THE EFFECT OF AFTA ON FOREIGN DIRECT INVESTMENT INFLOWS TO ASEAN COUNTRIES
(The Cases of Indonesia, Malaysia, Thailand and the Philippines)

THESIS

Submitted in partial fulfillment of the requirements for

the Degree of Master of Economics

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i

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ii

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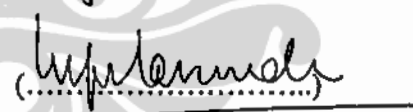
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iii

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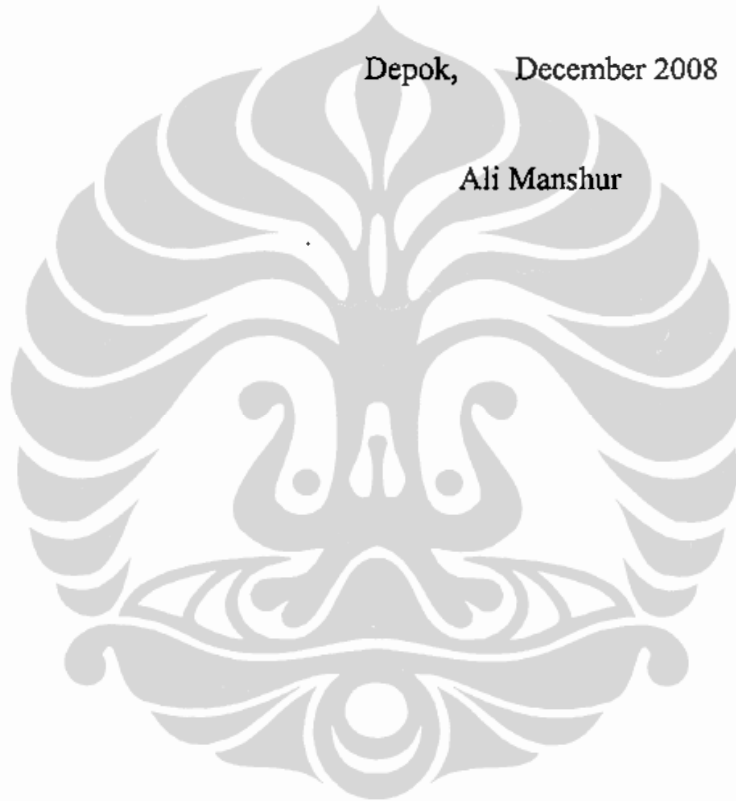
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vi

ABSTRACT

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One of the objectives of the implementation of AFTA is to enhance Foreign Direct Investment across region. The exclusive enlarged and more integrated market, as well as the discriminatory trade policy taken by outsider firm give incentive to them to change the pattern of their business from trading becomes investment. Therefore, this study, hypothetically, expected that the implementation of AFTA has positive impact on FDI inflows to ASEAN countries, especially those from non member countries. More over, the study is intended to find out other factors determining FDI inflows to ASEAN countries. To meet the objective, the study employ econometric model with pooled data analysis. Indonesia, Malaysia, Thailand and the Philippines were the object of this study that picked under some criterions such as the size of the economy, the time-frame of implementation of AFTA and the external tariff applied on. The Data being used was annually data from 1998 to 2007. After all technical process of estimating the model using Fixed Effect Method, the study was confirmed that the implementation of AFTA has given positive impact on FDI inflows to ASEAN countries, especially FDI inflows from non ASEAN member countries. It implies that AFTA has provided an incentive for outsider firm to invest inside region due to the discriminatory trade treatment they take. The study also founded that even though market size and the intensity of trade among ASEAN members are confirmed to have positive impact on FDI inflows, but the impact is likely inadequate or imbalance. This was concluded from the coefficient of those two variables and from the R-square of the estimation result of the model. We guessed that the lack of infrastructure was the one of the triggers of this problem. The study also founded that fundamental macroeconomic variable, hereby represented by interest rate differential and inflation, also confirmed to have influence on FDI inflows to ASEAN countries. Based on the conclusion of the study, we suggest to the ASEAN country's government to not to be hurry to alleviate discriminatory trade policy having imposed to non member countries and keep trying to expand product covered under AFTA. In addition, the appropriate attention of the government on the fundamental macroeconomic condition represented by setting up eligible policy is the action needed to make ASEAN to be more attractive for FDI.

