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Location decision for foreign direct investment in ASEAN¹ countries (A TOPSIS Approach)

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Abstract:

TOPSIS² approach is applied to select the most suitable ASEAN countries for attracting FDI inflows. The proposed approach also provides a relatively simple tool for this strategic decision making problem. Within the model, ten indicators are defined as determinants of FDI inflows. By using TOPSIS method, the capacity and attraction of ASEAN countries is evaluated and given final rank for period 2000-2005. Results indicate that Singapore is the most attractive for investment among ASEAN countries while ranking of some countries have changed during these years.

Keywords:

Foreign direct investment, ASEAN, Ranking, TOPSIS.

1. Introduction:

Foreign direct investment (FDI) is an integral part of an open and effective international economic system and a major catalyst to development. FDI usually represents a long-term commitment to the host country and contributes significantly to gross fixed capital formation in developing countries.

¹ - The paper does not include Brunei Darussalam in its analysis.

² -Technique for Order Preference by Similarity to Ideal Solution

FDI flows to ASEAN³ have been increasing since 2002. This upward trend is Reflective of increasing interest and confidence of investors in investing and doing Business in the region.

Aside from the regional initiatives that have so far been formulated and carried out by ASEAN to increase FDI, each ASEAN member country continues to devote its investment climate in accordance with regionally and multilaterally accepted principles Through the new investment measures enacted individually.

These individual measures are encouraged by various regional agreements and multilateral bodies to increase the competitiveness of the region in attracting FDI. These include the improvements of the overall investment policy framework, granting of incentives, opening up of sectors for foreign investments, reduction of business cost through lowered taxation, streamlining and simplification of the investment process, and other investment facilitation measures. On the other hand Global competition in international trade poses significant challenges to companies which must rapidly respond to changing marketplace requirements so it should be necessary for firms and investors to know which ASEAN countries has more potential for investment .

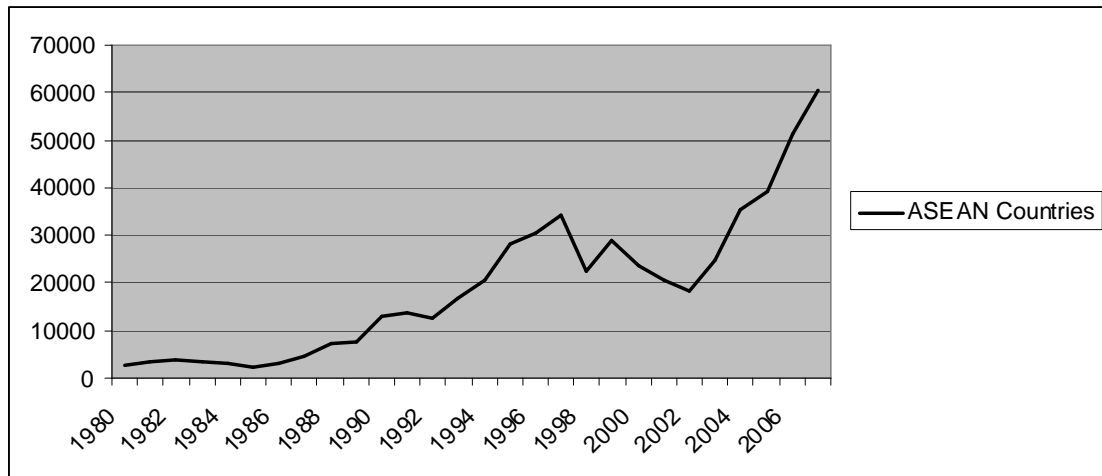
We use of TOPSIS method determine and rank the most attractive location influencing for FDI, among ASEAN countries according to main factors those are determinate FDI inflows.

³- The Association of Southeast Asian Nations (ASEAN) was formed in 1967 with the signing of the Bangkok Declaration by the five original member countries - Indonesia, Malaysia, The Philippines, Singapore, and Thailand Brunei joined in 1984; Vietnam in 1995; Laos and Myanmar/Burma in 1997; Cambodia in 1999.

