

Labour market competitiveness and foreign direct investment: The case of Malaysia, Thailand and the Philippines

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Abstract. This article investigates whether labour market competitiveness affects the inflows of foreign direct investment (FDI) into the ASEAN economies Malaysia, Thailand and the Philippines. The analysis is based on a regression model using time series data on FDI, wages, the labour force, skills, R&D expenditure, the interest rate and several variables critical for economic development. The study shows that the labour market determinants differ between countries in terms of their role in FDI inflows. Thus analysis results suggest that, with regard to labour market competitiveness, different countries may require different policy recommendations in order to attract FDI inflows into their countries.

JEL classification: J240, J310, R230

Key words: Labour market competitiveness, foreign direct investment, human capital, labour force, wage rate

1 Introduction

Foreign direct investment (FDI) is becoming increasingly important to improve economic growth and employment (Well 1980; Chen and Wong 1990). Apart from augmenting the capital inflows, FDI has also been shown to be essential for technology and management practices transfer, and innovation and skills enhancement, as well as for accessing international marketing networks (Hymer 1976; Rugman 1980; Dunning 1980; Mallampally and Sauvart 1999; Nunnenkamp 2002). The inflows of capital in the form of FDI allow host economies to invest in productive activities beyond what could be achieved by domestic savings alone. FDI has proved to be remarkably resilient in the ASEAN economies despite the recent East Asia economic crisis (Thomsen 1999, pp. 23–24). In fact, in some ASEAN countries, the inflows have actually increased during that period (ADB 2000).

ASEAN economies such as Malaysia, Thailand and the Philippines are moving towards achieving the status of newly industrialised countries following the path of the first tier countries of Singapore, Hong Kong, Republic of Korea, and Taiwan. In pursuit of achieving this status, these countries must gain a competitive edge in terms of producing high quality products, generating technical progress and improving market efficiency and networking, especially at the international level. As developing countries, the level of local technology and skills in Malaysia, Thailand and the Philippines (which will be referred to hereafter as ASEAN-3) are relatively low. As an alternative, these countries have to rely on foreign direct investment (FDI) as an important source of finance for boosting technological capability.

In the past ASEAN-3 economies had prospered through export-led strategies based on intensive use of cheap, but relatively skilled labour. However, the competitive advantage of these countries in labour-intensive products has eroded as countries such as Bangladesh, India, China, and Vietnam can now manufacture many products more cheaply. The open policy adopted by China, for example, has attracted a substantial flow of FDI to that country because of its abundant cheap labour and larger domestic market. In addition, the economic crisis engulfing the ASEAN-3 economies in the past few years has also focused attention on the fragility of their financial sectors. The ASEAN-3 economies therefore risk being bypassed by FDI in the next few years unless steps are taken to ascend the value chain. To move up the value chain, via the ladder of dynamic comparative advantage, ASEAN-3 countries need to produce goods based on higher value added in terms of improved product design and development which, in turn, requires not only substantial inflows of foreign financial resources but also the training of higher skilled professionals and workers in these economies. Moreover, it is also imperative for the ASEAN-3 economies to improve labour market competitiveness through maintaining low wages, and providing a sufficient supply of manpower and skilled workers.

The key to improving labour market competitiveness in the ASEAN-3 economies lies in raising human resource capabilities; that is, to make appropriate investments in human capital through higher education and professional training in order to more efficiently generate and manage new technologies. In this new era of intensified globalisation and international competition, the ASEAN-3 can no longer rely on cheap labour to gain competitiveness. They must continue to invest in their human resource, since the high growth industries of the future such as the information technology (IT) and biotechnology industries, require an increasingly skilled labour force. Lessons learned from other successful countries in attracting FDI indicate that the ability to create a skilled human resource base is crucial for trans-national and multinational companies in order to relocate electronics firms and world class high-tech plants to host countries (UNCTAD 2000, p. 20). Economists argue that by not developing human resources, these countries' competitiveness in attracting FDI is likely to be adversely affected.

