. For fixed-effects models, even though it is widely recognised as the convenient and powerful tools for longitudinal data analysis, there are limitations in these models. The primary limitation is unobserved heterogeneity due to unmeasured characteristics that do vary over time. The problem is that fixed-effects coefficients are biased in a conservative fashion when the data are characterised by a small number of panels (Allison, 2009). This study also found standard errors for fixed effects coefficients are often larger than those for other methods, especially when the predictor variable has little variation over time.

5. RESULTS AND DISCUSSIONS

In this section, the present study discusses the policy variables that are likely used to attract more FDI inward stock into the manufacturing sector. The OLS regression results are reported, with FDI stock as the dependent variable. This study begins the analysis of results in the medium- and high-technology industries as shown in Table 1. Briefly, the overall results revealed all policy variables used in this study to attract FDI inward stock in all industries are statistically significant. The result in Table 1 showed the lagged of FDI inward stock, which captured the attraction of new FDI to host countries with existing investments and the reinvested profits of returning transnational corporations is reported statistically significant effects to promote FDI inward stock. Nonetheless, the result in Table 1 clearly demonstrated that FDI stocks in the past would only encourage less than 5% increase of the amount of FDI inward stock into the medium-high technology industries. This result may be closely associated with the global economy heading towards a synchronised slowdown. With global foreign direct investments hitting the lowest level in ten years, it is becoming increasingly challenging to attract investments even though the government places greater emphasis on luring investments in the advanced technology and capital-intensive industries (MIDA, 2017). Although the literature suggests that FDI stocks in the past have had "demonstration effects" (signals) and the spillover effects through "technology" that also improve the skills of workers absorbing the accompanying technology, this study found the coefficient value of lagged FDI inward stock showed a significant negative correlation with FDI stock. This result may reflect the fact that workers' ability to imitate and adopt high-skill-based technologies of FDI brought in the past remain limited in the medium-high technology industries.

Table-1. Regression results for medium-high technology industry, 2000-2018.

Dependant Variable: FDI inward stock	E&E=31		Chemical=24		Machinery& Equipment=29		Transport Equipment=35	
	COEFF	S.E	COEFF	S.E	COEFF	S.E	COEFF	S.E
Capital/ Labour ratio	0.382	(0.052)*	0.057	(0.086)*	0.067	(0.071)**	0.861	(0.007)*
FDI inward stock ($FDIit\text{-}_1$)	-0.041	(0.045)*	-0.048	(0.077)*	-0.386	(0.178)*	-0.046	(0.211)***
R&D Investment (*RD*)	0.219	(0.079)***	-0.024	(0.062)**	-0.099	(0.397)**	0.811	(0.256)***
Share of Domestic Direct Investment (*DI*)	0.797	(0.039)*	0.525	(0.053)**	-0.088	(0.340)***	0.301	(0.044)**
Training Investment (*TRAIN*)	0.861	(0.009)**	0.877	(0.047)**	0.371	(0.026)**	0.232	0.087
Degree	-0.103	(0.081)**	-0.383	(0.032)*	0.467	0.185	-0.292	(0.041)**
Diploma	0.119	(0.084)**	0.068	(0.028)**	-0.987	0.084	0.272	(0.094)**
MCE	0.236	(0.021)*	0.275	(0.094)**	-0.242	0.042	0.625	(0.055)***
Firm Size *(FS)*	0.452	(0.052)*	0.491	(0.078)*	0.548	0.091	0.718	(0.067)**
Constant	10.109	(0.298)*	17.199	(0.419)*	15.423	(0.432)**	17.31	(0.465)***
R-squared	0.871		0.823		0.878		0.843	

Notes: All variables are transformed into natural log. huber/white robust standard errors are in parentheses. COEFF: coefficient, SE: standard error.
* p<0.05; ** p<0.1,***p<0.001.

In the E&E industry, the negative lagged FDI inward stock reported in this study can be related to the industry's inability to move up the value chain due to the lack of adequate domestic skills and competition from other countries, thus resulting in the dwindling FDI for this sector.

A distinguishing feature of this study is the emphasis on the role of direct domestic investment by private investors and R&D investment as the driving force of FDI inward stock and economic growth in general in Malaysia. Although the literature suggests that an investment-friendly labour market regulation should improve a country's position in the eyes of foreign investors, it is difficult to analyse this important dimension of domestic

factor markets due to the absence of data in this case (Ndikumana & Verick, 2008). For this reason, the present study focused on both domestic and R&D investments as a policy instrument to enhance FDI inward stock. The analysis of the long-term relationship between FDI and domestic investments are more focused on economic growth but the direction between the causal relationships among the variables remains vague (Lean & Tan, 2011).