2. Trends in FDI Flows in ASEAN Countries

FDI Flows to South-East Asia or the ASEAN sub region increased by 18% in 2007, to \$61 billions of US dollars – resulting in yet another year of robust FDI growth there. Nearly all ASEAN countries received higher inflows (Figure 1). Singapore, Thailand, Malaysia, Indonesia and Viet Nam, in that order, were the largest FDI recipients, together accounting for more than 90% of flows to the sub region. While FDI growth in 2007 differed considerably between countries, the newer ASEAN member countries in particular (Myanmar, Viet Nam, Cambodia and the Lao People’s Democratic Republic, in that order) recorded the strongest FDI growth, exceeding 70% in each (World Investment Report, 2008). Favorable regional economic growth, an improved investment environment, higher intraregional investments, and strengthened regional integration were key contributory factors. Reinvested earnings were particularly strong, highlighting the importance of existing investors as a source of FDI. Increased inflows in Viet Nam were the result of that country’s accession to the World Trade Organization (WTO) in 2007, as well as greater liberalization and FDI promotion efforts, particularly with respect to infrastructure FDI. There were higher FDI inflows in extractive industries in Myanmar, in telecommunications and textiles and garments manufacture in Cambodia, and in agriculture, finance and manufacturing in the Lao People’s Democratic Republic.

**Figure 1.FDI Inflows to ASEAN (1980- 2007)
(Millions US dollars)**



Source: UNCTAD (2007).

The top investors of ASEAN in 2006 were Japan, the United Kingdom, the United States of America, the Netherlands and Germany. In particular, Japanese investments into ASEAN surged 49% in 2006 after a few years of feeble growth in the early 2000s.

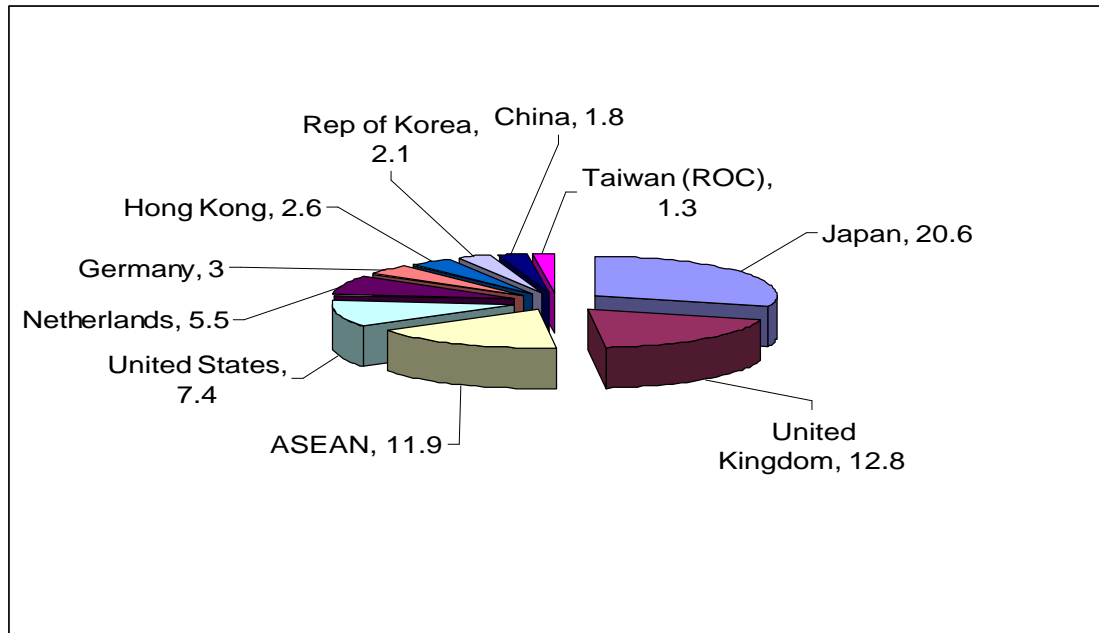
Together with the other developed countries named above, they contributed almost half of total FDI in ASEAN (ASEAN Investment Report, 2007). Table 1 shows ASEAN's top ten investors in 2004, 2005 and 2006.