The aim of this article is to examine the extent to which labour market competitiveness affects the FDI inflows into ASEAN-3 economies using a simple regression model. Although there have been numerous studies evaluating various factors affecting the flows of FDI between countries, evidence pertaining to labour market competitiveness as a determinant affecting the FDI is rather inconclusive. Our main

objective in this article is to therefore provide greater understanding regarding the role of labour market competitiveness towards determining the flow of FDI into one country or region. The analysis shall be conducted by means of time series data for the period of 1985 and 1999 in the respective ASEAN-3 economies. This article is organised as follows. Section 2 provides a brief economic background and reviews FDI inflows to the ASEAN-3 countries. This is followed by a brief literature review, which later forms the basis of the theoretical framework for this study. Section 4 specifies the model and data employed. Section 5 discusses the results and general conclusions are subsequently drawn.

2 FDI inflows into ASEAN-3 and selected countries in the region

ASEAN-3 is, by far, one of the most popular destinations for FDI. As a group, this area is the fifth most important destination for FDI inflows in the 1990s. Prior to the economic crisis in the East Asian region, the level of FDI inflows increased sharply from a total of US \$1.7 billion in 1980-1984 to almost US\$ 20 billion in 1996. The shares of the affected countries in global FDI inflows increased from 3.4% to 5.2% over the same period. During the crisis period, the level of FDI inflows fell slightly from US\$19.2 billion in 1997 to US\$ 16.7 billion in 1998. The level increased again in 1999, reaching US\$ 17.4 billion. The crisis triggered significant changes in policy toward FDI in all the affected countries, most of which, in particular Malaysia and Thailand, have long had liberal FDI regimes. However, the crisis pushed them to liberalise FDI even further.

Figure 1 shows that there has been an upward trend in all three countries since the 1980s, but FDI started to fall when the economic crisis struck the region. Nonetheless, we can observe that Thailand's FDI inflows were not greatly affected during the crisis. In Thailand the pickup in FDI inflows started after the crisis during the second quarter of 1998. Compared with 1997, the amount of FDI inflow doubled in 1998, after which a decline set in.

Table 1 shows that the average annual growth rate of FDI for Thailand was the highest during the period 1996-1999, indicating that Thailand was the most favourable destination for FDI among the three countries at that time. However, recent Asian Development Bank (ADB) data on net direct investment reveals a downward trend for the first nine months of 2000. But the report claimed that this decline may simply be a reflection of investor weariness resulting from the slowdown in both the rate of asset disposals and the reform momentum (ADB 2000).

We notice that, in Malaysia, FDI inflows have been increasing since the 1980s until the crisis in 1997, at which time sharp falls result. Nonetheless, a recent report suggests a small increase in 1999 (ADB 2000). Despite the crisis, it is argued that Malaysia's foreign investment regime has remained more liberal, and has been liberal longer than other countries, and in some sectors the presence of multinational enterprises had already reached high levels before the crisis began. These remarks suggest that the FDI slowdown in Malaysia as shown in Fig. 1 and Table 1 may not reflect a reversal in attitudes of foreign investors toward the country as an investment site, but rather a temporary adjustment. For the Philippines, a similar

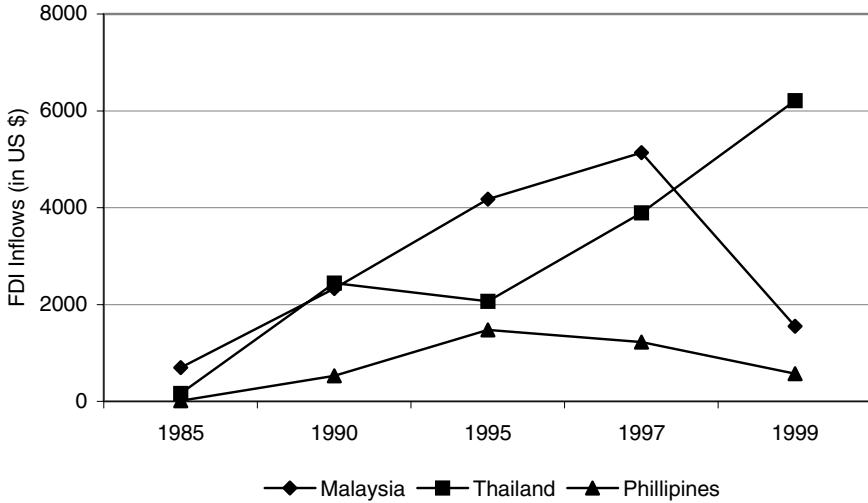


Fig. 1. FDI inflows, 1985 – 1999 (Source: World Investment Report, various years)

Table 1. FDI average annual growth rate in ASEAN-3, 1985–1999

| Year | 1986–1990 | 1991–1995 | 1996–1997 | 1998–1999 |
|-------------|-----------|-----------|-----------|-----------|
| Malaysia | 27.4 | 12.4 | 10.9 | –4.5 |
| Thailand | 72.1 | –9.9 | 37.2 | 26.3 |
| Philippines | 41.7 | 22.8 | –9.1 | –31.5 |

Source: World Investment Report (various years)

trend had occurred, but at a relatively lower level of FDI inflows, as can be seen in Fig. 1.