This study found that both variables statistically influenced the increase in the amount of FDI inward stock in the medium-high technology industry as foreign and domestic investment are of paramount importance as one affects the other in an economy (Ndikumana & Verick, 2008; Ullah, Shah, & Khan, 2014). As can be seen in Table 1, the result pointed to a strong relationship between foreign direct investment and domestic investment in the E&E chemical and transport equipment industries. This finding suggests that direct domestic investment from the private sector and R&D investment positively contribute to attracting FDI inward stock, thus signalling high returns to capital. This finding is in line with Malaysia's efforts to continue to adopt a more focused and targeted approach in attracting quality investments in the high-technology sector.

In fact, R&D investors and companies are encouraged to move up the value chain and embrace advanced technology-driven innovations. The result in this study showed that the effect of direct domestic investment is the largest and it will contribute to FDI inward stock by 79.7% in the E&E industry. Despite the report in 2018 showing that the total investment from domestic investment only brought in RM84.1 million as compared to the total investment from FDI which amounted to RM200.5 million, it was still a win for the domestic industry because a development project was wholly-owned by Malaysians, namely Testhub Sdn. Bhd. The company was involved in the design, development, and production of test boards for automotive semiconductor test solutions that could potentially create employment opportunities of up to 50 people with an investment of RM30 million (MIDA, 2018).

Surprisingly, the results found both coefficients on R&D investment and direct domestic investments are significantly negative for FDI inward stock in the machinery and equipment industry. The negative impact is, however, too small as the coefficient is less than 10%. The increased amount of R&D investment and direct domestic investments may appear to crowd out the inflows of FDI (Göçer, Mercan, & Peker, 2014). A plausible reason for the crowding-out effects in this study is the seemingly low level of innovation efficiency and the technological capacity in this industry. Host-countries with the least abundant capital should receive more foreign capital (Te Velde, 2002). Nevertheless, opportunities for FDI to generate profit may be lower in the machinery and equipment industry. While this explanation seems appealing, it is, however, not possible to determine the reasons for crowding-out effects from FDI with the present data. Another study posited that the negative impact of market concentration on the probability implies that the absence of competitive pressure in the market acts as a disincentive for investing in R&D to attract FDI (Kathuria, 2008).

In line with the purpose of this study to make a contribution to the existing literature on the role of human capital variables in terms of both skills and knowledge as a policy instrument to attract FDI, this study found that human capital training yielded a larger impact than other policy instruments in the medium-high industry. This significant training impact is evident particularly in the E&E and chemical industries, which shows that with 1% training investment invested by the employers, the presence of FDI will be enhanced by 86.1% and 87.7% respectively. A higher FDI contributes to a higher labour productivity due to the spillover effects of technology and knowledge (Yunus & Hamid, 2019). The employers, therefore, may feel compelled to invest in training programmes so as to ensure the workers get access to the necessary skills and adopt the management and knowledge effects of FDI. Consistent with the evolutionary theory, FDI inward stock tends to be higher for host-industries with the greatest absorptive capacity (Blomström, Kokko, & Zejan, 1994; Blomström, Fors, & Lipsey, 1997).

Recognising that the role of education is utilised by individuals to pursue the knowledge and skills required through the use of modern technology, particularly foreign technology, this study adds to the current literature by estimating the levels of educational attainment as a key channel that will provide policy implications for attracting FDI inward stock in the Malaysian manufacturing sector. The results in Table 1 indicated that there is a significant

negative correlation between degree holders and FDI inward stock in the E&E, chemical, and transport equipment industries. This negative correlation hinted at the degree-educated workers' level of absorptive capacity in adopting the foreign technology and benefitting from the knowledge and technology spillovers. Degree holders are generally more adept at the theoretical aspects of the industry but are rather inept when it comes to skills. Firms might perceive this ineptitude as a hindrance to the degree holders adapting to the ever-changing nature and technology of the industry (Yunus, 2017a; Yunus, 2017b).