Keyword: ASEAN Free Trade Area and Foreign Direct Investment.

ABSTRAK

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Judul   : Pengaruh AFTA terhadap Arus FDI Masuk ke Negara-negara ASEAN (studi kasus Indonesia, Malaysia, Thailand dan Filipina)

Salah satu tujuan dari pelaksanaan AFTA adalah untuk meningkatkan investasi masuk ke kawasan Asia Tenggara. Pasar yang semakin luas, ekskulisif dan terintegrasi, serta kebijakan perdagangan yang diskriminatif merupakan insentif bagi perusahaan diluar kawasan ASEAN untuk mengubah sistem bisnisnya dari perdagangan menjadi investasi di dalam kawasan. Berdasarkan pertimbangan tersebut, tesis ini bertujuan untuk mengklarifikasi adanya pengaruh positif dari pemberlakuan AFTA terhadap arus FDI masuk ke kawasan ASEAN terutama arus FDI masuk dari Negara-negara diluar ASEAN. Selain itu, tesis ini juga bertujuan untuk mencari tahu faktor-faktor lain yang berpengaruh terhadap arus FDI masuk ke negara-negara anggota ASEAN. Untuk menjawab permasalah penelitian, tesis ini menggunakan model ekonometri dengan analisis data panel. Indonesia, Malaysia, Thailand dan Filipina merupakan obyek dari penelitian ini dan dipilih berdasarkan beberapa kriteria seperti besar kecilnya perekonomian, waktu pelaksanaan AFTA dan tarif eksternal yang diterapkan. Data yang digunakan adalah data tahunan dari tahun 1998 sampai dengan 2007. Setelah melalui semua prosedur estimasi dengan menggonakan Metode Efek Tetap (MET), tesis ini menyimpulkan bahwa penerapan AFTA telah memberikan pengaruh positif terhadap arus FDI masuk ke kawasan ASEAN, teruma FDI masuk dari Negara diluar ASEAN. Hal ini menunjukkan bahwa penerapan AFTA telah memberikan insentif kepada perusahaan diluar kawasan ASEAN untuk merelokasi usaha mereka sebagai akibat dari diskriminasi kebijakan perdagangan yang harus mereka terima apabila tetap menjual produk dari luar kawasan ASEAN. Penelitian ini juga menemukan bahwa walaupun pangsa pasar dan intensitas perdagangan antar anggota ASEAN terbukti memiliki pengaruh positif terhadap arus FDI masuk ke kawasan ASEAN, tetapi pengaruh dari dua variabel sepertinya tidak mencukupi atau tidak seimbang. Dari koefisien pada dua variabel tersebut diketahui bahwa untuk mendapatkan FDI masuk dalam jumlah tertentu dibuthkan peningkatan pangsa pasar dan perdagangan intra ASEAN dalam jumlah yang lebih besar. Studi ini menduga bahwa infrasruktur adalah salah satu penyebab dari masalah tersebut. Selain itu, studi ini juga menemukan bahwa variabel fundamental makroekonomi yang dalam hal ini direpresentasikan oleh tingkat suku bunga dan inflasi terbukti memiliki pengaruh terhadap arus FDI masuk ke negara ASEAN walaupun arahnya adalah negatif. Berdasarkan kesimpulan yang ada, penelitian ini menyarankan kepada pemerintah negara-negara ASEAN untuk tidak terburu-buru menurunkan tarif eksternal terhadap negara diluar ASEAN dan lebih baik untuk meningkatkan komitmen dalam memperluas cakupan produk yang dimasukkan dalam kerangka AFTA. Selain itu, penerapan kebijakan ekonomi makro yang tepat harus juga menjadi perhatian untuk menjadikan kawasan ASEAN semakin menarik bagi investor.

Kata kunci : *ASEAN Free Trade Area* dan *Foreign Direct Investment*.