One area of specific concern in this context is the labour market, in particular labour costs and productivity. Foreign investors will inevitably choose countries where labour is cheap. Table 2 clearly shows that China has a huge comparative advantage in terms of its low labour cost and has attracted large volumes of foreign capital to the country (see Fig. 2). We can also conjecture, on the presumption that as wages spiralled in the Newly Industrialised Economies (NIEs), flows of FDI in labour-intensive industries shifted to South-East Asia and later to China. FDI has led to the wholesale transfer of the production of labour-intensive products and exports from high-wage economies to lower-wage economies. Table 2 shows that the percentage of increase in the labour costs in ASEAN-3 economies has been relatively small when compared with Singapore and the Republic of Korea. A substantial increase in labour costs in Singapore and the Republic of Korea is likely due to the shift from labour-intensive activities to more sophisticated industries that require highly skilled professionals and workers at relatively higher salaries and wages.

Although there has been a substantial increase in labour costs in Singapore and the Republic of Korea, productivity in these countries has remained high, as

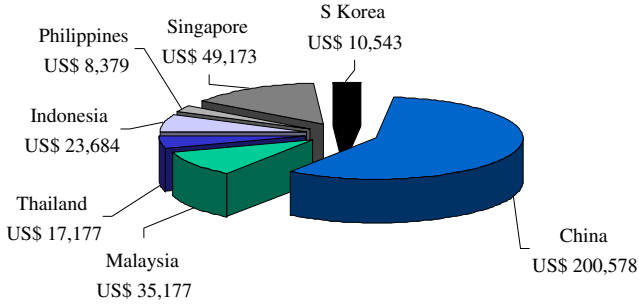


Fig. 2. Total FDI inflows by country, 1990–1997 (in US \$) (Source: Figures adapted from OECD, 1999)

Table 2. Labour cost and value added per worker in manufacturing (US\$ per year)

| Countries | Labour cost (wage) | | | Value added | | |
|-------------------|--------------------|-----------|------------|-------------|-----------|------------|
| | 1980–1984 | 1995–1999 | % Increase | 1980–1984 | 1995–1999 | % Increase |
| Malaysia | 2,519 | 3,429 | 36.1 | 8,454 | 12,661 | 49.8 |
| Thailand | 2,305 | 2,705 | 17.4 | 11,072 | 19,946 | 80.1 |
| Indonesia | 898 | 1,008 | 12.2 | 3,807 | 5,139 | 35.0 |
| Philippines | 1,240 | 2,450 | 97.6 | 5,266 | 10,781 | 104.7 |
| Singapore | 5,576 | 21,534 | 286.2 | 16,442 | 40,674 | 147.4 |
| Republic of Korea | 3,153 | 10,743 | 240.7 | 11,617 | 40,916 | 252.2 |
| China | 472 | 729 | 54.4 | 3,061 | 2,885 | -5.7 |

Source: World Bank (2000) World Development Indicators. The World Bank, Washington DC, pp. 58–60

indicated by the percentage increase of value added per worker. This shows that both countries have a competitive advantage in terms of skilled workers. That may attract inflows of high-tech foreign capital into those countries. For China, although it has managed to attract substantial amounts of foreign capital, there appears to be no increase in productivity, which may indicate the heavy reliance on labour-intensive activities. In Fig. 2, we observe that Singapore and the Republic of Korea receive high inflows of FDI despite their high labour costs. Since FDI inflows into China are also influenced by the potential of its huge domestic market and its progressively more open trade policy, we could argue that labour costs are not the most important element of competitiveness.