On the contrary, workers with diploma and Middle Certificate of Education (MCE) showed a positive and significant contribution in attracting FDI inward stock in the E&E, chemical, and transport equipment industries. Hence, the skills possessed by diploma and MCE holders are in line with the MNEs activity conducted in the local firms, resulting the increasing demand for workers for these qualifications. In the E&E sector, for instance, the activities are centered on assembly and test stages, both considered the lower value-added part of the E&E sector as compared to the high value-added production activity. Regardless, the E&E sector is the main contributing sector to Malaysia's GDP growth and has received the highest MNCs as compared to other sectors (Yunus & Hamid, 2017) . The main reason the Malaysian E&E sector remains highly focused on assembly activities rather than research and development (R&D) is the low capacity among high-skilled workers to absorb new technology from MNCs thus limiting the transfer of knowledge from MNEs to domestic firms (EPU (Economic Planning Unit) & World Bank, 2007; Te Velde, 2002; Yunus et al., 2015; Yunus, 2018).

Meanwhile, in the machinery and equipment industry, this study found that the level of educational attainment did not play a significant role in attracting FDI. Of all the education levels, tertiary education showed the least influence in attracting FDI inward stock, possibly due to a mismatch between the firm's requirement and the skills possessed by the workers. For example, these tertiary-educated workers may be struggling to satisfy the industry's demand for novel ideas in response to complex problems and situations.

Surprisingly, our results in Table 1 showed that only the variable of training indicated positive and significant effects in attracting FDI inward stock in the machinery and equipment industry. The provision of training helps in realising the firm's aspiration for their workforce to be up-skilled, reskilled and multi-skilled so as to maintain workers' resilience in this highly-automated age (Yunus, Said, & Siong, 2014).

The effect of firm size was also found to be one of the main indicators of huge FDI inward stock, measured either by total sales or total assets (Bakar et al., 2012; Lall, 1976; Vijayakumar et al., 2010). This study found that the effect of large firm size is significant and it increases the volume of FDI to more than 45% in all medium-high technology industries (except for machinery and equipment industry). The result also found that the scope of FDI is larger in the transport and equipment industry, as a 1 % increase in firm size (total sales) would increase the scope of FDI inward stock by 71.8%.

Next, the attention had now been diverted to the estimation result in Table 2 for low-technology industry. This study discovered similar result to the medium-high industries, which is the lagged FDI inward stock has a significant negative impact on FDI stock inflows in the food and beverage, wood, and publishing, paper, and printing industries as shown in Table 2. The publishing, paper, and printing industry, in fact, received a high foreign investment (RM5 billion, a remarkable increase from 2017 figure of RM104.9 million) (MIDA, 2019). The negative correlation found in this study might be caused by the increase in the labour costs in the low-technology industries that negatively affect FDI. Meanwhile, in the textiles and furniture industry, this study found no significant impact of lagged FDI on FDI inward stock.

Table-2. Regression Results for Low-Technology Industry, 2000-2018.

Dependant Variable: FDI inward stock	**Food& Beverage**		**Textiles**		**Wood**		**Publishing, Paper and Printing**		**Furniture**	
	COEFF	**S.E**	**COEFF**	**S.E**	**COEFF**	**S.E**	**COEFF**	**S.E**	**COEFF**	**S.E**
Capital/ Labour ratio	0.047	(0.025)*	0.974	(0.059)**	0.293	(0.037)**	0.394	(0.089)**	0.522	(0.068)*
FDI inward stock ($FDIit\text{-}_1$)	-0.289	(0.032)*	-0.306	0.038	-0.355	(0.084)*	-0.269	(0.051)*	0.082	0.029
R&D Investment (*RD*)	0.222	(0.010)*	-0.087	0.061	0.692	0.048	0.127	0.071	0.156	(0.051)**
Share of Domestic Direct Investment (*DI*)	0.601	(0.031)***	0.704	(0.485)**	0.074	0.062	0.708	(0.097)*	0.748	(0.077)**
Training Investment (*TRAIN*)	0.050	(0.011)***	-0.347	(0.034)***	0.623	(0.053)***	-0.089	(0.069)*	0.222	(0.053)**
Degree	0.284	(0.064)*	0.094	0.025	0.637	0.052	0.471	0.075	0.566	0.062
Diploma	0.599	(0.057)*	0.324	0.068	0.065	0.016	-0.395	0.081	-0.828	0.084
MCE	0.612	(0.104)**	0.583	(0.065)**	0.395	(0.165)*	0.532	(0.075)**	0.731	(0.016)**
Firm Size *(FS)*	0.251	(0.022)**	0.394	(0.052)**	0.456	(0.072)*	0.274	(0.437)*	0.408	0.038
Constant	24.48	(0.260)*	26.75	(0.299)*	30.85	(0.254)*	29.88	(0.291)**	27.77	(0.375)*
R-squared	0.877		0.723		0.816		0.766		0.848	

Notes: All variables are transformed into natural log. Huber/White robust standard errors are in parentheses. COEFF: Coefficient, SE: Standard error.
* p<0.05; ** p<0.1 ***p<0.001.

