

**Trade Balances, Economic Growth and Linkages to  
Multinational Foreign Direct Investment to Asia**

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TRADE BALANCES, ECONOMIC GROWTH AND LINKAGES TO  
MULTINATIONAL FOREIGN DIRECT INVESTMENT TO ASIA

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ABSTRACT

This research has investigated whether trade balance is an indicator of foreign direct investments by a multinational corporation. It addresses two principal research questions. First, what are the determinants of foreign direct investment (FDI) in Asia? Second, is trade balance an indicator of FDI? If so, is there any lag effect on FDI for a specific Asian country?

Based on annualized time series data for 8 sampled countries in Asia, the results indicate for majority of sampled Asian countries significant statistical correlation exists between the four explanatory variables (GDP growth rate, trade balance, percentage change in real wages, and the average tax rate) and the monetary size of FDI.

For majority of sampled Asian countries the coefficient of trade balance is statistically significant, and for only 2 sampled Asian countries, the study indicate significant statistical correlation exists between one period lag monetary size of FDI and the current period FDI.

Based on the empirical findings, an MNC, by investing (FDI) in either exportable or import substitutable products of countries that are facing trade balance problems, will be in a stronger position to negotiate better incentives from the host country which in turn will enhance the MNCs value. This research has also shown that an MNC, which is looking for a location of its FDI, will be better off by investing in the sampled Asian countries that are facing trade balance problems and simultaneously are the recipient of FDI.

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## INTRODUCTION

One of the major economic goals of a country developed, less developed, or newly industrialized, is to achieve greater economic growth. The growth of Gross Domestic Product (GDP) is one of the indicators used to measure the economic growth of a country

In his 1952 seminal study on the supply side problem of capital formation for economic development of underdeveloped countries, Nurkse stated that these economies are confronted with a circular relationship. These under-developed countries start with a low-income level, which results in a small capacity to save, which results in a lack of capital, which leads to low productivity, which returns to low income. There seems to be a common view that the capacity for domestic saving in under-developed countries depends on an initial increase in productivity and real income, and that some form of outside help – say, foreign direct investment (FDI) - is needed to break this vicious circle.

To explain economic growth, many growth models have been developed. The growth models started with Harrod-Domar (1948; 1957), Hicks (1965), in which capital is assumed to be the critical factor for development, and Helliwell and Chung (1992), Wolff (1991), Mankiw, Romer and Weil (1992), in which the status/threshold of infrastructural development is assumed to be the critical factor for growth.

According to Rodriguez-Clare (1996), after decades of skepticism, there is now a shared belief that Multinational Corporations (MNCs) can play an important role in a country's development strategy. As a consequence, governments, irrespective of a country's level of economic development, are competing to attract foreign investment.

In spite of the increased competition between countries to attract foreign direct investment, Grosse and Behrman (1992) concluded that MNCs are less regulated when they are

technology-intensive; operate large-scale affiliates, and when they export more from the local affiliate. On the other hand, MNCs are more regulated when they operate in larger countries and have larger market share.

International investment is an important aspect of the economic relations among nations. It has been increasing in importance, particularly since the progressive removal of international financial regulation in much of the world, developed as well as developing. While short-term changes in debt instruments have received much publicity in the recent past, FDI has had a long history and may be argued to be more important in the long term. Further, the growth rate of world FDI flows has exceeded that of world GDP growth rate by almost ten percent points over the period 1960-90, resulting in a rise in the FDI/GDP ratio on a world-wide basis (Yang, Groenewold, and Tcha 2000).

Thomsen and Miyake (1998) stated that, in 1997, FDI by U.S. firms grew by 36 per cent, and the most notable change was in the FDI. These investments increased particularly in those countries that have not been popular destinations for investments in the past. Deregulation, privatization, and the reform of trade and foreign investment regimes have been central to the high levels of international foreign direct investment in the 1990s. Market liberalization has emerged as a major phenomenon affecting global business today.

Takezawa (1997) reported that, in India, foreign investment rose by 12 percent in 1996 from 1995, but this growth was lower than in previous years, and it will continue to slow down unless the government takes urgent action to resolve infrastructure and bureaucratic problems. He went on to indicate that a growing number of U.S. and European MNCs are delaying establishing a presence in India or are reducing the scale of their operations there.

