Abstract

Malaysia has been among the major recipients of world foreign direct investment (FDI). While the benefits of FDI are well documented qualitatively or theoretically, the actual technology-related effect is remained ambiguous. This is particularly important to country like Malaysia as the volume of FDI inflows keeps on decreasing over time recently. It raises a lot of questions regarding the real benefits that Malaysia is able to reap from their presence. If FDI that previous came in merely targeted cheap labor supply and abundant natural resources, Malaysia can expect to lose FDI gradually and at the same time cannot anticipate huge return. Utilizing several manufacturing sub-sectors in Malaysia, this study attempts to investigate the spillover effect of FDI on Malaysian economy, focusing on manufacturing sector. This study employs correlation analysis to gauge the extent of spillover effect of FDI inflows on Malaysian manufacturing sector. Identifying this issue will help whether to be very selective in terms of which FDI to be allowed to enter is the appropriate strategy for Malaysia from now onwards.

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1. Introduction

Foreign direct investment (FDI) is well accepted as contributive to long term economic development. Regardless of the types, any inflows will induce higher economic growth to host economies. Bwalya (2006) highlighted three channels through which FDI may positively influence economic growth: (i) to provide fund (not debt!) to finance investment in the host countries; (ii) to improve technical level of host countries and (iii) to transfer the new technology to host countries’ domestic firms. On the empirical side, Wade (1990) and Singh and Zammit (2009), among the proponents of FDI inflows, highlighted the role of FDI in economic development. Wade (1990) argued that, albeit small in relative magnitude, qualitatively FDI has been important in Korean economic development. FDI was used to develop certain key industries regarded by the Korean authorities as critical to Korean long-term development program, when FDI was seen to be the only mean of obtaining the required technology. FDI projects were therefore, carefully screened to achieve national industrial policy objectives. Singh an Zammit (2009) also argued the similar point the case of Taiwan. In Taiwan, FDI has been used purposefully under government guidance as part of a conscious effort to upgrade the technological level of the country’s production and export structure.

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Because of the overwhelming arguments have been made in favor of FDI inflows, many countries’ policy makers started to aim at attracting more FDI to inflows into their countries. Similarly, many economists are concentrating their researches on the factors that can help to boost FDI inflows. However, a high FDI does not necessarily mean the economic health is good or growing in strength. Hausmann and Fernández-Arias (2000) and Albuquerque (2000) point to reasons why a high share of FDI in total capital inflows may be a sign of a host country’s weakness rather than its strength. There are some evidences that the FDI share is higher in countries where the quality of institutions is lower. One explanation is that FDI is more likely, compared with other forms of capital flows, to take place in countries with missing or inefficient markets. In such settings, foreign investors will prefer to operate directly instead of relying on local financial markets, suppliers, or legal arrangements (Loungani and Razin, 2008). The policy implications of this view, according to Albuquerque (2000, page 30), are “that countries trying to expand their access to international capital markets should concentrate on developing credible enforcement mechanisms instead of trying to get more FDI.” In a similar view, Hausmann and Fernández-Arias (2000) argued that stipulating policies to create attractiveness and subsequently, expecting to expand FDI share is unwarranted. Instead, Hausmann and Fernández-Arias (2000) suggested that the efforts should be concentrating on improving the environment for investment and the functioning of markets. They are likely to be rewarded with increasingly efficient overall investment as well as with more capital inflows.

On another note, economists are also of different opinion when they discuss the channels through which FDI is expected to spur economic growth. According to Singh and Zammit (2009), although the second tier newly industrializing economies (NICs) of Malaysia, Indonesia and Thailand have been very successful over the last two decades in terms of GDP growth, there are questions about the sustainability of their growth record. In line with Masron (2006), Singh and Zammit (2009) suggested that there are weaknesses in their national technological systems, such that their domestic firms do not yet have a strong capacity to assimilate and develop technology. This renders the countries heavily dependent for their technological development on continuing large inflows of FDI. Nonetheless, as reminded by Masron (2006), if FDI reversal took place, these economies could be in big trouble. Loungani and Razin (2008) provided a framework from which FDI reversal could actually take place very quickly, beyond conventional believe that FDI is very loyal to host economy.