TABLE OF CONTENT

LIST OF TABLES AND FIGURES

CHAPTER I
INTRODUCTION

1.1. Background

The recent proliferation of regional trade agreement is considered as respond of the deadlock in WTO negotiation in achieving multilateral agreement. Each country realizes that multilateral agreement is the best way in taking maximum benefit from international trading. Nevertheless, the various interest brought into negotiation in WTO made the ultimate agreement is far away to be reached. In other hand, few countries response it by forming regional trading block which gives preferential treatment for the member and discriminates non member countries in trading inside the region. After forming the RTA, the member enjoy the wider market while the competitor from non member countries that previously played inside the region will potentially lose the market due to the discriminative treatment they run. Of course, it is not just consideration of one region merely. Other region also realizes about it and just quickly response the condition at the same way. Therefore, the proliferation of regional trading block is the condition that cannot be avoided.

Nevertheless, the existence of RTA cannot just be considered as barrier of multilateral agreement achievement. It also could be stepping stones to reach the wider trading agreement. When some WTO member country decides to form RTA, it can facilitate the negotiation in WTO due to the interest being brought to the table has pooled in just several groups. It will be easier to negotiate among several group of interest, instead has to deal with interest of each country one by one.

At 1992, ASEAN member countries - at the time it was just consisted of six major countries, i.e. Indonesia, Singapore, Malaysia, Brunei Darussalam, The Philippines and Thailand - agreed to form ASEAN Free Trade Area (AFTA). The agreement enforced member countries to alleviate tariff and non tariff barrier in trading among ASEAN countries. The core feature of AFTA was the Common Effective Preferential Tariff (CEPT), which enforce ASEAN member country to alleviate tariff on intra regional trade. CEPT scheme required that tariff levied on

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1

a wide range of products traded within the region be reduced to no more than five percent. It applied to all products from ASEAN member countries defined as those that had at least 40% ASEAN content. More than 99 percent of the products in the CEPT Inclusion List (IL) of ASEAN-6, comprising Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand, have now been brought down to the 0-5 percent tariff range. ASEAN new members including Cambodia, Lao PDR, Myanmar and Vietnam have also implemented their commitment on the CEPT scheme with 80 percent of their products having been moved into their CEPT Inclusion List. Furthermore, AFTA has also developed organs and mechanism for the settlement of disputes between member countries.

The formation of Regional Trade Agreement will obviously influence trade and investment pattern. In term of influencing trade pattern, RTA is expected to boost intra regional trade due to alleviation of trade barrier among member countries. In addition, RTA will attract Foreign Direct Investment inflows, particularly from Multinational Companies who expect to enjoy the incentive in doing business within region covered by RTA. Following the enactment of RTA, the good an asset can relatively easy to move cross borders, as a result it will reduce the cost of delivering product. This facilitation cannot be enjoyed by outsider firm due to the firm is not stay in country which has implemented the RTA. If the outsider firm tries to keep compete with a firm that exists in RTA member country, they will be potentially lost. Therefore, the outsider firm will prefer to move its production to RTA member country in order to keep its market in respected region.

AFTA as a form of RTA is also intended to attract FDI to ASEAN member countries. Facing the relentless race with China, Eastern Europe, and Mexico (resulting from the creation of NAFTA) for increasingly scarce capital, ASEAN countries agreed to form AFTA as an effort to maintain the FDI inflows. Not only the incentives offered to foreign investors throughout the region, but also the size of the ASEAN market itself is important determinants of its economic attraction. In fact, AFTA will form an exclusive enlarged market with half a billion people, instead of ten individual markets, for investors. This should undoubtedly be attractive to foreign investors who look forward to gaining the

profits from economies of scale both by producing for local consumption in the region and by manufacturing truly regional products for export to countries outside ASEAN. This potential capability to attract foreign investment was certainly one of the most compelling arguments for the creation of the ASEAN Free Trade Area.