In a related study, Encarnation (1998) stated that, in spite of the scathing criticism of the role of foreign investments in East Asia's downward economic spiral, increased exports would be critical for the future recovery of that region. As such, all five (Thailand, Malaysia, Indonesia, the Philippines, and South Korea) governments are competing fiercely to attract FDI in export-oriented projects. As a result, the East Asian crisis is likely to make FDI more important in the development of the region's economies.

In spite of cyclical downturns and barring any reversal of liberalization measures, global FDI trends are to some extent self-perpetuating. As MNCs expand their global presence, suppliers of goods and services - such as component producers or financial institutions - often follow in their wake, sometimes at the explicit request of the client firm. The global expansion of financial institutions and telecommunication firms also helps to reduce the costs of operating a global company, just as the MNC serves as a conduit for further trade and investment by reducing the informational barriers between them.

The modern theory of foreign direct investment can be traced to Hymer's (1960) doctoral research. He stated that firms begin by serving a purely local market in some particular region of the national economy. Then they extend outwards into other regions within the same country by exporting from their local base. Then they establish production facilities elsewhere in the same country until they eventually become an integrated national corporation and also develop a sustainable competitive advantage in their home (national) market. The same logic drives them to expand overseas, at first, by exporting and then, ultimately, by establishing overseas plants. However, their ability to transfer this advantage abroad depends on finding product or factor market imperfections abroad, which will open the door for foreign direct investment.

Looking at the history of the development of FDI, many researchers beside Hymer have developed traditional theories of FDI as shown in Figure 1.

FIGURE 1

Traditional Theories of Foreign Direct Investment

| Theory                           | Contributor                                      | Explanation(s)  |
|----------------------------------|--|---|
| Monopolistic                     | Hymer (1960)                                     | MNCs must possess monopolistic advantages to outweigh the disadvantages faced in competing with indigenous firms of the host country.           |
| International Product-Life-Cycle | Vernon (1966)<br>Wells (1972)                    | The ability of MNCs depends on its technological capability to introduce a new product in the market.   |
| Financial                        | Aliber (1970)                                    | FDI can arise if the source country firm has an advantage in financing the capital over host country firms.                                     |
| Macroeconomic                    | Kojima (1973)<br>Ozawa (1979)                    | FDI should originate from the home country's comparatively disadvantaged industry to the comparatively advantaged industry in the host country. |
| Internalization                  | Buckley (1976)<br>& Casson<br><br>Hennart (1982) | To obtain a higher return on their investment, MNCs will transfer their Knowledge to foreign subsidiaries and then sell it on the open market.  |
| Eclectic Paradigm                | Dunning (1977)                                   | FDI can arise when MNCs have ownership, location, and internalization advantages.   |

One major objective of an MNC is to maximize shareholder wealth. However, shareholder wealth depends on the value of a firm (V), which, in turn, depends on discounted profit as shown below:

$$V = \sum_{t=1}^N \frac{(\text{Total Revenue} - \text{Total Cost})_t}{(1+i)^t}$$

Where: V = Value of a Firm, and i = Cost of Capital which also includes risk

To maximize its value (V), it may be worthwhile for an MNC to locate its activities to foreign locations to: (a) increase access to local markets; (b) access to critical raw materials and technologies; (c) lower labor and production costs; (d) take advantage of government incentives such as tax holidays; etc.

According to internalization theory, there are two central concepts at the core of the firm level behavior: (i) Firms choose the least-cost-location for each activity they perform, and (ii) Firms grow by internalizing markets up to the point where the benefits of further internalization are outweighed by the costs (Buckley, 1988).

Tallman (1992), in his resource base theory, argued that domestic firms, in order to achieve sustained superior performance, must seek help (preferably from MNCs) to develop resources which have the characteristics of value, rareness, and are non substitutable. Based on Tallman's theory, Hooley, Cox, Shipley, Fahy, Beracs, and Kolos (1996) examined the micro level motives of firms to attract MNCs to invest in their country. They concluded that export-oriented firms would attract more foreign participation and, as such, would outperform wholly domestic-owned firms. Further, export-oriented firms are likely to adopt a longer-term set of objectives and their priorities will lie in building longer-term market positions and competitive advantages through superior quality offerings rather than lower prices.

In their empirical work Gregorio and Lee (1998) noted that FDI is an important vehicle for the transfer of technology, and, as a result, is contributing more to the host country's economic growth than the host country's investment. However, they also noticed that the host country's productivity is significantly dependent on the presence of a minimum threshold of stock of human capital.