Combining both points, the issue of whether or not FDI is actually transferring technology and skill and thus, creating technological spillover effect on manufacturing sector is remained unresolved issue and central in FDI study. Unfortunately, it receives a minimum attention so far. Hence, it is the aim of this study to identify the possible of spillover effect to exist in the manufacturing sector of Malaysia. The organization of this study is as follows: the next sector briefly explain Malaysian manufacturing sector, followed by literature review in the third section and methodology in the fourth section. Section five discusses the results of the analysis and Section six concludes this study.

2. Literature Review

2.1 Theoretical Review

Theoretically, Bwalya (2006) outlined that productivity spillovers can occur at least through three main channels: (i) through the movement of highly trained and skilled staff from foreign firms to domestic firms; (ii) through what is referred to us “demonstration effect” arising from arm’s length relationships between foreign and domestic firms, which enables the latter to learn and adopt superior production technologies and managerial and organizational skills; and (iii) through “competition effects” from foreign firms, which may force rival domestic firms to upgrade production techniques in order to remain competitive and productive.

Castellani and Zanfei (2003) discussed the one oft-cited condition favouring a positive impact of inward investments on domestic firms’ productivity has to do with the role of technological gaps between foreign and domestic firms. Some works suggest that the larger the productivity gap between host country firms and foreign-owned firms, the larger the potential for technology transfer and for productivity spillovers to the former. This assumption, which we label as the “catching up hypothesis”, can be derived from the original idea put forward by Findlay (1978), who formalised technological progress in relatively “backward” regions as an increasing function of the distance between their own level of technology and that of the “advanced regions”, and of the degree to which they are open to foreign direct investment. On the other hand, scholars have argued that the lower the technological gap between domestic and foreign firms, the higher the absorptive capacity of the former, and thus the higher the expected benefits in terms of technology transfer to domestic firms. We label this as the “technological accumulation hypothesis” (Cantwell, 1989). It is worth noting that the role of absorptive capacity is implicitly recognised also in the
catching up tradition, when it is acknowledged that a sort of lower bound of local technological capabilities exists, below which foreign investment cannot be expected to have any positive effects on host economies. The “technological accumulation hypothesis” goes beyond this simplistic view of absorptive capacity and places a new emphasis on the ability to absorb and utilise foreign technology as a necessary condition for spillovers to take place.

2.2 Empirical Review

There have been an increasing number of empirical studies which focus on the spillover effects of FDI on host country economies. The results, however, have been mixed. Some studies find evidence supporting the theoretical prediction on the existence of spillover effect from FDI. Among the early studies on this issue are such as Caves (1974) on Australian manufacturing, Globerman (1979) on Canadian manufacturing, and Blomstrom and Persson (1983) on Mexican manufacturing industries. Three recent studies on Indonesia manufacturing industry (Blomstrom and Sjoholm, 1999; Sjoholm 1999; Takii 2001) all find supporting evidence of spillover effects from FDI. Perez (1997) argues that a moderate foreign presence is sufficient to generate positive spillovers, even when there is a relatively wide technological gap between the foreign and locally owned industry; advanced technology in just a few foreign affiliates is sufficient to stimulate acquisition by local firms, while foreign skills and managerial practices may also be effectively transferred, for example, via original equipment manufacturing (Hsu and Chen, 2000). The mere existence of new entry into host markets provides enough incentive for allocative efficiency gains, while technical efficiency benefits from demonstration effects require only modest foreign investment (Haddad and Harrison, 1993). In contrast, a number of studies did not find significant spillover effects on domestic productivity from FDI. Nonetheless, in some studies, domestic productivity is found to be even negatively associated with the intensity of foreign presence. Examples include studies by Kokko and Tansini (1996) on Uruguayan manufacturing sector, Aslanoglu (2000) on Turkey manufacturing, Haddad and Harrison (1993) on Morocco manufacturing industries, and Aitken and Harrison (1999) on Venezuela industries.