**Table 1: Major Sources of FDI Flows to ASEAN, 2004- 2006.
(US \$Million, Percent)**

| 2004 | | | 2005 | | | 2006 | | |
|--------------------|---------------|------------|----------------|---------------|------------|----------------|---------------|-------------|
| Country | Value | Share | Country | Value | Share | Country | Value | Share |
| Japan | 5,732 | 16.3 | Japan | 7,235 | 17.6 | Japan | 10,803 | 20.6 |
| United Kingdom | 5,389 | 15.3 | United Kingdom | 5,634 | 13.7 | United Kingdom | 6,729 | 12.8 |
| United States | 5,232 | 14.9 | ASEAN | 3,765 | 9.2 | ASEAN | 6,242 | 11.9 |
| ASEAN | 2,804 | 8.0 | United States | 3,011 | 7.3 | United States | 3,865 | 7.4 |
| Netherlands | 2,278 | 6.5 | Netherlands | 2,075 | 5.1 | Netherlands | 2,886 | 5.5 |
| Cayman Islands | 2,029 | 5.8 | France | 976 | 2.4 | Germany | 1,580 | 3.0 |
| Germany | 963 | 2.7 | Hong Kong | 773 | 1.9 | Hong Kong | 1,353 | 2.6 |
| Rep of Korea | 806 | 2.3 | Rep of Korea | 578 | 1.4 | Rep of Korea | 1,099 | 2.1 |
| China | 732 | 2.1 | China | 502 | 1.2 | China | 937 | 1.8 |
| Bermuda | 649 | 1.8 | Germany | 478 | 1.2 | Taiwan (ROC) | 668 | 1.3 |
| ASEAN TOTAL | 35,117 | | | 41,068 | | | 52,380 | |

Source: ASEAN Investment Report (2007).

Figure 2.FDI Major Sources of FDI Flows to ASEAN in 2006.



Source: ASEAN Investment Report (2007).

Korea and China were the fastest growing sources of FDI, rising by 90% (from US\$578 million in 2005 to US\$1 billion in 2006) and 87% (from US\$502 million in 2005 to US\$937 million in 2006), respectively. This rise has occurred against the backdrop of strong economic growth in these countries and the conclusion of the ASEAN-China and ASEAN-Korea Free Trade Areas have spurred greater bilateral investments between ASEAN and China/Korea.

Intra-ASEAN investments has grown significantly over the last two years since it was draw attention to that this was an area that should be a main contributor for FDI growth for ASEAN. Last year, the ASEAN Investment Report indicated that the intra- ASEAN investments total some US\$2.2 billion amounting to a mere 5.8% of total ASEAN FDI. However, the revised and updates statistics currently shows that the intra- ASEAN investments in 2005 total US\$3.76 billion or some 9.2% of total ASEAN FDI. The top three recipients of intra-ASEAN investment, in 2006, were Thailand, Indonesia and

Singapore with a total share of 88% (US\$ 5.48 billion) FDI inflows in all three sectors rose in 2007 in ASEAN. The primary sector saw the largest increase, to \$5 billion from a little under \$2 billion in 2006, due to the significant increase in flows into agriculture and forestry, and mining (Table 2). Most of the FDI in services continued to be in trade and commerce, finance and real estate. Cross-border M&A sales contributed to the increase in FDI inflows to all three sectors. Firms from South, East and South-East Asia have been active outward investors in finance, telecommunications, extractive industries, real estate and infrastructure activities, including in manufacturing in 2007. Chinese and Indian firms were particularly active investors in extractive industries, both within and outside the region. Finance was the single largest target industry for outward investment, accounting for about 53% of the total cross-border M&A purchases made by firms from the region in 2007 (Table 2). Firms from the region have also emerged as important players in the infrastructure industries both within the region and in other developing countries (World Investment Report, 2008).