Joint ventures and contractual strategic alliances are alternative forms of organizational cooperation. According to Mutinelli and Piscitello (1998) joint ventures serve as an attractive mode of entry for firms with technological-skill- and competency-based advantages. Their research with a sample of FDI undertakings by Italian companies during the period of 1986-1993 revealed that choosing joint venture, as an entry mode is highly beneficial when tacit skills, technological opportunities in the industrial environment, and competencies serve as a vital source of competitive advantage for the company. For small companies, joint ventures play a strategic role in their internationalization strategy.

Since 1973, when currencies began to float, the link between exchange rate and trade flows has become increasingly tenuous. One reason has been the rapid increase in international capital flows. According to Robins (2000), Asia's 1997 crash started with Thailand's baht in July 1997, followed by Philippine peso, Malaysian ringgit, and Indonesian rupiah lost 20-40 per cent of their dollar value and at the same time regional stock market capitalization's were halved, because capital flows are far more sensitive than trade flows to minor changes in exchange rate - particularly in the short run..

There have been numerous articles on the effect of foreign direct investment on trade balance. Kravis (1970) developed the base theory to explain the role of trade on the economic growth of a country, and Blomstrom, Lipsey and Zejan (1994) examined the role of FDI on the



economic growth of a country. In both of these models, foreign direct investment and trade are assumed to be the exogenous variables with growth as the endogenous variable.

Lipsey (1991), Graham and Krugman (1991) argued that foreign direct investment has no effect on trade balance. By definition, the trade balance equals the difference between domestic investment and domestic savings. They argued that, because foreign direct investment affects neither savings nor investment, it does not affect trade balance.

On the other hand, many researchers agree that foreign direct investment has an effect on the trade balance of a country. Orr (1991) argued that the presence of foreign subsidiaries improves the trade balance. His regression analysis showed that the long-term effects of foreign-owned U.S. manufacturing are more significant in improving U.S. exports than exchange rates, relative prices, or economic growth. He found two reasons for these effects. First, the inward transfer of technology increases U.S. competitiveness in the world market. Secondly, foreign direct investment in non-traded industries evolves into competitive advantages that expand the U.S. export base.

Brothers, Werner, and Wilkinson (1996), based on Hymer's Market Imperfection Approach (1976), concluded that for developed countries there is no such relationship between FDI and trade balance, but for less developed countries there is a negative relationship between FDI and trade balance. In their research, they assumed FDI inflows as the exogenous variable and trade balance as the endogenous variable.

Marin and Schnitzer (1998) studied the importance of incentives as a determinant of international trade flows. They stated that barter, countertrade, and FDI can be seen as efficient institutions that mitigate contractual hazards, which arise in technology trade and imperfect capital markets. According to Kozul-Wright and Rowthorn (1998), at the aggregate level,

whether FDI is able to facilitate import- substitution or export promotion will depend on such factors as the technological maturity of the product as well as the extent of protectionist measures in host countries.

The general purpose of this paper is to investigate whether trade balance is an indicator of FDI. More specifically, this study is designed to address two principal research questions. First, what are the determinants of FDI in Asia? Second, is trade balance an indicator of FDI in Asia? If so, is there any effective lag effect on FDI for a specific Asian country?

## FIGURE 2

A: Host country, recipient of FDI

B: MNC

### OBJECTIVE OF A

a) Increase Economic Growth ( $\dot{Y}$ )

$$Y = C + I + G + X - IMP$$

$$\dot{Y} = \frac{dY}{dt}$$

(b) If A faces a trade balance problem, then it should try to alleviate this problem by attracting FDI toward exportable products, or toward import substitutable products by offering better incentives to B.

### OBJECTIVE OF B

(a) Increase the value (V) of the MNC

$$V = \sum_{t=1}^n \frac{(\text{Total Revenue} - \text{Total Cost})_t}{(1 + \text{Cost of Capital})^t}$$

includes risk

(b) Help A to alleviate its trade balance problem by either  
 (i) Investing in exportable products, or  
 (ii) Investing in import substitutable products

(c) Use this leverage with A to negotiate better incentives/ contracts to increase MNC's Value (V)

This research will contribute significantly to the development (as shown in Figure 2) of a general theory of foreign direct investment by providing the host country (recipient of FDI) an

explanation to attract foreign direct investment either towards exportable products or towards import substitutable products by offering a better incentive package to MNCs, and simultaneously provide the MNCs' leverage to negotiate a better incentive package from the host country to alleviate their trade balance problem.