Some recent studies are even unique as they found both in a single study such as Beugelsdijk, Smeets, and Zwinkels (2008), Buckley, Clegg and Wang, (2007) and Castellani and Zanfei (2003). Alongside their findings, they did propose some underlying reasons of those results. For instance, Beugelsdijk et al. (2008), who studied the implication of US multinational corporations (MNCs) on 44 host countries for the period from 1983 to 2003, concluded that both types of FDI, horizontal (market-seeking) as well as vertical (efficiency-seeking) FDI, have brought about higher economic growth only to the host developed countries. Conversely, there is no evidence or significant effect can be observed in the case of host developing countries. Beugelsdijk et al. (2008) did also found that out of the two, horizontal FDI tends to exert stronger impact on economic growth than vertical FDI. Buckley et al. (2007) found that the nationality of ownership of foreign investors significantly impacts upon productivity spillover effects, revealing a curvilinear relationship with foreign direct investment on data for overseas Chinese (Hong Kong, Macau and Taiwan) multinational enterprises, but not for other (Western) firms. Additionally, Buckley et al. (2007) suggested the use of curvilinear to predict the effect of spillovers in the future as it is likely a more powerful tool. Finally, Castellani and Zanfei (2003) examined the impact of foreign presence on the productivity of domestic enterprises by using a balanced panel of firm-level data on the manufacturing industry in France, Italy and Spain over the 1992–1997 period. Castellani and Zanfei (2003) found positive and significant externalities on Italian firms, negative impact on Spanish firms, and non-significant effects on French firms. Castellani and Zanfei (2003) continued the analysis to find anything that can be generalized to all countries by testing the implication of productivity gap between foreign and domestic firms, and absorptive capacity of domestic firms. The results demonstrated that high gaps tend to favour positive effects of FDI, while absorptive capacity, measured by local firms’ average productivity levels, does not leverage productivity spillovers from FDI. Hence, Castellani and Zanfei (2003) confirmed the “catching up” hypothesis, which identifies a positive relation between the size of technological gaps and growth opportunities induced by foreign investments, and would contradict the “technological accumulation” hypothesis, which stresses the role of domestic absorptive capacity and of coherence between foreign and domestic technology as determinants of virtuous effects of inward investments.

3. Methodology

According to Bwalya (2006, p. 520), foreign presence can raise the productivity of local firms through technology diffusion, spillovers from foreign firms to local firms within the sector (intra-industry) and linkages with local firms in downstream or upstream sectors (inter-industry spillover). Foreign presence can also induce greater competition in both the product and factor markets. On the negative note, it may force domestic firms to reduce their capacity utilization and productivity and may eventually lead to shutdowns. This phenomenon is also known as crowd-out effect. Nonetheless, on the positive note, this competitive environment can also be an incentive for domestic firms to
became more innovative and productive, as in the case of South Korea (Wade, 1990) and Taiwan (Singh and Zammit, 2009). If successfully designed, FDI inflows are expected to raise efficiency within the industry. In practice, the overall impact will depend on the relative magnitude of benefits generated through intra-industry spillovers and inter-industry linkages (Bwalya, 2006).

In this study, in order to gauge the potential spillover effects of FDI inflows on each manufacturing sector in Malaysia, we use simple correlation of FDI inflows into each sector and output of each sector as depicted in Table 1. Initially, we plan to have a regression analysis, which can offer stronger conclusion. However, due to data limitation as per the time when we do prepare the paper, we failed to run the regression considering the huge sectors relative to small time element in our analysis. At the time we completed the paper, we are still awaiting the remaining data from Department of Statistics Malaysia to be released after requesting them through email.