For R&D investment, this study believed that R&D investment is not expected to have a major impact in increasing FDI inwards in the textiles, wood, publishing, paper and printing except for the food and beverage, and furniture industries. The finding in this study is similar to Kathuria (2008) that showed R&D efforts become more important in medium- and high-tech industries, such as automobiles, biotechnology, chemicals, and electronics. This finding suggests that there are structural patterns in the Malaysian manufacturing firms where the firm focuses their R&D activity on high value-added production that are operating in the medium and high-technology industries. Therefore, market power is assumed to have a negative influence on the probability of a firm in the low-technology industries undertaking R&D.

Nevertheless, interestingly to note that, the significance of R&D investment in the food and beverage illustrates an increasing demand for food which is expected to increase by 60% between 2005 to 2050. Realising that the sources of FDI for food products are mostly from Japan, Switzerland, Singapore and USA, thus requiring this industry to increase their R&D investment to attract more FDI inflows (MIDA, 2019). Meanwhile, for wood industry, this study suggests that there is an increasing demand for sustainable and eco-friendly products, thus requiring these industries to increase their R&D investment. Innovation of new products that cater to the fast-growing consumer market of environmentally friendly products, especially in European and other First World nations, can only be realised through a solid R&D investment.

In terms of direct domestic investment, this variable was found to be higher and more significant than other policy variables influencing the increase of FDI inward stock, especially in the low-technology industries, with the exception of wood industry. The results showed that a 1% increase in direct domestic investment will encourage more than 60% of FDI inward stock. An increased competition among private investment companies in Malaysia may have prompted them to spend more on R&D [4].

For wood industry, however, the insignificance of domestic investments in this study can be related to the findings by Umachandran and Sawicka (2017) that highlighted a declining domestic tropical timber production and conversion of rubber plantations to oil palm, thus forcing Malaysia to take definitive steps so as to safeguard its timber-based industries. Therefore, FDI to the timber sector might be hindered as there is insufficient capital or "no capital-strength" to produce timber production in the host country and it likely causes the opportunity for FDI to generate profits to decline. A higher infrastructure investment, particularly, is expected to reduce production and trade costs and hence provide a more profitable environment for foreign investors. Hence, investment from private sector is encouraged in the rubber timber gardens to widen the rubber plantation area and to facilitate the development of the farm.

With the exception of textiles and publishing, paper and printing industries, the training impact in other low-technology industries showed a positive significant effect in attracting FDI inward stock. This result confirmed the firm requirement of specific skills so as to ensure workers are able to ease into accessing FDI's knowledge albeit this being dependent on the industry. Based on coefficient value, the study showed that as compared to their low-technology industry counterparts, employers in the medium-low technology industry prioritised in-house or on-the-job training investments. This investment might indicate that the employers perceived local graduates' knowledge as too theoretical and that they are not consistently updated.

[4]In 2018, domestic investments in manufacturing accounted for 33.6 per cent (RM29.4 billion) of total investments approved. Majority of the investments (RM21.5 billion) were new projects, while the remaining RM7.9 billion were from expansion/diversification projects. The industry that attracted the most interest from domestic investors was the petroleum products including petrochemicals industry (RM13.8 billion), followed by basic metal products (RM4.7 billion), rubber products (RM1.5 billion), machinery and equipment (RM1.5 billion), food manufacturing (RM1.3 billion), and transport equipment (RM1.2 billion) (MIDA, 2019).

In terms of educational attainment, the results showed that workers with a degree and diploma are statistically insignificant in influencing the FDI inward stock in all low-technology industries except in food and beverage. This result implied that there is a tendency for a reallocation of labour among the sectors in Malaysia, particularly where low-skilled labour shifts from the high-productivity sector to the low one based on their capacity to access the technology spillovers of FDI. Workers with MCE qualification are statistically significant in increasing the amount of FDI inwards in the low-technology industries. The study found that workers with MCE qualification are more likely to attract FDI inward stock, as compared to the diploma and degree holders in all low- technology industries, except for food & beverage industry. This finding highlighted that the firm's skills demand is provided by MCE holders, thus proving that many Malaysian industries are still using low technology and low-skills technologies (Jomo & Felker, 1999).