## METHODOLOGY

A linear multiple regression approach has been applied in this research with FDI (F) as the dependent variable. There are four explanatory variables which are (1) Real GDP growth rate, (2) Trade Balance, (3) Percentage changes in real wage, and (4) Average tax rate. The estimating regression model is specified as follows:

$$F = \beta_1 + \beta_2 Y + \beta_3 B + \beta_4 W + \beta_5 T + u \quad (1)$$

Where: F = Foreign direct investment, B = Trade balance, Y = GDP growth rate, W = Changes in real wages T = Average tax rate, and u = Stochastic term.

$\beta_1$  is the intercept term, and it shows the average effect on FDI (F) of all the variables excluded from the model.  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ , and  $\beta_5$  are the corresponding partial regression coefficients. The expected values of  $\beta$ 's are:  $\beta_2 > 0$ ,  $\beta_3 < 0$ ,  $\beta_4 < 0$ , and  $\beta_5 < 0$ . All explanatory variables were individually tested by t-tests, and F-test was conducted for the overall validity of the function.

This research has investigated whether trade balance (B), the explanatory variable, is an indicator of foreign direct investment (F) for MNCs in Asia. If so, whether these have any lag effect on foreign direct investment. In order to test it, we started by using an infinite distributed - lag model as shown in equation (2):

$$F_t = \beta + \alpha_0 B_t + \alpha_1 B_{t-1} + \dots + u_t \quad (2)$$

The question is how do we estimate  $\alpha$ 's and  $\beta$ ? There are two approaches to deal with this problem. The first is an ad hoc estimation, and the second is the Koyck transformation. Koyck (1954) has proposed an ingenious method of estimating distributed-lag models. It basically controls the number of parameters, and as a result, the number of lags. Based on Koyck transformation equation (3) has been developed.

$$F_t = (1-\lambda)\beta + \alpha_0 B_t + \lambda F_{t-1} + V_t \quad (3)$$

Where:  $V_t = u_t - \lambda u_{t-1}$ , which is a moving average of  $u_t$  and  $u_{t-1}$ .

This research estimates equation (3) with time series data of 6 sampled Asian countries to determine the distributed-lag model for foreign direct investment (F) of these countries.

The first purpose of this research is to identify the determinants of FDI to Asia. If trade balance is a determinant of FDI, then a test is needed to see whether trade balance and single period lag of FDI have significant influence on the current level of FDI. Therefore, there are two regression models in this research as shown in equation (4) and equation (5).

$$F = f(Y, B, W, T) \quad (4)$$

where:  $F$  = monetary size of FDI inflow into the host country,  $B$  = trade balance in U.S. dollars,  $Y$  = real GDP growth rate in percentage,  $W$  = percentage change in real wage,  $T$  = average tax rate in percentage.

$$F_t = f(B_t, F_{t-1}) \quad (5)$$

Where:  $F_t$  = monetary size of FDI inflow into the host country in period  $t$ ,  $B_t$  = trade balance in U.S. dollars in period  $t$ ,  $F_{t-1}$  = monetary size of FDI inflow into the host country in period  $t-1$ .

A two-tailed F-test at 90 percent confidence level ( $\alpha = 0.10$ ) is used to test the significance of all four independent variables together on FDI as shown in equation (1).

Hypothesis:  $\beta_Y \neq \beta_B \neq \beta_W \neq \beta_T \neq 0$

where:  $\beta_Y$  = regression coefficient of real GDP growth rate,  $\beta_B$  = regression coefficient of trade balance,  $\beta_W$  = regression coefficient of changes in real wage,  $\beta_T$  = regression coefficient of average tax rate.

In this study, a two-tailed t-test at various levels of confidence, starting with 90 percent ( $\alpha = 0.10$ ) to 75 percent ( $\alpha = 0.25$ ) confidence level is used to test individually the significance of each of the four independent variables on the FDI of each of the 8 sampled Asian countries.

**Hypothesis 1:** real GDP growth rate has significant impact on the monetary size of FDI inflow.

**Hypothesis 2:** trade balance in U.S. dollars has significant impact on the monetary size of FDI inflow into the host country.