Table 1. Methodology – Correlation Analysis

|      | OS01  | OS02  | ...   | OS18  |
|------|-------|-------|-------|-------|
| FDIS01| $\alpha_1$ | $\beta_{1,2}$ | ... | $\beta_{1,18}$ |
| FDIS02| $\beta_{2,1}$ | $\alpha_2$ | ... | $\beta_{2,18}$ |
| ...  | ...   | ...   | ...   | ...   |
| FDIS18| $\beta_{18,1}$ | $\beta_{18,2}$ | ... | $\alpha_{18}$ |

where $OS$ denotes output of sub-sector and $FDIS$ stands for FDI into sub-sector. Hence, $OS01$ represents output of the first sub-sector in manufacturing sector and $FDIS01$ reflects the amount of FDI inflows into manufacturing sub-sector 1. $as (\alpha_1, \alpha_2, ..., \alpha_{18})$ represents intra-industry correlation coefficients while the $\beta$s denote inter-industry correlation coefficients. The positive value of correlation coefficients demonstrates a positive spillover effects and conversely, the negative coefficients may potentially suggest a crowd-out effect. The list of manufacturing sub-sectors is as in Table 2.

Table 2. List of Sub-sectors in Malaysian Manufacturing Sector

| No. | Sector                          | No. | Sector                          |
|-----|---------------------------------|-----|---------------------------------|
| 1   | Food & beverages                | 10  | Rubber & plastic products       |
| 2   | Tobacco                         | 11  | Other non-met mineral products  |
| 3   | Textile products                | 12  | Metal products                  |
| 4   | Wearing apparel                 | 13  | Non-electrical machinery        |
| 5   | Wooden products                 | 14  | Electrical machinery            |
| 6   | Furniture & fixtures            | 15  | Motor vehicles                  |
| 7   | Paper & printing products       | 16  | Other transport equipment       |
| 8   | Industrial chemicals            | 17  | Other manufacturing products    |
| 9   | Petroleum, coal products        | 18  | Other sectors                   |

Although the methodology employ is only simple correlation analysis, partly because of data limitation that does not permit us to have formal inference via regression analysis, the outcome of this analysis still be able to provide preliminary picture about the extent of FDI contribution to Malaysian manufacturing sector. We noticed that very often researchers tend to report the positive impact of FDI on Malaysian industrialization process such as Masron and Yusop (2007) and Hassan and Masron (2011). The method employed could be by itself a limitation to the study such as in Hassan and Masron (2011). Hassan and Masron (2011) utilized input-output technique which from the coefficient estimated, surely no crowd-out effect can be observed. Although we do not have the evidence, but we strongly believe that there should be some indications of negative implication. This study primarily devotes itself on this objective – apart from investigating the spillover effect, in addition to that this study aims at identifying the potential negative impact of FDI on Malaysian manufacturing sector. Data are collected from ASEAN Secretariat and Department of Statistics Malaysia for the period between 1999 and 2004.

4. Results and Discussion

Before we discuss the main analysis of this study, we present the summary of statistics in Table 3 pertaining to output of each manufacturing sub-sector as well as the inflows of FDI into each sector. Over the period under study (1999 – 2004), electrical machinery sector is the primary contributor of manufacturing production with an average output of USD190.87 million, followed by food and beverages sector (USD104.95 million) and industrial chemical sector (USD64.06 million). By unhealthy nature of its activities, tobacco sector recorded the least output of USD3.5
million. Due to stiff competition from imported products, wearing apparel sector is also found to produce the least amount of USD5.67 million. In contrary, paper and printing products sector is found to receive the largest amount of 5-year average FDI inflows with the value of investment of about USD497.86 million. Sector of other non-metal mineral products is the second largest recipient of FDI inflows (USD350.17 million) and the third largest recipient is rubber and plastic products sector (USD243.22 million). However, similar to the case of output, wearing apparel sector and unhealthy sector of tobacco has also received the least amount of FDI inflows with the average value of merely USD11.73 and USD13.10 million, respectively.