3 Literature review and research hypotheses

The literature has provided several alternative explanations for FDI, but most studies concentrate merely on the impact of FDI on economic growth and technological advancement. However, there have been many studies with an empirically-identified variety of factors that can affect FDI inflows. These factors include several macroeconomic variables, business conditions, and also the socio-political environment (Dunning 1981; Graham and Krugman 1991; Krugman and Obstfeld 1994; Thompson and Poon 1998; Sin and Leung 2001; Nunnenkamp 2002). Yet little has been

learned regarding the influence of labour market competitiveness on the FDI inflows into host countries. A further analysis of this aspect may provide greater understanding of the subject and would fill a gap in the literature.

Dunning (1981) claimed that the probability that a firm engages in foreign production depends on a combination of several factors, including ownership-specific advantages, internalisation opportunities and locational advantages. Without any of these advantages, firms will not invest in host countries but will instead pursue other strategies to enter foreign markets, such as licensing agreements or exporting. Graham and Krugman (1991) asserted that a high investment return would encourage more FDI inflows, especially in the developing economies where foreign portfolio investment is hindered by immature financial markets.

However, the process of globalisation is creating an increasingly competitive economic environment in which a high return will not alone sufficiently ensure FDI inflows into host countries. Krugman and Obstfeld (1994) emphasise that the direction and magnitude of capital inflows are determined by differences in factor proportions amongst countries. Although the factor proportions obviously include labour, to date, few attempts have been made to relate the labour competitiveness aspect, such as the role of human capital accumulation, with the FDI inflows.

In a more recent study, Thompson and Poon (1998) analyse the macroeconomic determinants of FDI from Japan and the United States into East Asian countries, and the linkage between FDI and trade, and other macroeconomic variables. Their findings support some of the earlier findings regarding FDI inflows, but they also assert that the determinants of attracting FDI inflows differ between countries. In addition, the extent of the FDI inflows to a particular host country also differs in terms of its source country, (Japan and the United States) in the case of Thompson and Poon (1998). For instance, FDI inflows from Japan into all groups of countries studied were strongly affected by changes in real bilateral exchange rates, but this was not always the case for FDI from the United States.

In the same context, Sin and Leung (2001) used data from various countries to test whether the GDP growth rate (an indicator of the rate of return to FDI), government policy and the exchange rate have an impact on FDI inflows. Surprisingly, they found that the only significant variable was a variable reflecting government investment policy, which was positively related to the FDI inflows into the western hemisphere, Asia and Africa.

Nunnenkamp (2002) analyses the issue in a wider perspective and assesses the impact of globalisation on the determinants of FDI in developing countries. This study finds that the traditional market-related determinants, i.e., macroeconomic variables, business conditions and other socio-political and environmental factors, are still dominant factors. The study also discovers that, among non-traditional FDI determinants, only the availability of local skills has clearly gained importance.

Although there have been many studies investigating the factors affecting FDI, the study of labour market factors, specifically labour market competitiveness, remains inadequate. In Malaysia for example, no attempt had been made to estimate the role of labour market competitiveness in affecting the FDI inflows. In this article we argue that labour market attributes such as a sufficient supply of labour, the skills composition and the wage rate are amongst the crucial factors that determine FDI

inflows to the host country. A sufficient supply of labour in terms of its quantity and quality is likely to help investors source their labour input, which subsequently lowers their labour cost and, subsequently, their production cost. The availability of a high level and skilled workforce in the host country will act as a catalyst towards the introduction of new and advanced technologies for producing high value-added goods.

Nowadays creating a competitive environment is becoming increasingly important in attracting substantial amounts of FDI inflows (Porter 1990). Enterprises in both developed and developing economies are facing a progressively more competitive environment in a fast-moving technological world. To compete and prosper, they need to restructure their activities, facilities and skills and tailor them to the changing technology. In the era of globalisation and trade liberalisation, enterprises have to compete internally as well as externally. There are numerous factors that determine labour market competitiveness. These include the availability of human resources, the labour cost and the human capital resulting from education and training. The more competitive an economy and its labour market are, the more likely that country will gain from participation in competition in the global market. For example, the countries with the largest shares of world trade, and thus presumably enjoying economies of scale, lost ground in industrial exports to a series of challenges from the developing world, mainly from Asia, as the former became less competitive (Mortimore et al. 1997 quoted in UNCTAD 2000).