**Hypothesis 3:** percentage changes in real wage have significant impact on the monetary size of FDI inflow into the host country.

**Hypothesis 4:** average tax rate has significant impact on the monetary size of FDI inflow into the host country.

Based on Koyck Distributed lag model, a two-tailed t-test at various confidence levels, starting with 90 percent ( $\alpha = 0.10$ ) confidence level to 80 percent ( $\alpha = 0.20$ ) confidence level, is used to test the statistical significance of trade balance (B) and one period lag monetary size of FDI as indicated in equation (3).

In this study, out of total 8 sampled Asian countries selected in the first phase of this study, only 6 countries were selected in the second phase of the study because they showed statistical significance of trade balance on FDI

**Hypothesis 5:** trade balance in U.S. dollars has negative relationship with monetary size of FDI inflow into the host country, that is, trade balance in U.S. dollars has significant impact on the monetary size of FDI inflow into the host country.

**Hypothesis 6:** one period lag monetary size of FDI has positive relationship with monetary size of FDI inflow into the host country, that is, one period lag monetary size of FDI has significant impact on the monetary size of FDI inflow into the host country.

#### DATA ANALYSIS AND INTERPRETATION

On analyzing Table 2, it can be stated with 90 percent confidence that for an overwhelming number (87.5 per cent) of sampled Asian countries the four explanatory variables of the model have significant impact on the monetary size of FDI of those countries. On the other hand, for Japan the explanatory variables are statistically significant only at or below a low of 75 percent confidence level.

**Table 2**

F – Calculated values

| Countries   | 4 variables | 3 variables | R <sup>2</sup> |
|-------------|-------------|-------------|----------------|
| China       | 26.1        |             | 0.954          |
| India       | 21.502      |             | 0.945          |
| Japan       | 1.838       | 2.865       | 0.595          |
| Malaysia    | 3.529       |             | 0.738          |
| South Korea | 5.607       |             | 0.818          |
| Sri Lanka   | 10.407      |             | 0.893          |
| Thailand    | 23.256      |             | 0.949          |
| Vietnam     | 22.115      |             | 0.947          |

On examining the coefficient of determination ( $R^2$ ) of the 8 sampled countries as shown in Table 2, it ranges from a low of 59.5 percent for Japan to a high of 95.4 percent for China. For China, 95.4 percent of the changes in FDI into that country can be explained by the four explanatory variables (Y, B, W, T). On the other hand, for Japan, only 59.5 percent of the changes in FDI into that country can be explained by the four explanatory variables. Further, Table 2 also shows that out of 8 sampled countries, 4 countries (China, India, Thailand and Vietnam) have  $R^2$  in the mid-nineties, South Korea and Sri Lanka have  $R^2$  in the low to upper eighties, and Malaysia has  $R^2$  in the seventies.

In this study a two-tailed t-test at various levels of confidence, starting with 90 percent ( $\alpha = 0.10$ ) to 75 percent ( $\alpha = 0.25$ ) confidence level is used to test individually the significance of each of the four explanatory variables on the FDI of each country.

**Table 3**

Significant Variables (with 4 variables)

| Countries   | $t(\alpha=.10)$ | $t(\alpha=.15)$ | $t(\alpha=.20)$ | $t(\alpha=.25)$ |
|-------------|-----------------|-----------------|-----------------|-----------------|
| China       | T, B, W, Y      |                 |                 |                 |
| India       | Y, B, W         |                 |                 |                 |
| Japan       |                 | W               |                 |                 |
| Malaysia    | W, B, Y         |                 |                 |                 |
| South Korea | W, T            | Y               | B               |                 |
| Sri Lanka   | T, B, W, Y      |                 |                 |                 |
| Thailand    | T,B             |                 |                 | Y               |
| Vietnam     | T, B            |                 |                 |                 |

On examining Table 3, it can be stated with 90 percent confidence that for 6 sampled countries out of a sample of 8 countries, trade balance have significant impact on the monetary size of FDI of those countries. In addition, for 1 sample country, trade balance is statistically significant at or greater than 75 percent confidence level.