As mentioned previously, degree and diploma holders in the food and beverage industry was found to significantly influence FDI inward stock. This finding can be related to a study by Ismail (2009) that highlighted the effects of high technological adoption and technical change in the food-based industry that favour skilled workers, thus reducing the demand for unskilled workers. Similarly, the findings from this current study suggest that a higher level of technology requires more skilled workers, such as the professionals and technicians to operate a more sophisticated technology. The Malaysian food processing sector needs to sufficiently produce products of good quality. This sector is dominated by SMEs that face numerous challenges thus undermining their production performance (Hasnan, Aziz, Zulkifli, & Taip, 2014). Hence, this study suggests that an increase in both education and training investments will help to enhance workers' skills, particularly in their absorptive capacity. FDI inward stock tend to be higher for host-industries with the greatest absorptive capacity (Girma & Görg, 2005).

The last potential policy variable, firm size, showed a significantly positive effect in all low-technology industries, with the exception of furniture industry. A change in firm size increased the volume of FDI to more than 25%. This result is consistent with previous studies showing that the scope of FDI tend be higher in the medium-high technology industry than the low-technology industry, as firm size influences investors' decision (Kathuria, 2008). Previous studies supported that foreign investments incur sunk costs at the initial stage and large firms are considered to have better access to credit than small ones, and the larger scale production are likely to produce goods more efficiently through learning-by-doing (Horst, 1972).

6. CONCLUSION AND POLICY IMPLICATIONS

Although studies have been conducted to explore the determinants of FDI and to focus more on macroeconomic variables (such as inflation, interest rates, telephone subscriptions, electricity production), policy variables, particularly direct domestic investments, firm size and human capital factors, have not been explored in a micro-level analysis to provide a clear picture of the extent to which these variables should be considered in implementing policies that enhance FDI inward stock in the manufacturing sector (Hamood, Pandurengan, & Kalam, 2019).Therefore, this study considers the need to take a more detailed analysis at the industry level to better understand the extent to which the scope of FDI inward stock can be improved through the use of the policies selected in this study. This study thus will provide brief ideas that can help to identify the policy levers that may be activated to maximise both FDI inward stock and the gains from FDI for the host economy.

Based on the coefficient value of policy variables that affect FDI stock inflows in both medium-high and low-technology industries, three main conclusions can be derived. First, this study found the effects of direct domestic investments are significantly greater as compared to other policy variables influencing FDI inward stock in the low- technology industries (except for wood industry). The domestic direct investment effects are surprisingly larger in the low- technology industry than in the medium-high industry. This finding reiterates the importance of intensifying further efforts in facilitating more domestic direct investments with greater specialisation in catalytic subsectors, namely chemicals and chemical products, E&E, and machinery and equipment industries, and high-

growth subsectors. An extensive reform in the investment process should be undertaken so as to encourage domestic private investors to improve business efficiency, particularly among low-technology industry, eventually enabling them to absorb the technology and skills transfer from FDI. Reforms will help Malaysia retain its place as a premier destination and home for quality investment, thus subsequently increasing the ease of doing business for both foreign and domestic investors in the future.

Secondly, this study clearly shows that human capital is a likely indicator as to whether Malaysia can become a preferred investment destination of FDI for innovative and knowledge-intensive investments within the high-growth and high-value sectors. This study found the effects of training are significantly in influencing the volume of FDI inward stock in the medium-low industry and low-technology industry. Thus, findings from this study may inform the recommendations for the Malaysian government to design the appropriate financial incentives and favourable tax policies that will encourage employers to invest in post-compulsory education and in-service training for all their workers, ultimately enhancing the absorptive capacity of workers to adopt the foreign technology. Some financial incentives such as tax breaks or subsidies can be implemented as these help employers to cover the training cost.