There is a two-way relationship between FDI and competitiveness. On the one hand, FDI can improve competitiveness of the host country, but on the other hand, the competitiveness of the host country's economy is also important in attracting substantial amounts of FDI in the first place. For instance, UNCTAD (2000, p. 20) states that Ireland's success in attracting FDI in the electronics industry has been due largely to its ability to create a skilled human resource base. This subsequently allowed trans-national corporations (TNCs) to set up efficient world-class plants and attract the world's leading electronics firms to that country. We hypothesise in this article that human resource competitiveness is likely to have a considerable influence on the flow of FDI to host nations.

Controversy has emerged on whether low wages can sustain high economic growth over the long term, since low wages are associated with unskilled labour and low productivity. So in order to develop rapidly, a country has to increase both its average wage rate and its productivity. Reinert (1995 quoted in UNCTAD 2000, p. 3) suggests that true competitiveness demands that an economy continues to produce more goods for international markets as wages rise and labour-intensive activities are upgraded to make higher-quality products yielding greater value-added industries. On this basis, it is therefore crucial for the ASEAN-3 economies to upgrade their labour-intensive industries to skills-based industries that produce higher value-added products. As far as human resources are concerned, competitiveness will largely depend on the extent of existing human capital investment that would, in turn, provide a sufficient and appropriately skilled work force required by the economy.

From the preceding discussion, we see that several factors have determined the extent of the FDI inflows into certain regions or countries. These may include

traditional and non-traditional market-related variables. However, since this article focuses specifically on the labour competitiveness factor, we focus on variables closely related to various labour market issues, such as availability of labour, cost of labour, skills, access to inputs, physical infrastructure, and technological support. Our task is to estimate regression equations that relate FDI inflows to the labour market competitiveness variables. Since the level of economic development and price of capital are also important determinants of investment, these two variables are also incorporated into the model. A country's GDP also reflects, apart from measuring the level of economic development, the market opportunities for investors to sell their products. The price of capital is measured by the interest rate. The regression model will also incorporate the ratio of exports plus imports to GDP to reflect the openness of the economy. Openness is expected to have some influence on the FDI inflows. Theoretically, the higher the level of openness in the economy, the easier it will be for investors to acquire imported inputs and to export their products.

Another important factor is expenditure on research and development (R&D), which reflects the availability of physical infrastructure and technological support in the host nation. The model also incorporates the percentage of R&D expenditure. Against this backdrop, and based on the availability of data required to estimate the regression equations, we develop several hypotheses:

- An increase in the manufacturing wage rate will increase the cost of production. Therefore, we hypothesise that the manufacturing wage rate shall have a negative impact on the FDI inflows to the host country.
- The labour force is one of the important inputs in the production process. An increase in its supply will improve the production capability of firms. Thus, we hypothesise that the quantity of the labour force in the host country shall have a positive impact on the FDI inflows.
- The professional, technical, administrative, and managerial workers will help the organisation use high technology processes that generate higher levels of productivity. Thus, we hypothesise that the number of professional and related workers in the host country shall have a positive impact on the FDI inflows.
- The GDP level of the host country reflects the purchasing power of a country and also represents its market capability. Consequently, it is expected to have a positive impact on the FDI inflows.
- The interest rate represents the price of capital; therefore, an increase in the interest rate will increase the cost of production. Hence, we expect that an increase in the price of capital in the host country will have a negative impact on the FDI inflows.
- The ratio of exports plus imports to GDP reflects the openness of the economy. The higher this ratio is, the more liberalised the economy is expected to be; this will have a positive impact on the FDI inflow. Therefore, the impact of this variable on FDI is positive.
- R&D expenditure will enhance technical support facilities that will lead to product innovation, endogenous technology, and innovative marketing strategies and channels in the host country. Hence, it will attract more foreign investors into

the country. Therefore, R&D expenditure is expected to have a positive impact on FDI.

4 Data and model specification

In this article we use time series data on the relevant variables for the period between 1985 and 1999 gathered from various sources. The time period was determined by data availability. In light of the shortness of the time series (15 annual observations), the regression results must be interpreted as tentative only, despite these satisfying the conventional econometric criteria.