Table2. FDI inflows by Sector/industry in ASEAN, 2003-2007.
(Millions of US dollars)

| Sector/Industry | 2003 | 2004 | 2005 | 2006 | 2007 |
|---------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Primary | 4700 | 780 | 2453 | 1717 | 4988 |
| Agriculture, fisheries and forestry | 185 | 223 | 184 | 341 | 2672 |
| Mining | 4514 | 558 | 2266 | 1376 | 2316 |
| Manufacturing | 6782 | 14138 | 17137 | 16147 | 20116 |
| Services | 10613 | 17507 | 15966 | 28913 | 32175 |
| Construction | 91 | -55 | 21 | 523 | 466 |
| Trade and commerce | 3239 | 3995 | 4770 | 6836 | 10043 |
| Financial intermediation and services | 5407 | 10039 | 4606 | 12361 | 9366 |
| Real estate | 812 | 1106 | 2432 | 4154 | 6094 |
| Not elsewhere classified | 1899 | 2754 | 3602 | 4544 | 2018 |
| Total | 23993 | 35179 | 39158 | 51322 | 59296 |

Source: World Investment Report (2008).

Based on the latest published World Bank Report on Doing Business 2007 in October 2007 (see Table 3), which uses an ease of doing business index in ranking Economies, the ranking of all ASEAN countries, except Singapore (which has been ranked number 1 from number 2), Thailand (which rose from 19 to 18) and Malaysia (which maintained its ranking at 25), have declined.

Table 3. World Bank Doing Business Rankings of ASEAN Countries.

| Economy | 2006 | 2007 |
|------------|------|------|
| Singapore | 2 | 1 |
| Thailand | 19 | 18 |
| Malaysia | 25 | 25 |
| Vietnam | 98 | 104 |
| Philippine | 121 | 126 |
| Indonesia | 131 | 135 |
| Cambodia | 142 | 143 |
| Lao PDR | 147 | 159 |

Note: The World Bank Report on Doing Business does not include Brunei Darussalam and Myanmar in its analysis.

Source: World Bank Report on Doing Business (2007).

3. Literature review

-Review of host country determinants of FDI

There has already been a great deal of discussion about the factors that determine the FDI flows towards countries. The existing literature includes a large number of surveys and case studies, and a number of econometric studies, In general, they conclude that the main factors, which have driven FDI in countries here we present some of that important studies:

Root and Ahmad (1979) tested for the effect of economic, social and political variables on FDI, they found that four economic (per capita GDP, GDP growth rate, economic, economic integration, importance of transport, commerce and communication) on social (degree of urbanization) and one political (the number of constitutional changes in government leadership) variables have an effect on FDI.

Wheeler and Mody (1992) conducted an early and important study of foreign investment determinants and found that agglomeration – measured by infrastructure quality – is an important determinant while taxes are not a significant determinant.

Brewer(1993) discusses various types of government policies that can directly and indirectly affect FDI through their effects on market imperfections. It is argued that same government policy can increase and/or decrease market imperfections and thereby increase and/or decrease FDI inflows.

Borensztein et al. (1998) who carry out a cross-section empirical analysis to examine the effect of FDI on economic growth. Their results suggest that FDI is an important vehicle for the transfer of technology, contributing relatively more to output growth than domestic investment. However, the higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital. Thus, they argue that FDI contributes to economic growth only when a sufficient absorptive capability of the advanced technologies is available in the host economy.

Kumar (2001) examines 66 countries and finds that quality infrastructure plays a key role in attracting FDI. One of the important factors is the quality of hard infrastructure such as roads, power, communication etc and the soft infrastructure such as efficient bureaucracy and custom administration etc.

Lipsey (2001) studies US FDI into three regions as they experienced currency crises (Latin America in 1982, Mexico in 1994, and East Asia in 1997) and finds that FDI flows are much more stable during these crises than other flows of capital.

Globerman and Shapiro (2002) indicate that governance infrastructure is an important determinant of both FDI inflows and outflows and they show Investments in governance infrastructure not only attract capital, but also create the conditions under which domestic MNCs emerge and invest abroad.