Table 3 shows that, for 4 countries (China, India, Malaysia and Sri Lanka) the GDP growth rate is statistically significant at 90 percent confidence level. In other words, it can be stated with 90 percent confidence, that GDP growth rate has significant impact on the monetary size of FDI inflow into China, India, Malaysia and Sri Lanka. According to Yang, Groenewold, and Tcha (2000), GDP growth rate is viewed as the measure for future potential of the host country's economic development or the growth of the market size.

Based on Table 3, for 5 countries, percentage change in real wages is statistically significant at 90 percent confidence level, and it is also an important indicator of FDI for Asian countries. Further, based on Table 4, for 6 countries out of a sample of 8, the results show there is negative relationship between percentage change in real wages and FDI. As mentioned earlier, the wage variable should have a negative sign ( $\beta_3 < 0$  or  $\beta_w < 0$ ); that is, if percentage change in real wage increases for a country, then it becomes less attractive for MNCs to invest there. Moreover, Table 4 shows that 2 sampled countries have a positive relationship with FDI –

Table 4

Results of Percentage Change in Real Wages and FDI

| <b>Region</b> | <b>Positive</b> | <b>Negative</b> | <b>Total</b> |
|---------------|-----------------|-----------------|--------------|
| Asia          | 2               | 6               | 8            |



which is contrary to the argument that inflow of FDI is partly a response to lower host country wage costs. According to Lucas (1993) one possible explanation for this unexpected sign is that it simply reflects the factor substitution effect. While higher wage costs make production in the host country less attractive than elsewhere, they may also result in a substitution of capital for labor, thus increasing FDI into those countries.

Based on Table 3, it can be stated with 90 percent confidence that for 5 sampled countries the average tax rate has significant impact on the monetary size of FDI of those countries. Moreover, Table 3 also indicates that for China, India, Malaysia, South Korea and Sri Lanka, percentage change in real wages, and for China, South Korea, Sri Lanka, Thailand and Vietnam, the average tax rates are statistically significant at 90 percent confidence level. In other words, it can be stated with 90 percent confidence that percentage changes in real wage for China, India, Malaysia, South Korea, and Sri Lanka have significant impact on the monetary size of FDI inflow into those countries. Similarly, it can be stated with 90 percent confidence the average tax rate for China, South Korea, Sri Lanka, Thailand, and Vietnam have significant impact on the monetary size of FDI inflow into those countries.

From Table 3 it can be noted that for Japan percentage changes in real wage and for South Korea GDP growth rate are statistically significant only at 85 percent confidence level. On the other hand, it can be stated with 80 percent confidence, trade balance for South Korea has a significant impact on the monetary size of FDI inflow into that country. However, for Thailand the GDP growth rate is statistically significant only at 75 percent confidence level. In other words, it can be stated with 75 percent confidence, that GDP growth rate for Thailand has significant impact on the monetary size of FDI inflow into that country.

Based on Koyck Distributed lag model, a two-tailed t-test at various confidence levels, starting with 90 percent ( $\alpha = 0.10$ ) confidence level to 80 percent ( $\alpha = 0.20$ ) confidence level, is used to test the statistical significance of trade balance (B) and one period lag monetary size of FDI as indicated in equation (2).

**Table 5**

Significant Variables (with B, FL)

| Countries   | t( $\alpha=.10$ ) | t( $\alpha=.15$ ) | t( $\alpha=.20$ ) |
|-------------|-------------------|-------------------|-------------------|
| China       | B, FL             |                   |                   |
| India       |                   | B                 | FL                |
| Malaysia    | B                 |                   |                   |
| South Korea | FL                |                   | B                 |
| Sri Lanka   | B                 |                   |                   |
| Thailand    | B                 |                   |                   |
| Vietnam     | B                 |                   |                   |

It can be stated from the results in Tables 5, with 90 percent confidence that for 5 countries out of a sample of 7, trade balance has significant impact on the monetary size of FDI of those countries. In addition, it also shows that for all 7 sampled countries trade balance is statistically significant at or greater than 80 percent confidence level. In other words, it can be stated with at least 80 percent confidence level that trade balance has significant impact on the monetary size of FDI of those Asian countries. In addition, Table 5 shows that for 2 countries one period lag monetary size of FDI is statistically significant at 90 percent confidence level.

Further, it can be stated with at least 80 percent confidence that for 3 sampled countries one period lag monetary size of FDI has significant impact on the current period FDI.