Data on foreign direct investment (*FDI*), Gross Domestic Product (*GDP*), exports (*E*), imports (*I*) and the interest rate (*INT*) were gathered from the International Financial Statistics Yearbook (IFS_Y), International Monetary Fund (IMF). The manufacturing sector wage rates (*WM*) were obtained from the World Development Indicators, World Bank and data on the labour force (*LABOUR*) were obtained from the Key Indicators of Developing Asian and Pacific Countries and the IFS_Y. Data on the number of professional and technical (*PROFTEC*), and administrative and managerial workers (*ADMANG*) were gathered from the Yearbook of Labour Statistics, International Labour Office (ILO). Data on R&D (*RDEX*) expenditure was gathered from the Statistical Yearbook, UNESCO and World Development Indicators, World Bank.

Before we specify the model for the analysis, we check data stationary because non-stationary data may result in spurious regression. For this purpose we employed the Phillips-Perron (PP) (1988) approach, which is superior to the Augmented Dickey-Fuller (1979) approach, because the latter assumes that the disturbance terms are not correlated and their variances are constant. In contrast, the PP approach takes into account the problem of the disturbance terms, especially when the variances are not constant. A PP test with intercept and time trend was adopted by means of estimation of the following equation:

$$\Delta Y_{it} = \mu_{it} + \alpha_1 Y_{it-1} + \alpha_2 t + \varepsilon_{it} \quad (1)$$

where ΔY_{it} is the first difference of variable Y for country i at time t . For the Y_{it} to be stationary, the value of t statistics, $Z(\tau_{\alpha\tau})$ must be negative and significantly different from zero. The critical value for the PP test is also the MacKinnon (1991) critical value. The results suggested that most variables had stochastic trends. However, the results of these tests cannot be interpreted as formal evidence of non-stationarity, as the statistical inference has only reasonable power with a time series of 100 observations or more, while our sample is limited to 15 years. Consequently, we used the results of these tests as merely indicative of the presence of trends in the data and corrected for this by means of a deterministic trend in the regression models below. The performance of the resulting regression equations was assessed by the conventional Durbin-Watson statistic and this suggestion that there was no presence of autocorrelation could lead to erroneous statistical inference. Based on the discussion above, the regression models are specified as follows:

$$\begin{aligned} \ln FDIM_t = & \beta_{10} + \beta_{11} \ln WMM_t + \beta_{12} \ln LABOURM_t \\ & + \beta_{13} \ln GDPM_t + \beta_{14} \ln PROFTECM_t \\ & + \beta_{15} \ln RDEXM_t + \beta_{16} \ln INTM_t + \beta_{17} \ln T + \mu_1 \end{aligned} \quad (2)$$

$$\begin{aligned} \ln FDIT_t = & \beta_{20} + \beta_{21} \ln WMT_t + \beta_{22} \ln LABOURT_t + \beta_{23} \ln GDPT_t \\ & + \beta_{24} \ln PROFTECT_t + \beta_{25} \ln RDEXT_t \\ & + \beta_{26} \ln INTT_t + \beta_{27} EIGDPT_t + \beta_{28} \ln T + \mu_2 \end{aligned} \quad (3)$$

$$\begin{aligned} \ln FDIP_t = & \beta_{30} + \beta_{31} \ln WMP_t + \beta_{32} \ln GDPP_t + \beta_{33} \ln PROFTECP_t \\ & + \beta_{34} ADMANGP_t + \beta_{35} \ln EIGDPP_t + \beta_{36} \ln T + \mu_3 \end{aligned} \quad (4)$$

The following defines the variables in the equations above:

| | |
|-----------------|---|
| FDI_{c_t} | = Foreign direct investment in country c in year t (US dollars) |
| WM_{c_t} | = Manufacturing wage rates in country c in year t (US dollars) |
| $LABOUR_{c_t}$ | = Number of labour force in country c in year t |
| GDP_{c_t} | = Annual Gross Domestic Product in country c in year t (US dollars) |
| $PROFTEC_{c_t}$ | = Number of professional and technical workers in country c in year t |
| $ADMANG_{c_t}$ | = Number of administrative and managerial workers in country c in year t |
| $RDEX_{c_t}$ | = R&D expenditure as percentage of GDP in country c in year t |
| INT_{c_t} | = Average lending rate in country c in year t |
| $EIGDPC_{c_t}$ | = Ratio of exports plus imports to GDP in country c in year t |
| T | = Year |

where, $c = M$ (Malaysia), T (Thailand), P (Philippines) and μ_1, μ_2, μ_3 are error terms.