Nevertheless, the data shows that the performance of ASEAN countries in attracting extra ASEAN FDI inflows after implementation of AFTA was remain not satisfying. Total FDI inflow to ASEAN countries at 2006 was around US$ 52 billion or grew 27 % from a year before. By looking the source of FDI, non ASEAN member countries remains dominate the FDI inflow to the region. In 2004, 92 % of FDI inflow to the region is came from outside. Nevertheless, it has changed in the next two year. The proportion of FDI inflow from outsider had going down becomes 91 % in 2005 and 88 % in 2006. The same direction is also shown when analyzing the growth of FDI inflow from internal ASEAN member countries. In 2005, internal FDI inflows grew 34.3 % from a year before, while external FDI inflows just grew 15.4 % in the same period. The condition was continued in 2006, internal FDI inflow grew even faster than that in 2005, which was 65.78 %, while FDI inflow from non member countries also grew 23.7 % but it was slower than that from inside region.[1]

By comparing the FDI inflows to ASEAN region with that to other region or economy, we can find that the performance of ASEAN region in attracting FDI relatively remains weak. In 2005 (two year after implementation of AFTA), FDI inflow to ASEAN member countries was just 4.05 % of FDI inflows to the world. It was smaller than EU as the most impressive region in attracting FDI inflows by 42.8 % of total FDI inflows to the world. Even compared with China merely, ASEAN performance also looks weaker. In same period, China had attracted FDI around 7.90 % of FDI inflows to the world.[2] This fact raises a question, is there an effect of AFTA on FDI inflows to ASEAN region, especially those from countries beyond ASEAN?

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[1] The data is taken from ASEAN Secretariat website.

[2] See Plummer and Cheong, 2007, '*FDI Effect of ASEAN Integration*", Page 3

1.2. Objectives of the Study

Based on the background above, the main objective of this research is to examine the effect of the formation of AFTA on FDI inflows from non ASEAN member states to member states. Beside, in fact, there are some other factors that can be considered as determinant of FDI inflows to particular country. Binh and Haughton (2002) formulated the model that explains about the determinant of FDI inflow, in this case they used Vietnam as observed country. On their paper, they divided the determining factors in three groups. First, clear influences factors which are represented by variable of openness and market size. The second is probable influences factors which are variables that represent the level of macroeconomic stability such as exchange rate, savings and fiscal balance. The last group is possible influences factors. This group combines qualitative and microeconomic variables such as taxes, geography, wages and policies.

Considering about that, this study also tries to examine other factors that considered as determinant of FDI inflows to ASEAN member countries. In detail, the objectives of this study are:

1. To examine the effect of AFTA on FDI inflows to ASEAN member countries from those beyond ASEAN.

2. To find out other factors influencing FDI inflows to ASEAN member countries.

3. To set policy recommendation in attracting FDI inflows to ASEAN region.

1.3. Coverage of the Study

Even though the implementation of AFTA possibly has an effect on FDI inflow to all ASEAN member countries, but this study just limits the effect only on Indonesia, Malaysia, Thailand and Philippine. The criterions being used to pick those observed countries are:

1. ASEAN original member countries. The six original member countries (Indonesia, Malaysia, Brunei, Singapore, Thailand and Philippine) benefited from regional free trade earlier than the remaining four members. Besides,

those countries have GDP, which is representation of the size of the market in particular country, relatively larger than the rest. This study assumes that the size of market is one of main considerations of a firm in investing the capital on particular country. Lim (2001) cites both survey and econometric evidence that confirms market size as the most robust determinant of FDI. Moreover, virtually all studies of FDI find a highly significant positive effect of the size of the host market on FDI inflows (see Chakrabarti, 2001; Kolstad and Tondel, 2002; Medvedev, 2006).

2. Time frame of implementation of CEPT scheme. The commitment to reduce intra regional tariff into 0-5% under CEPT scheme is not executed in the same time for all member countries. The six original member countries will run it in 2002, while Vietnam in 2006, Lao and Myanmar in 2008 and Cambodia in 2010. Due to this study uses dummy variable to analyze the determinant of FDI inflows before and after AFTA, this study will just focusing the observation on member countries who implement AFTA at the same time, which are those six original member countries.