Table 3. Summary of Statistics (in million USD)

| Sector          | Mean  | Max    | Min    | S.D.  | Mean  | Max    | Min    | S.D.  |
|-----------------|-------|--------|--------|-------|-------|--------|--------|-------|
| OS01            | 104.95| 137.88 | 65.37  | 34.75 | FDIS01| 190.36 | 232.63 | 151.68 | 39.26 |
| OS02            | 3.50  | 14.01  | 0.00   | 7.01  | FDIS02| 13.10  | 26.70  | 0.00   | 15.13 |
| OS03            | 11.03 | 30.16  | 1.80   | 13.00 | FDIS03| 77.88  | 184.91 | 10.41  | 83.99 |
| OS04            | 5.67  | 9.01   | 1.96   | 3.44  | FDIS04| 11.73  | 20.54  | 3.26   | 7.67  |
| OS05            | 16.91 | 40.50  | 7.42   | 15.78 | FDIS05| 65.35  | 95.51  | 38.27  | 27.89 |
| OS06            | 12.36 | 15.83  | 8.72   | 3.82  | FDIS06| 220.00 | 805.68 | 11.74  | 390.58|
| OS07            | 44.63 | 128.95 | 6.70   | 56.72 | FDIS07| 497.86 | 1260.78| 41.79  | 537.21|
| OS08            | 64.06 | 117.80 | 19.85  | 40.56 | FDIS08| 175.24 | 215.34 | 131.72 | 45.71 |
| OS09            | 26.97 | 50.69  | 10.81  | 17.12 | FDIS09| 187.05 | 259.65 | 120.96 | 61.73 |
| OS10            | 10.74 | 25.59  | 2.52   | 10.84 | FDIS10| 243.22 | 445.31 | 27.76  | 216.20|
| OS11            | 55.99 | 86.37  | 32.52  | 22.34 | FDIS11| 350.17 | 1117.97| 45.92  | 513.01|
| OS12            | 6.86  | 12.28  | 3.73   | 3.83  | FDIS12| 120.10 | 218.00 | 67.97  | 69.63 |
| OS13            | 25.60 | 38.15  | 15.64  | 11.12 | FDIS13| 106.92 | 146.16 | 58.97  | 38.42 |
| OS14            | 190.87| 376.33 | 64.30  | 136.00| FDIS14| 113.57 | 178.14 | 37.86  | 62.08 |
| OS15            | 0.97  | 1.51   | 0.55   | 0.41  | FDIS15| 17.84  | 58.85  | 0.47   | 27.59 |
| OS16            | 5.98  | 13.04  | 0.99   | 5.48  | FDIS16| 308.93 | 1040.97| 38.27  | 488.40|
| OS17            | 4.81  | 8.44   | 1.07   | 3.89  | FDIS17| 19.83  | 35.67  | 8.19   | 12.66 |
| OS18            | 120.90| 144.49 | 78.57  | 29.83 | FDIS18| 13.76  | 22.55  | 4.78   | 7.27  |

Moving on to the correlation analysis as presented in Table 4, out of 19 sub-sectors, positive spillover effect for intra-industry is observed for majority sectors which is 14 sectors. This is consistent with several studies such as Cave (1974), Globerman (1979) and Blomstrom (1989) and the several other recent studies such as Castellani and Zanfei (2003), Buckley et al. (2007) and Beugelsdijk et al. (2008). Surely, this is something that in line with the interest of many, our focus is also on the prospect of crowding-out. According to Hu and Jefferson (2002), the presence of FDI in a certain industry, however, may exert adverse effect on domestic firms in that industry. By enjoying better technologies and lower production costs, in the long run, the increased competition induced by the increased presence of FDI in domestic industries may force inefficient domestic firms to exit and surviving firms to improve their performance, leading to the potential improvement of social welfare. What remained unknown is which sector could probably be adversely affected by the inflows of FDI.