All variables are in natural logarithms. Equations (2), (3) and (4) were estimated by means of the ordinary least squares (OLS) procedure. Rather than omit statistically insignificant variables, our results include those variables so that, in terms of specification analysis, our results may be considered less precise, but are at least unbiased estimates of the effects of the relevant variables.

5 Analysis of the results

Results from the estimation of Equations (2), (3) and (4) are presented in Table 3. Given the small number of observations, it is not surprising that the R^2 are rather high. However, given the large number of explanatory variables (and consequently small degree of freedom) it is also not surprising that the adjusted R^2 are rather lower. Nonetheless, our regression models exhibit a relatively good fit to the data.

Table 3. Regression estimates of FDI determinants

| Variable | Malaysia | Thailand | Philippines |
|-------------------|--------------------------|------------------------|------------------------|
| INTERCEPT | 49.2940 (1.1287) | 173.6858 (1.3920) | 48.7943 (1.7925)* |
| ln <i>WM</i> | 0.9216 (1.0725) | -2.5239 (-0.5558) | -2.3418 (-2.0009)** |
| ln <i>LABOUR</i> | 8.0709 (1.2671) | 9.8778 (4.7656)**** | |
| ln <i>GDP</i> | 5.9971 (5.0289)**** | 0.6659 (0.4042) | 3.1713 (3.8384)**** |
| ln <i>PROFTEC</i> | -9.4081 (-5.3007)**** | -6.5180 (-1.6566)* | -3.1447 (-0.7535) |
| ln <i>ADMANGP</i> | | | 2.4640 (0.7386) |
| ln <i>RDEX</i> | -0.3400 (-2.9588)*** | 2.7129 (1.2306) | |
| ln <i>INT</i> | 3.8173 (5.4397)**** | 2.7129 (1.2306) | |
| ln <i>EIGDP</i> | | 9.3889 (2.9993)*** | 0.1056 (0.1059) |
| ln <i>T</i> | 1.6956 (4.0287)**** | 1.9371 (1.5114) | 3.6832 (3.0872)*** |
| R^2 | 0.9852 | 0.9381 | 0.9167 |
| R^2 Adjusted | 0.9680 | 0.8659 | 0.8453 |
| Durbin-Watson | 2.2966 | 2.2565 | 2.0636 |

Note: **** Significant at a 1% level; *** significant at a 5% level; ** significant at a 10% level; * significant at a 15% level

Our analysis shows that the manufacturing wage rate has a positive impact on FDI inflows to Malaysia, but it is not statistically significant. For Thailand, the manufacturing wage rate has an insignificant negative coefficient, while for the Philippines the coefficient is also negative, but now significantly so (at the 10% level).

The insignificant coefficient for Malaysia and Thailand could be due to relatively low wage rates that continued to prevail in the labour market. Thus, foreign investors did not perceive that an increase in the wage rates would significantly affect their production costs while wages remained relatively low. For example, the low wage policy introduced by the Malaysian government since the 1970s had encouraged foreign investors to enter. Moreover, Malaysia's relaxed policy on foreign labour resulted in a massive inflow of foreign labour into Malaysia, and thus helped to curb wage increases.

Table 3 shows that the size of the labour force has a significantly positive impact on FDI inflows to Thailand. The model suggests that an increase of labour force by 1% will increase the inflow of FDI by about 10%.

From the results we can also see that the level of economic development and the size of the domestic market (as represented by the GDP level) are significant in determining the FDI inflows into Malaysia and the Philippines. The liberalisation

policies adopted by these two countries facilitate foreign investors' export of their products. In the case of Malaysia the country offers extra incentives for foreign companies that export most of their products. Local markets may therefore not represent such an important marketing channel for these companies. However, in Thailand although the sign is positive, the coefficient is not significant. Instead, the openness of the economy plays a significant role in determining FDI inflows into Thailand (as can be seen from the significant coefficient of the exports plus imports to GDP ratio).

Rather surprisingly, Table 3 shows that in Malaysia and Thailand the number of professional and technical workers has a significantly negative impact on the FDI inflows (albeit only marginally significant in the latter). However, for the Philippines, although the sign of this variable is negative, it is not significant. Instead, the number of administrative and managerial workers in the Philippines has a positive, but still insignificant impact on FDI inflows.