Dunning (2002), who suggest that for FDI from large developing countries traditional economic variables remain more important. But, FDI from more advanced industrialized countries is increasingly seeking complementary knowledge intensive resources and capabilities, a supportive and transparent commercial, legal communications infrastructure, and government policies favorable to globalization, innovation and entrepreneurship. This, however, has not been empirically tested.

Blonigen (2005) has done a literature review of the empirical estimation of the FDI determinants. The paper surveys the literature that empirically examines the FDI decisions of the Multi National Enterprises (MNEs) and the resulting aggregate location of FDI across the world. The paper finds that the empirical literature is still at infancy; applying the partial equilibrium approach of a MNE's decision and analyzing the impact of exogenous factor such as taxes, exchange rates etc. on firm-level decisions. Recent literature using general equilibrium approach have not been able to capture the interconnectedness of FDI behavior with trade flows and the underlying motivation for MNEs behavior. Consequently, the paper argues that the broad generalization - such as taxes generally discourage FDI - should not be expected.

Donges (2005) has identified the following factors as the major traditional determinant of FDI viz. market size, trade related factors such as openness, wage rates, human capital, political stability, infrastructure, policy variables including the general economic fundamentals. He notes that the role and importance of these determinants are changing due to globalization, which has not received adequate attention in the literature.

As we show the literature on the determinants of MNE decisions and FDI location is quite substantial, though arguably still in its infancy. A more recent body of literature has begun to frame such MNE decisions in a general equilibrium framework and generates predictions of how fundamental country-level factors affect aggregate country-level FDI behavior. A large body of literature examining determinants of FDI begins with a partial equilibrium firm-level framework based in industrial organization and finance to motivate empirical analysis. These studies then typically examine how exogenous macroeconomic factors affect the firms FDI decision, and a small body of literature focus on governance infrastructure and MNC's strategies in host countries.

The review of host country determinants is closely linked with the role of national policies and especially the liberalization of policies, a key factor in globalization, as FDI determinants. Location- specific determinants have a crucial influence on a host country's inflow of FDI. The relative importance of different location-specific determinants depends on at least three aspects of investment: the motive for investment (e.g., resources, market or efficiency-seeking), the type of investment (e.g., services or manufacturing), and the size of the investors (small and medium MNEs or large MNEs) (UNCTAD 1998a). One of the most important traditional FDI determinants, the size of national markets, has decreased in importance. At the same time, cost differences

between locations, the quality of infrastructure, the ease of doing business and the availability of skills have become more important (UNCTAD 1996). Traditional economic determinants, such as natural resources and national market size for manufacturing products sheltered from international competition by high tariffs or quotas, still play an important role in attracting FDI by a number of developing and developed countries. For foreign investors, the host country policies on the repatriation of profits and capital and access to foreign exchange for the import of intermediaries, raw materials and technology are particularly important.

The pattern of recent FDI flows supports the conclusion that liberal policies on technology, which tend to go hand in hand with more liberal policies in general, serve to attract more and better foreign investments.

Table 3 lists three key determinants and factors associated with the extent and pattern of FDI in developing host countries: attractiveness of the economic conditions in host countries; the policy framework towards the private sector, trade and industry, and FDI and its implementation by host governments; and the investment strategies of MNEs.

Table 4. Key Determinants and Factors for FDI Inflow.

| | | |
|------------------------------|---|---|
| Economic conditions | • Markets | Size; income levels; urbanization; stability and growth prospects; access to regional markets; distribution and demand patterns. |
| | • Resources | Natural resources; location. |
| | • Competitiveness | Labour availability, cost, skills, trainability; managerial technical skills; access to inputs; physical infrastructure; supplier base; technology support. |
| Host country policies | • Macro policies | Management of crucial macro variables; ease of remittance; access to foreign exchange. |
| | • Private sector | Promotion of private ownership; clear and stable policies; easy entry/exit policies; efficient financial markets; other support. |
| | • Trade and industry | Trade strategy; regional integration and access to markets; ownership controls; competition policies; support for SMEs. |
| | • FDI policies | Ease of entry; ownership, incentives; access to inputs; transparent and stable policies. |
| MNE strategies | • Risk perception | Perceptions of country risk, based on political factors, macro management, labour markets, policy stability. |
| | • Location, sourcing, integration transfer. | Company strategies on location, sourcing of products/inputs, integration of affiliates, strategic alliances, training, technology |

Source: Lall (1997).