In terms of educational attainment, workers with a degree qualification in the E&E, chemical, and machinery and equipment industries draw away FDI inward stock and do not absorb FDI technology. This study also found that workers with degree and diploma education are statistically insignificant in influencing the FDI inward stock in all low-technology industries except for the food and beverage industry. This result suggests that universities do not necessarily provide enough opportunities for students to develop abilities critical to the labour market. A plausible reason for this is a mismatch between education and the skills in demand. One possible reason for the mismatch is that students' understanding of important skills necessary for entering employment can be shaped by "multiple influencers" such as their university, school counsellors, parents and friends, the media and, to some extent, the potential future employers. Thus, this study recommends that universities strengthen their collaboration and communicate better with industry players and professional bodies during the curriculum review and development of academic courses. This effort will shape the university's curriculum to meet specific industry needs and enable students to practice the skills needed by employers. This is in line with Industry 4.0 that sees many changes due to the advancement of technologies and also to provide the workplace with ready and able talent. The strategy must be reinforced by law through compulsory requirement for industries or other bodies to engage with Institutions of Higher Learning (Yunus, 2017b).Lastly, this study reveals that with a talented workforce that matches market demand, structural reforms from a labour-intensive to a knowledge-driven economy, technology, innovation, and strong institutions, Malaysia will be able to compete with our regional competitors such as Singapore, Indonesia, Vietnam and Thailand to attract foreign investment, which in turn will create more value-added jobs. With more and better jobs, the young generation will not only be able to survive but to thrive in today's competitive and globalised world. These efforts can be implemented by restricting industries' reliance on foreign labour gradually while at the same time providing attractive incentives in terms of subsidies and grants for both domestic and foreign investors to invest in technology to facilitate and refine the workers' skills to adopt the technological advancement. A special policy can be created that aim at harnessing complementarities between the domestic private investment and FDI rather than regarding them as substitutes.

Funding: Author would like to thank Universiti Sains Malaysia for funding this project under the Short-Term Research Grant Scheme No. 304/PJJAUH/6315270.
Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.

REFERENCES

Allison, P. (2009). Fixed effects regression models. In fixed effects regression models (pp. 7-160): Sage Publications, Inc.

Araújo, B. C., Bogliacino, F., & Vivarelli, M. (2009). The role of skill enhancing trade in Brazil: Some evidence from microdata. *Economic Research Papers*, *97*(10), 1–22.

Ariff, M., Yokoyama, H., & Kenkyūjo, A. K. (1992). *Foreign direct investment in Malaysia: Trends, Determinants and Implications, in M. Ariff and H. Yokoyama (eds.), Foreign Direct Investment in Malaysia*. Tokyo: Institute of Developing Economies.

Bénassy-Quéré, A., Gobalraja, N., & Trannoy, A. (2007). Tax and public input competition. *Economic Policy*, *22*(50), 386-430.

Bevan, A., Estrin, S., & Meyer, K. (2004). Foreign investment location and institutional development in transition economies. *International Business Review*, *13*(1), 43-64.Available at: https://doi.org/10.1016/j.ibusrev.2003.05.005.

Black, S. E., Devereux, P. J., & Salvanes, K. G. (2003). Why the apple doesn't fall far: Understanding intergenerational transmission of human capital. *American Economic Review*, *95*(1), 437–449.

Blomström, M., Kokko, A., & Zejan, M. (1994). Host country competition, labor skills, and technology transfer by multinationals. *Review of World Economics*, *130*(3), 521-533.Available at: https://doi.org/10.1007/BF02707611.

Blomström, M., Fors, G., & Lipsey, R. E. (1997). Foreign direct investment and employment: Home country experience in the United States and Sweden. *The Economic Journal*, *107*(445), 1787-1797.Available at: https://doi.org/10.1111/j.1468-0297.1997.tb00082.x.

Cleeve, E. A., Debrah, Y., & Yiheyis, Z. (2015). Human capital and FDI inflow: An assessment of the African case. *World Development*, *74*, 1-14.Available at: https://doi.org/10.1016/j.worlddev.2015.04.003.

Elia, S., Mariotti, I., & Piscitello, L. (2009). The impact of outward FDI on the home country's labour demand and skill composition. *International Business Review*, *18*(4), 357-372.Available at: https://doi.org/10.1016/j.ibusrev.2009.04.00.

EPU (Economic Planning Unit). (2006). *Ninth Malaysia plan, 2006-2010*. Kuala Lumpur: Economic Planning Unit, Prime Minister's Department.

EPU (Economic Planning Unit). (2010). *Tenth Malaysia plan 2011-2015*. Kuala Lumpur: Economic Planning Unit, Prime Minister's Department.

EPU (Economic Planning Unit) & World Bank. (2007). *Malaysia and the knowledge economy: Building a world-class higher education system*. Kuala Lumpur: Economic Planning Unit, Prime Minister's Department.