These contradictory results may be due to the types of production activities carried out by foreign investors and their labour market policy. An increase in the number of professional and technical workers reflects a greater ability by local firms to operate without reliance on foreign investors. As the rate of saving is quite high in Malaysia, the country may have a capital surplus that can be mobilised if enough high level manpower exists. Also, when the number of professional and technical workers increases, the ability of foreign investors to hire expatriates may be limited, thus potentially impeding their investment.

An increase in R&D expenditure was hypothesised to have a positive impact on FDI. But the result for Malaysia does not support this hypothesis. The result shows that a 1% increase in R&D expenditure would decrease FDI inflows by 0.34%, and it is significant at the 5% significance level. This result may be attributed to the increase in the technological ability of Malaysia when R&D expenditure increases, so that reliance on FDI will be lessened. One reason Malaysia has to rely on FDI is its lack of technological expertise and facilities. An increase in R&D expenditure will amplify these two problems.

We hypothesised earlier that an increase in the interest rate in the host country reduces FDI because of the increase in the capital costs. But the results from this study do not reveal support for this hypothesis. In Malaysia an increase in the interest rate has contributed positively to the increase in the FDI inflows. In fact, the extent to which the interest rate affects the FDI inflows depends on the amount of capital obtained from the host country. Foreign investors may invest in the particular country using capital brought from their home countries or they may borrow from local financial institutions. For the former, the interest rate may not affect FDI, but for the latter, an increase in the interest rate will subsequently reduce FDI inflows to the particular country. The contradictory results obtained in our analysis may be explained by the relatively low interest rate in Malaysia as perceived by foreign investors. Moreover, most capital is brought in from the investors' respective countries because of savings shortages in the host countries.

6 Conclusion

The preceding discussion has shown that the extent of FDI inflows to a host country is, among other factors, dependent on several aspects in the labour market. However, the study found that factors determining FDI inflows to the ASEAN-3 economies differ between countries. In Malaysia and Thailand, for example, the manufacturing wage rate does not appear to matter, while in the Philippines the growth in real wages has a negative impact. In Thailand the size of the labour force plays a significant role in attracting FDI, while the number of professional and technical workers has a negative effect, albeit only marginally statistically significant. In Malaysia an increase in the number of professional and technical workers reduces the FDI inflows. The results also show that an increase in the price of capital appears to encourage the FDI inflows to Malaysia, but in the Philippines, the price of labour has a negative impact on FDI inflows. In Malaysia and the Philippines, the level of GDP plays the biggest role in attracting FDI. Although the GDP level is not significant in Thailand, the level of openness of that country (measured by the exports plus imports to GDP ratio) plays a significant role, indicating that most foreign investors are attracted to its liberalisation policy. Our findings therefore point to different policy recommendations for the countries under study as follows:

- *The manufacturing wage rate.* Malaysia can still increase its manufacturing wage without discouraging FDI. This policy will benefit the workers and may induce higher value-added activities.
- *The size of the labour force.* Although the results show that this variable does not significantly determine FDI inflows to Malaysia, it is significant for Thailand. Regardless of its importance in the FDI context, this variable is important for economic development and may help to alleviate a country's reliance on foreign labour.
- *Economic growth and development.* The foreign investor will be more attracted to a country with a stable growth rate and high level of GDP. Therefore, the ASEAN-3, particularly Malaysia and the Philippines, must strengthen and maintain their economies in order to secure FDI and attract new investors.
- *Increase the rate of interest.* Since an increase in the interest rate does not appear to jeopardise FDI inflows to Malaysia (indeed, the opposite appears to be the case), the interest rate can be further increased. Moreover, an increase in the rate of interest may encourage domestic saving and reduce the reliance on FDI in the long-run.
- *Professional and technical workers.* Although an increase in the number of professional and technical workers appears to reduce FDI inflows to Malaysia and the Philippines, the number of high-skilled workers must be increased further. We believe that these types of workers would help to accelerate economic growth amongst these countries through productivity enhancement and improved efficiency.

As developing countries, the ASEAN-3 economies still rely heavily on FDI as a source of capital and technological know-how. Labour market competitiveness, such as low wages, the size of the labour force and educated manpower plays

an important role in attracting FDI. However, this study does not support some of the conventional hypotheses. Instead, FDI appears primarily responsive to the level of economic development and the openness of the economy. Nonetheless, results from this analysis can be improved further through incorporating other FDI determinants into the model. The main impediment to this effort is a lack of required data, especially regarding time series data for comparative study.

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