-Investors' choice of location:

Firms face many options when they extend operations abroad: FDI, exporting, licensing or entering into a joint venture or strategic alliance. Traditional theories of international business cite the advantages of ownership, location and internalization – widely known as the OLI Paradigm, as described by Dunning in 1993 – to explain why multinational enterprises (MNEs) choose FDI. Ownership advantages are those assets of a firm that allow it to compete successfully in overseas markets, despite having less knowledge of the local market than do local firms, and despite the costs of setting up a foreign affiliate. Ownership advantages usually include superior technology and management knowledge. Location advantages are those benefits that a host country can offer a firm: large markets,

low labour or production costs or both, and a good infrastructure. Internalisation advantages refer to transaction costs, and occur when it is cheaper to exploit ownership and location advantages through FDI than it is to export. While ownership and internalization advantages vary by the investor, the location advantage is specific to the host country. However, this latter advantage may have gained importance in investors' decision-making process as host countries compete increasingly to attract FDI:

A) Host countries' enabling environment

There is a vast literature on the location advantages of FDI. UNCTAD, the United Nations Conference on Trade and Development, in 1998 presented the main ideas now found systematically in this literature by categorising the location determinants of FDI into three main groups: economic determinants; the host country policy framework for FDI; and business facilitation. Lee and Houde (2000) discuss the six main location advantages of countries, along with the characteristics of the FDI flows they might attract. These advantages consist of:

Market size and growth prospects, Natural and human resource endowments –Including the cost and productivity of labour, Physical, financial and technological infrastructure, Openness to international trade and access to international markets, the regulatory and policy framework and policy coherence.

B) Factors driving investment decisions

The above factors make certain groups of countries more or less likely to attract FDI. However, actual investment decisions by MNEs are driven by more complex strategic considerations, including the nature of the concrete gains that investors expect from relocating abroad as opposed to investing in their home economy. At its most general,

integrated international production involves the allocation of any component in the value-chain of an MNE to the locus where it contributes the most to profitability. Some of the most important “motivation factors” underlying FDI are listed below (for an alternative breakdown, see UNCTAD, 1999):

Resource-seeking FDI, Natural resources, Human resources, Market-seeking FDI, Efficiency-seeking FDI AND Strategic asset-seeking FDI.

4. Methodology (The TOPSIS Method):

TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) TOPSIS, developed by Hwang and Yoon (1981), was based on the concept that the selected best alternative should have the shortest distance from the ideal solution and the farthest distance from the negative-ideal solution in a geometrical (Euclidean) sense. In other words, the ideal alternative has the best level for all attributes considered, whereas the negative ideal is the one with all the worst attributes value. A TOPSIS solution is defined as the alternative that is simultaneously farthest from the negative ideal and closest to the ideal alternative. The TOPSIS has two main advantages: its mathematical simplicity and very large flexibility in the definition of the choice set. When solving real-life problems, or representing real world phenomena, linguistic variable usually appears to be an important output of the process (Hsu et al, 2009). The fuzzy set theory has been applied to the field of management science; however, it is scarcely used in the field of Economics. Thus, this study includes a fuzzy multiple-criteria decision-making process provides a coherent process for incorporating subjective views into an explicit decision process.