Based on this data, the multiple regression results, as shown in Table 5, indicate that trade balance is statistically significant at 90 percent confidence level for 5 countries (China, Malaysia, Sri Lanka, Thailand and Vietnam). In other words, it can be stated with 90 percent confidence that trade balance has significant impact on the monetary size of FDI inflow into China, Malaysia, Sri Lanka, Thailand and Vietnam. On the other hand, trade balance is statistically significant at 85 percent confidence level for India, and for South Korea it is significant only at 80 percent confidence level.

The results also indicate that for China and South Korea one period lag FDI is statistically significant at 90 percent confidence level, but for India, one period lag FDI is statistically significant only at 80 percent confidence level.

## CONCLUSION

As mentioned earlier, one of the major economic goals of a country, irrespective of being classified developed, less developed, or a newly industrialized country, is to achieve higher economic growth. The growth of Gross Domestic Product is one of the indicators that is used in this research to measure economic development of a country. As mentioned earlier, GDP growth rate not only measures the economic development of a country, but it is also viewed as the measure for future potential of the host country's growth of its market size. If a particular country faces a trade balance problem then, based on the empirical findings of this study, that country can alleviate this problem by attracting MNCs to invest (FDI) in either exportable products or towards import substitutable products by offering better incentives to the MNCs. On the other

hand, one of the major objectives of an MNC is to maximize shareholders wealth, which in turn depends on the value of MNC. Based on the empirical findings of this study, an MNC, by investing (FDI) in either exportable or import substitutable products of countries that are facing trade balance problems, will be in a stronger position to negotiate better incentives from the host countries which in turn will enhance the MNCs value.

Based on annualized time series data from 1989 through 1998, the results indicate that for overwhelming number (87.5 per cent) of sampled Asian countries significant statistical correlation exists between the four explanatory variables (GDP growth rate, trade balance, percentage change in real wages, and the average tax rate) and the monetary size of FDI.

For majority of sampled Asian countries the coefficient of trade balance is statistically significant, and for only 2 sampled Asian countries, the study indicate significant statistical correlation exists between one period lag monetary size of FDI and the current period FDI.

Based on the empirical findings, an MNC, by investing (FDI) in either exportable or import substitutable products of countries that are facing trade balance problems, will be in a stronger position to negotiate better incentives from the host country which in turn will enhance the MNCs value. This study has also shown that an MNC, which is looking for a location of its FDI, will be better off by investing in the sampled Asian countries that are facing trade balance problems and simultaneously are the recipient of FDI.

#### LIMITATIONS OF THE STUDY

Some care is required in generalizing these results, because in the time series regression model, we have used four explanatory variables; so there is a possibility of specification bias, and the presence of autocorrelation due to the exclusion of some variable.

Further, this study is based on an annualized time series data for only 10 years with four explanatory variables for 8 sampled countries. As a result, the testing is done only at 5 degrees of freedom. The result can be made more robust by adding more countries and years to the data set; doing so will increase the degrees of freedom.

## REFERENCES

- Aliber, R. Z. (1970). A theory of foreign direct investment. In C. P. Kindleberger (Ed.), The International Corporation,(pp.17-34). Cambridge, MA: MIT Press.
- Blomstrom, M., Lipsey, R. E., and Zejan, M. (1994). What explains the growth of developing countries. National Bureau of Economic Research, Reprint No. 1924.
- Brouthers, L. E., Werner, S., and Wilkinson, T. J. (1996). The aggregate impact of firms' FDI strategies on the trade balances of host countries. Journal of International Business Studies 27 (2), Second Quarter.
- Buckley, P. (1988, Summer). The limits of explanation: Testing the internalization theory of multinational enterprises. Journal of International Business Studies, 181-193.
- Buckley, P.J., and Casson, M. (1976). The Future of the Multinational Enterprise. London: Macmillan.
- Domar, E. D. (1957). Essays in the Theory of Economic Growth. New York: Oxford University Press.
- Dunning, J. H. (1977). Trade, location of economic activity and the MNE: a search for an eclectic approach. In B. Ohlin, P. Hasselborn & P. M. Wijkaran (Eds.)
- Dunning, J. H. (1979, November). Explaining changing patterns of international production: In deference of the Encarnation, D. J. (1998, Summer). Foreign direct investment: the key to Asia's future economic growth? Brookings Review 16 (3), 26-29.
- Graham, E. M., and Krugman, P. R. (1991). Foreign direct investment in the United States, (2nd Ed.). Washington D.C: Institute for International Economics.
- Gregorio, J. D., and Lee, J. W. (1998, June). How does foreign direct investment affect economic growth? Journal of International Economics 45 (1), 115-135.
- Grosse, R.,and Behrman, J. N. (1992). Theory in international business. Transnational Corporations I (1), 93-126.
- Harrod, R. F. (1948). Towards a Dynamic Economics. London: MacMillan.
- Hassan, M. (2000). Trade balances, economic growth and linkages to multinational foreign direct investment. Unpublished D.B.A. Dissertation, Wayne Huizenga Graduate School of Business and Entrepreneurship, Nova Southeastern University, Fort Lauderdale, Florida.
- Helliwell, J., and Chung, A. (1992, January). Convergence and growth linkages between north and south. National Bureau of Economic Research, Working Paper No. 3948.