Refferring to Table 3 and 4, crowding-out phenomenon is potentially to occur in sector 7 (paper and printing products), sector 9 (petroleum and coal products), sector 12 (metal products) and sector 16 (other transport equipment). One common feature, particularly for sector 9 and 12, is they are either high-tech oriented or high-capital oriented industry. Regarding the spillover effect across the sub-sectors in manufacturing sector, we observed on average there are four negative associations of FDI inflows into various sector and a specific sector within manufacturing sector. Quite exceptional that for sector 5 (wooden products), the negative correlation is observed with FDI inflows into 15 other sectors. Sector 9 (petroleum and coal products) is also a bit puzzling as 14 of other sectors’ FDI inflows likely to exert a negative consequence on its output. Sector 11 (other non-metal mineral products) and 14 (electrical machinery) has 9 and 8 negative correlations, respectively. One possible explanation regarding the high no of negative correlation, or likely the existence of crowd-out phenomenon is that the openness or liberal economic policies which favor MNCs
could allow MNCs to outsource their inputs from other efficient countries, and thus, lead to negative consequences. Another possible explanation, which is consistent with Aitken and Harrison (1999) and Hu and Jefferson (2002) is that the negative spillover effects in certain industry could be that firm FDI enhances the productivity of FDI receiving firms, but it depresses that of non-FDI domestic firms. In other words, industry with high FDI involvement tends to enjoy positive spillover effect, and vice versa.

Table 4. Correlation Analysis

|       | OS01 | OS02 | OS03 | OS04 | OS05 | OS06 | OS07 | OS08 | OS09 |
|-------|------|------|------|------|------|------|------|------|------|
| FDIS01| 0.99 | 0.72 | 0.55 | 0.41 | -0.67| -0.13| -0.37| 0.78 | -0.75|
| FDIS02| -0.09| 0.60 | -0.44| -0.04| 0.49 | -1.00| -0.66| 0.16 | -0.56|
| FDIS03| 0.93 | 0.85 | 0.39 | 0.44 | -0.57| -0.35| -0.45| 0.83 | -0.81|
| FDIS04| 0.58 | 0.77 | -0.25| 0.98 | -0.79| -0.08| 0.35 | 0.95 | -0.08|
| FDIS05| -0.88| -0.48| -0.78| 0.01 | 0.40 | 0.14 | 0.63 | -0.46| 0.87 |
| FDIS06| 0.46 | -0.36| 0.98 | -0.41| -0.26| 0.56 | -0.21| -0.17| -0.27|
| FDIS07| -0.67| -0.04| -0.54| -0.48| 0.92 | -0.73| -0.46| -0.48| -0.09|
| FDIS08| 0.94 | 0.57 | 0.72 | 0.14 | -0.52| -0.12| -0.53| 0.59 | -0.83|
| FDIS09| 0.57 | 0.78 | -0.27| 0.98 | -0.77| -0.11| 0.33 | 0.95 | -0.09|
| FDIS10| 0.98 | 0.52 | 0.74 | 0.25 | -0.66| 0.04 | -0.37| 0.63 | -0.71|
| FDIS11| -0.29| -0.30| -0.44| 0.52 | -0.39| 0.63 | 1.00 | 0.05 | 0.90 |
| FDIS12| -0.22| -0.50| -0.14| 0.34 | -0.42| 0.85 | 0.96 | -0.08| 0.88 |
| FDIS13| 0.80 | 0.68 | 0.54 | 0.03 | -0.23| -0.47| -0.77| 0.52 | -0.98|
| FDIS14| 0.95 | 0.36 | 0.77 | 0.31 | -0.80| 0.31 | -0.11| 0.60 | -0.49|
| FDIS15| 0.48 | -0.36| 0.96 | -0.33| -0.35| 0.64 | -0.10| -0.13| -0.19|
| FDIS16| -0.32| -0.32| -0.45| 0.50 | -0.36| 0.62 | 1.00 | 0.03 | 0.91 |
| FDIS17| 0.95 | 0.83 | 0.40 | 0.50 | -0.64| -0.27| -0.37| 0.86 | -0.76|
| FDIS18| 0.73 | -0.04| 0.80 | 0.20 | -0.78| 0.69 | 0.18 | 0.33 | -0.12|