The TOPSIS method evaluates the following decision matrix(Kandakoglu et al,2009):

$$P = \begin{matrix} & C_1 & C_2 & C_3 & \dots & C_n \\ \begin{matrix} A_1 \\ A_2 \\ A_3 \\ \cdot \\ \cdot \\ \cdot \\ A_n \end{matrix} & \begin{bmatrix} x_{11} & x_{12} & x_{13} & \dots & x_{1n} \\ x_{21} & x_{22} & x_{23} & \dots & x_{2n} \\ x_{31} & x_{32} & x_{33} & \dots & x_{3n} \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ x_{m1} & x_{m2} & x_{m3} & \dots & x_{mn} \end{bmatrix} \end{matrix}$$

where A_i is the i th alternative, C_j is the j th criterion, and x_{ij} is the performance measure of the i th alternative in terms of the j th criterion. Then the TOPSIS method consists of the following steps (which are adaptations of the corresponding steps of the ELECTRE method).

Step 1: Calculate the weights of the evaluation criteria. To find the relative normalized weight of each criterion, first of all, the geometric mean of i th row in the pair-wise comparison matrix is calculated by:

$$GM_i = \sqrt[n]{\prod_{j=1}^n X_{ij}} \quad i=1,2,\dots,m \quad (1)$$

Then, geometric means of the rows in the comparison matrix are normalized as:

$$W_i = GM_i / \sum_{i=1}^m GM_i \quad i=1,2,\dots,m \quad (2)$$

Where w_i is the weight of criterion C_i , $\sum_{i=1}^n w_i = 1$ and $W=[w_1, w_2, \dots, w_n]$ be the criteria weight vector.

Step 2: Construct the normalized decision matrix. This step converts the various attribute dimensions into nondimensional attributes. As in the ELECTRE method. An element r_{ij} of the normalized decision matrix R is calculated as follows:

$$R_{ij} = \frac{x_{ij}}{\sum_{i=1}^m x_{ij}^2}, \quad i=1, 2, \dots, m; \quad j=1, 2, \dots, n \quad (3)$$

Where $N = [R_{ij}]_{m \times n}$ (4)

Step 3: Calculate the weighted normalized decision matrix (V). The weighted normalized value v_{ij} is calculated as:

$$V_{ij} = w_j r_{ij}, \quad i=1, 2, \dots, m; j=1, 2, \dots, n \quad (5)$$

Where $V = [v_{ij}]_{m \times n}$ (6)

Step 4: Identify the positive ideal solution and negative ideal solution.

$$\bar{A} = \{V_1^*, V_2^*, \dots, V_n^*\} = \{(\max_j v_{ij} \mid i \in I'), (\min_j v_{ij} \mid i \in I'')\}$$

$$\underline{A} = \{V_1^-, V_2^-, \dots, V_n^-\} = \{(\min_j v_{ij} \mid i \in I'), (\max_j v_{ij} \mid i \in I'')\}$$

Where I' is associated with benefit criteria and I'' is associated with cost criteria.

Step 5: Calculate the separation measure. In this step the concept of the n-dimensional Euclidean distance is used to measure the separation distances of each alternative to the ideal solution and negative-ideal solution. The corresponding formulas are

$$S_i^* = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^*)^2}, \quad i=1,2,\dots,m. \quad (7)$$

$$S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2}, \quad i=1,2,\dots,m \quad (8)$$

Step 6: Calculate the relative closeness to the ideal solution. The relative closeness of the alternative A_i with respect to A^* is defines as:

$$C_i^* = \frac{S_i^-}{S_i^* + S_i^-}, \quad i=1,2,\dots,m \quad (9)$$

Where $0 \leq C_i^* \leq 1$ that is, an alternative i is closer to A^* as C_i^* approaches to 1.

Step 7: Rank the preference order. Choose an alternative with maximum C_i^* or rank alternatives according to C_i^* in descending order.

5. DATA:

According to literature review the Inward FDI Potential Index captures several factors expected to affect an economy's attractiveness to foreign investors (Economic conditions, business environment and infrastructures in host countries). Tables 5 shows the indicators those used in this study for selection of location for foreign direct investment in ASEAN countries in 2005.