Girma, S., & Görg, H. (2005). Foreign direct investment, spillovers and absorptive capacity: Evidence from quantile regressions. IIIS Discussion Paper No. 1; GEP Working Paper No. 2002/14.

Globerman, S., & Shapiro, D. M. (1999). The impact of government policies on foreign direct investment: The Canadian experience. *Journal of International Business Studies*, *30*(3), 513-532.Available at: https://doi.org/10.1057/palgrave.jibs.8490081.

Göçer, İ., Mercan, M., & Peker, O. (2014). Effect of foreign direct investments on the domestic investments of developing countries: A dynamic panel data analysis. *Journal of Economic and Social Studies*, *4*(1), 73-91.Available at: https://doi.org/10.14706/JECOSS11415.

Hamood, M. A. S., Pandurengan, M. M., & Kalam, K. K. (2019). Foreign direct investment determinants in Malaysia. *British Journal of Business Design & Education*, *11*(1), 1-16.

Hanushek, E. (2013). Economic growth in developing countries: The role of human capital. *Economics of Education Review*, *37*(1), 204-212.

Hasnan, N. Z. N., Aziz, N. A., Zulkifli, N., & Taip, F. S. (2014). Food factory design: Reality and challenges faced by Malaysian SMEs. *Agriculture and Agricultural Science Procedia*, *2*, 328-336.

Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *Stata Journal*, *2*, 1–31.Available at: https://doi.org/10.1177/1536867x0700700301.

Horst, T. (1972). Firm and industry determinants of the decision to invest abroad: An Empirical Study. The Review of Economics and Statistics *258-266*, *54*(3).Available at: https://doi.org/10.2307/1937986.

Ismail, R. (2009). Technical efficiency, technical change and demand for skills in Malaysian food-based industry. *European Journal of Social Sciences*, *9*(3), 504-515.

Jomo, K. S., & Felker, G. (1999). Technology, competitiveness and the state: Malaysia's industrial technology policies, Edited by: Jomo, K. S. and Felker, G (pp. 1). London: Routledge.

Karim, N. A. A., Winters, P. C., Coelli, T. J., & Fleming, E. (2003). *Foreign direct investment in manufacturing sector in Malaysia*. Paper presented at the Paper Prepared for the 47th Annual Conference of the Australian Agricultural and Resource Economics Society (AARES), Fremantle, 11-14 February 2003.

Kathuria, V. (2008). The impact of FDI inflows on R&D investment by medium-and high-tech firms in India in the post-reform period. *Transnational Corporations*, *17*(2), 45-66.

Keller, W., & Yeaple, S. R. (2003). Multinational enterprises, international trade, and productivity growth: Firm-level evidence from the United States. *The Review of Economics and Statistics*, *9*(4), 821–831.

Kottaridi, C., & Stengos, T. (2010). Foreign direct investment, human capital and non-linearities in economic growth. *Journal of Macroeconomics*, *32*(3), 858-871.Available at: https://doi.org/10.1016/j.jmacro.2010.01.004.

Lean, H. H., & Tan, B. W. (2011). Linkages between foreign direct investment, domestic investment and economic growth in Malaysia. *Journal of Economic Cooperation and Development*, *32*(4), 75-96.

Liu, X., & Wang, C. (2003). Does foreign direct investment facilitate technological progress?: Evidence from Chinese industries. *Research Policy*, *32*(6), 945-953.Available at: https://doi.org/10.1016/s0048-7333(02)00094-x.

Masron, T. A., Zulkafli, A. H., & Ibrahim, H. (2012). Spillover effects of FDI within manufacturing sector in Malaysia. *Procedia-Social and Behavioral Sciences*, *58*, 1204-1211.Available at: https://doi.org/10.1016/j.sbspro.2012.09.1102.

MIDA. (2017). *Annual report 2017*. Malaysia: Malaysia Investment Development Authority,Kuala Lumpur.

MIDA. (2018). *Inspiring technological transformation. Malaysia Investment performance report 2018*. Malaysia: Malaysia Investment Development Authority, Kuala Lumpur.

MIDA. (2019). *Projects approved by major industry 2019, 2018*. Malaysia: Malaysia Investment Development Authority,Kuala Lumpur.

Ndikumana, L., & Verick, S. (2008). The linkages between FDI and domestic investment: Unravelling the developmental impact of foreign investment in Sub-Saharan Africa. *Development Policy Review*, *26*(6), 713-726.Available at: https://doi.org/10.1111/j.1467-7679.2008.00430.x.