Table 4. Correlation Analysis (continue…)

|       | OS10 | OS11 | OS12 | OS13 | OS14 | OS15 | OS16 | OS17 | OS18 |
|-------|------|------|------|------|------|------|------|------|------|
| FDIS01| 0.74 | -0.06| 0.66 | 0.99 | 0.70 | 0.75 | 0.79 | 0.97 | 0.41 |
| FDIS02| -0.36| -0.69| -0.34| 0.22 | -0.24| -0.51| -0.21| 0.12 | -0.79|
| FDIS03| 0.59 | -0.16| 0.51 | 0.99 | 0.57 | 0.57 | 0.67 | 0.94 | 0.25 |
| FDIS04| -0.02| 0.55 | -0.15| 0.49 | -0.15| 0.13 | 0.00 | 0.36 | 0.55 |
| FDIS05| -0.89| 0.36 | -0.86| -0.93| -0.90| -0.82| -0.95| -0.98| -0.20|
| FDIS06| 0.90 | -0.08| 0.93 | 0.35 | 0.90 | 0.88 | 0.84 | 0.51 | 0.40 |
| FDIS07| -0.63| -0.68| -0.54| -0.40| -0.47| -0.79| -0.53| -0.44| -0.98|
| FDIS08| 0.86 | -0.25| 0.82 | 0.97 | 0.85 | 0.82 | 0.92 | 1.00 | 0.30 |
| FDIS09| -0.03| 0.53 | -0.17| 0.50 | -0.16| 0.11 | -0.01| 0.36 | 0.52 |
| FDIS10| 0.88 | -0.07| 0.82 | 0.94 | 0.84 | 0.88 | 0.91 | 0.97 | 0.48 |
| FDIS11| -0.44| 0.93 | -0.50| -0.54| -0.58| -0.23| -0.56| -0.59| 0.58 |
| FDIS12| -0.19| 0.92 | -0.24| -0.52| -0.33| 0.01 | -0.34| -0.50| 0.69 |
| FDIS13| 0.67 | -0.54| 0.65 | 0.94 | 0.72 | 0.57 | 0.78 | 0.94 | -0.06|
| FDIS14| 0.89 | 0.18 | 0.82 | 0.83 | 0.81 | 0.95 | 0.88 | 0.87 | 0.69 |
| FDIS15| 0.89 | 0.04 | 0.91 | 0.33 | 0.87 | 0.90 | 0.82 | 0.48 | 0.51 |
| FDIS16| -0.46| 0.92 | -0.52| -0.57| -0.59| -0.25| -0.58| -0.61| 0.56 |
| FDIS17| 0.61 | -0.07| 0.52 | 0.98 | 0.57 | 0.61 | 0.68 | 0.93 | 0.34 |
5. Conclusion

This study investigates the prolonged issue inherent in the area of FDI – whether or not FDI generates spillover effect to the whole host country. Focusing on Malaysian manufacturing sector for the period from 1999 to 2004, this study estimates the effect of FDI in one sector to the output of other sector within manufacturing sector. This study found that while we observe positive spillover effect to take place, but at the same time, we also noticed that FDI inflows in certain sector likely to exert a negative consequence on its own sector as well as to other sector.

Although this study could have a limitation considering the methodology employed is merely a simple correlation analysis, in its current setting, it still contributes to the body of the literature by diverting our focus from too much appreciating the inflows of FDI into a more serious and strategic plan in attracting FDI. Spillover effect could take place but the likely crowding-out effect that prevails is also required further attention. At this stage, we do not have the detail insight. However, if the suggestion offered by Aitken and Harrison (1999) regarding the underlying cause of negative spillover is applicable in the case of Malaysia, intensifying the effort to promote FDI inflows into low-receiving sectors is very crucial and could be the long-run FDI-related policy that requires serious attention.

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