Hennart, J. F. (1982). A Theory of Multinational Enterprise. Ann Arbor: University of Michigan Press.

Hooley, G., Shipley, D., Fahy, J., Cox, t., Beracs, J., and Kolos, K. (1996). Foreign direct investment in Hungary: resource acquisition and domestic competitive advantage. Journal of International Business Studies 27 (4), 683-710.

Hymer, S. H. (1960). The international operations of national firms: a study of direct foreign investment (Ph.D. dissertation). Cambridge, MA: MIT (published in 1976 by MIT Press).

Kojima, K. (1973). A macroeconomic approach to foreign direct investment. Hitotsubashi Journal of Economics 14 (1), 1-21.

Kojima, K., and Ozawa, T. (1985). Toward a theory of industrial restructuring and dynamic comparative advantage. Hitotsubashi Journal of Economics 26 (2), 135-145.

Kozul-Wright, and Rowthorn, R. (1998, Summer). Spoilt for choice: multinational corporations and the geography of international production. Oxford Review of Economic Policy 14 (2),74-92.

Koyck, L. M. (1954). Distributed Lags and Investment Analysis. Amsterdam, North: Holland Publishing Company.

Kravis, I. B. (1970, December). Trade as a handmaiden of growth: similarities between the nineteenth and twentieth centuries. Economic Journal, 850-872.

Lipsey, R. (1991, July). Foreign direct investment in the United States and the U. S. Trade. The Annals of the American Academy of Political and Social Science.

Lucas, R.B. (1993). On the determinants of foreign direct investment: evidence from east and southeast Asia. World Development 21, 391-406.

Mankiw, G., Romer, D., and Weil, D. (1992, January). A contribution to the empiric of Economic growth. Quarterly Journal of Economics, 407-437.

Marin, D., and Schnitzer, M. (1998, May). Economic incentives and international trade. European Economic Review 42 (3-5), 705-716.

Mutinelli, M., and Piscitello, L. (1998, September). The entry mode choice of MNEs: an evolutionary approach. Research Policy 27 (5), 491-506.

Nurkse, R. (1952, May). Some international aspects of the problem of economic development. The American Economic Review.

Orr, B. (1991). Competing with Japanese banks. ABA Banking Journal, September.

Ozawa, T. (1979). International investment and industrial structure: new theoretical implications from the Japanese experience. Oxford Economic Papers 31, 72-92.

Robins, F. (2000). Asia's 1997 crash: its character, causes and consequences. In Frank-Jurgen Richter (Ed.), East Asian Development Model, (pp. 17-52). London, U.K.:Macmillan Press.

Rodríguez-Clare, A.(1996, September). Multinationals, linkages, and economic development. American Economic Review, 852-873.

Takezawa, M. (1997, April 28). Indian delay slows foreign investment. Nikkei Weekly (Japan)35 (1771), 24 -25.

Tallman, S. B. (1992). A strategic management perspective on host country structure and multinational enterprises. Journal of Management 18 (3), 455-471.

Thomsen, S., and Miyake, M. (1998, June). Recent trends in foreign direct investment. Financial Market Trends70, 95-109.

Vernon, R. (1966, May). International investment and international trade in the product cycle. Quarterly Journal of Economics, 190-207.

Wells, L. T., Jr. (1972). The Product Life Cycle and International Trade. Boston, MA: Harvard University Press.

Yang, J.Y.Y., Groenewold, N., and Tcha, M. (2000, March) The determinants of foreign direct investment in Australia. Economic Record 16, (232), 45-54.