Noorbakhsh, F., Paloni, A., & Youssef, A. (2001). Human capital and FDI inflows to developing countries: New empirical evidence. *World Development*, *29*(9), 1593–1610.Available at: https://doi.org/10.1016/S0305-750X(01)00054-7.

Pavitt, K. (1984). Sectoral patterns of technical change: Towards a taxonomy and a theory. *Research Policy*, *13*(6), 343–373.Available at: https://doi.org/10.1016/0048-7333(84)90018-0.

Potterie, B., Van, P. d. l., & Lichtenberg, F. (2001). Does foreign direct investment transfer technology across borders? *Review of Economics and Statistics*, *83*(3), 490–497.Available at: https://doi.org/10.1162/00346530152480135.

Resmini, L. (2000). The determinants of foreign direct investment in the CEECs: New evidence from sectoral patterns. *Economics of Transition*, *8*(3), 665-689.Available at: https://doi.org/10.1111/1468-0351.00060.

Slaughter, M. J. (2004). Skill upgrading in developing countries: Has inward foreign direct investment played a role? Labor and the Globalization of Production (pp. 121–145). UK: Palgrave Macmillan.

Stöwhase, S. (2005). Tax-rate differentials and sector-specific foreign direct investment: Empirical evidence from the EU. *Public Finance Analysis*, *61*(4), 535–558.Available at: https://doi.org/10.1628/001522105776072807.

Su, Y., & Liu, Z. (2016). The impact of foreign direct investment and human capital on economic growth: Evidence from Chinese cities. *China Economic Review*, *37*, 97-109.Available at: https://doi.org/10.1016/j.chieco.2015.12.007.

Te Velde, D. W. (2002). Government policies for inward foreign direct investment in developing countries: Implications for human capital formation and income inequality. Working Paper No. 193, OECD, Paris.

Ullah, I., Shah, M., & Khan, F. U. (2014). Domestic investment, foreign direct investment, and economic growth nexus: A case of Pakistan. *Economics Research International*, *2014*, 1–5.Available at: https://doi.org/10.1155/2014/592719.

Umachandran, D. K., & Sawicka, B. (2017). Study of timber market of Malaysia and its impact on the economy and employment. *Journal of Advances in Agriculture*, *7*(3), 1109–1116.Available at: https://doi.org/10.24297/jaa.v7i3.6314.

UNCTAD. (2018). World investment report; Foreign direct investment inflows in Malaysia. Retrieved from www.unctad.org/diae.

Yunus, N. M. (2014). *Factors affecting labour productivity, skilled labour and returns to education in Malaysia*. Serdang: Universiti Putra Malaysia.

Yunus, N. M., Said, R., & Siong, H. L. (2014). Do cost of training, education level and R&D investment matter towards influencing labour productivity? *Malaysian Economic Journal*, *48*(1), 133–142.

Yunus, N. M., Said, R., & Azman-Saini, W. N. W. (2015). Spillover effects of FDI and trade on demand for skilled labour in Malaysian manufacturing industries. *Asian Academy of Management Journal*, *20*(2), 1–27.

Yunus, N. M. (2017a). Education and earnings in the Malaysian information, communication, and technology sector: The role of certificates of qualification. *Australian Journal of Accounting, Economics and Finance*, *3*(1), 37–50.

Yunus, N. M. (2017b). Sheepskin effects in the returns to higher education: New evidence for Malaysia. *Asian Academy of Management Journal*, *22*(1), 151–182.Available at: https://doi.org/10.21315/aamj2017.22.1.7.

Yunus, N. M., & Hamid, F. (2017). Changing returns to education in the Malaysian electric & electronic sector, 2002-2007. *International Journal of Economic Research*, *14*(Part 2), 295–308.

Yunus, N. M. (2018). Returns from higher education in Malaysia: Analysis of wage-employed and self-employed workers. *International Journal of Economics and Management*, *12*(2), 703–719.

Yunus, N. M., & Hamid, F. S. (2019). Training, research and development, and spillover effects of foreign direct investment: A study on labour productivity in malaysian manufacturing industry. *International Journal of Supply Chain Management*, *8*(3), 966–972.

Yunus, N. M., & Masron, T. A. (2020). Spillover effects of inward foreign direct investment on labour productivity: An analysis on skill composition in manufacturing industry. *International Journal of Asian Social Science*, *10*(10), 593-611.Available at: https://doi.org/10.18488/journal.1.2020.1010.593.611.