Table 5. Indicators, aspect and resource.

| Indicator | Aspect | Source |
|---|--|-------------------------|
| GDP per capita | An indicator of the sophistication and breadth of local demand | WDI 2007 |
| The rate of GDP growth over the previous 15 years | A proxy for expected economic growth | WDI 2007 |
| The share of exports in GDP | To capture openness and competitiveness | WDI 2007 |
| Telephone mainlines (per 1,000 people) | As an indicator of modern information and communication infrastructure | WDI 2007 |
| Electricity production (<i>KWH</i>) per capita | For the availability of traditional infrastructure | WDI 2007 |
| Average FDI flows over the previous 10 years | A broad indicator of the attractiveness and absorptive capacity for FDI, and the investment climate. | UNCTAD |
| HDI | for aspect of human capital development | UNDP |
| ESI | Environmental Sustainability Index | Yale University |
| Overall Index of economic freedom | Overall Economic Stability and Political Stability | The Heritage Foundation |
| School enrollment, tertiary (% gross) | Indicating the availability of high-level skills and Human capital | WDI 2007 |

6. Results and conclusion:

The result of TOPSIS method for ranking ASEAN countries in terms of attraction and capacity for foreign direct investment is shown in Tables 6. According to the results, the first ranking among ASEAN countries is belong to Singapore, second country is Malaysia and third country is Thailand .On the other hand distance the calculated index (C_i^*) for Singapore as a first ranking with second rank is around twice time . That indicated the potential of investment environment in Singapore is more attractive than the rest of ASEAN countries.

Table 6. ASEAN Countries Ranking According to Results of TOPSIS Method, 2005.

| RANK | COUNTRY | C_i^* |
|------|-------------|----------|
| 1 | Singapore | 0.965399 |
| 2 | Malaysia | 0.335932 |
| 3 | Thailand | 0.293326 |
| 4 | Vietnam | 0.192142 |
| 5 | Philippines | 0.13788 |
| 6 | Cambodia | 0.110639 |
| 7 | Indonesia | 0.104745 |
| 8 | Myanmar | 0.081408 |
| 9 | Lao PDR | 0.062537 |

Table 7 is shown ranking of ASEAN countries with performance in FDI inflows comparing potential and attraction 2005:

Table 7. ASEAN Countries rankings by Inward FDI Performance Index, Inward FDI Potential Index in 2005.

| Countries | Inward FDI Potential | Inward FDI Performance |
|-------------|----------------------|------------------------|
| Singapore | 1 | 1 |
| Malaysia | 2 | 4 |
| Thailand | 3 | 2 |
| Vietnam | 4 | 5 |
| Philippines | 5 | 6 |
| Cambodia | 6 | 7 |
| Indonesia | 7 | 3 |
| Myanmar | 8 | 8 |
| Lao PDR | 9 | 9 |

Table 7 shows FDI performance for Indonesia in 2005 is more than her actual potential, on the other hand, FDI performance in Malaysia less than her potential. But for other ASEAN countries, ranking according to inward FDI potential index by TOPSIS method is the same amount with their FDI performance ranking. This point indicates foreigner investors follow of potential and attraction for investment in ASEAN region. Also those indicators which we have selected for host country are significant for inward FDI and investment.

Table 8 shows Potential capacity and attraction of ASEAN countries have changed for investors during period 2000-2005:

Table 8. ASEAN Countries Ranking According to TOPSIS Method, 2000 - 2005.

| Rank of country in 2000 | Rank of country in 2005 |
|-------------------------|-------------------------|
| 1-Singapore | 1- Singapore |
| 2- Malaysia | 2- Malaysia |
| 3- Thailand | 3- Thailand |
| 4- Indonesia | 4- Vietnam |
| 5- Philippines | 5- Philippines |
| 6- Vietnam | 6- Cambodia |
| 7- Cambodia | 7- Indonesia |
| 8- Myanmar | 8- Myanmar |
| 9- Lao PDR | 9- Lao PDR |

According to Table 8, the ranking of majority ASEAN countries during period 2000-2005 (except Vietnam, Indonesia and Cambodia) is same, during that period ranking of Vietnam improved from sixth in 2000 to fourth in 2005, Cambodia improved from seventh to sixth and also the ranking of Indonesia decreased from fourth to seventh among ASEAN countries, it means attraction of Vietnam and Cambodia for FDI inflows was increased.

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