3. Tariff discrimination between member and non member countries. This criterion is set in order to adjust the assumption that FDI inflows are driven by the intention of outsider firms to avoid tariff discrimination that they take if they operated beyond the region. If there is no tariff discrimination between member and non member countries, so there is no incentive for outsider firms to relocate their factory or business inside region.

Regarding to this criterion, Singapore and Brunei are excluded from the observation. Those countries impose non discriminative tariff for non ASEAN member countries.[3]

The data being used is begun from 1998 until 2007. The relative wide range of data is needed to get clear understanding about the condition before and

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[3] In case of Brunei Darussalam, the non discriminative tariff measure is not imposed on all sector, processed food, textile and garment sectors are still levied tariff for non ASEAN countries. See Gloria O. Pasadila, 2006, "*Agricultural Liberalization in Preferential Trading Agreement: The Case of ASEAN FTA*", Asia-Pasific Trade and Investment Review, Vol. 2, Page 131. See also Azaroon (1997).

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after the implementation of AFTA. As a notice, AFTA was officially agreed in 1992 but four member countries that observed in this study commits to execute it just in 2002 and effectively run in 2003. Therefore, this thesis will use 2003 as starting point of implementation of AFTA. In addition, the study does not limit observation on several or particular sector. The study just wants to analysis the impact in general.

Palit and Nawani (2007) said that the most conclusive theoretical justification of FDI is provided by Dunning's Ownership (O) – Location (L) – Internalization (I) framework. This theory incorporates the necessary and sufficient condition of FDI and suggests that in any given point of time presence *ownership* advantages, *location* advantages, and *internalization* advantages, are essential for undertaking FDI. Following O-L-I framework, three basic conditions need to be satisfied for FDI. First, firms should possess distinct ownership advantages enabling them to compete efficiently with local counterparts. Second, host countries must possess location advantages, which encourage foreign firms to serve local markets directly, rather than through exports. And finally, firms must have enough incentives for serving foreign markets through 'internal' networks, rather than through market-based arm's-length arrangements. Thus the O-L-I framework groups determinants of FDI into supply-side (ownership and internalization) and demand-side (location-specific) features.

Regarding to the Dunning's O-L-I framework theory, this thesis assumes that the supply side determinant of FDI is just given. It means that there are no changes in ownership and internalization advantage of firm investing in ASEAN region. This assumption also means that all targeted firms have equal capacity in term of ownership and internalization advantage. Thus, this thesis will just test the demand side determinant of FDI inflows to ASEAN countries, while the supply side determinants are assumed to be *ceteris paribus*.

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CHAPTER II
ASEAN FREE TRADE AREA

2.1. A BRIEF ON AFTA

AFTA was created under the framework of ASEAN, which is an international organization whose objective is to ensure regional integration with a view to promoting and accelerating the economic development of the South Asia region. Before the implementation of AFTA, ASEAN economic cooperation and achievement could be divided into two major phases. [4]

a. ASEAN's first ten years of existence, from 1967 to the first summit in 1976. Even though ASEAN conferences and meetings were frequently held, the only really output coming out of them was that the leaderships and high-ranking officials of member countries got to know each other and became friends. During this period, very limited of the initiatives and project for the promotion of economic cooperation were concretely implemented and followed up.

b. The second phase from 1976 until now is the period of active cooperation and the economic boom in ASEAN; during this period formal agreements for economic cooperation among member countries, focusing primarily on establishing necessary institutions for economic cooperation, were effectively implemented.

Although a number of economic cooperation projects under the frame work of ASEAN did exist, there were many elements which have constrained efforts at cooperation in the past, on account of which ASEAN member countries have been discouraged by some negative factors, as follows:

a. The most vital constraint in achieving further economic integration was the inadequacy of political will. Government leaders paid more attention to the cost effectiveness of their cooperation than the potential benefits. Government leaders gave priority to the problems of peace and stability in the region at that moment in the wake of the menace of communist invasions, believing that

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[4] Jaturon Tirawat, *"Some Salient Features of AFTA"*, Page. 4

national and regional security could be better guaranteed through collective position and policy in foreign affairs, thus leaving economic cooperation only a secondary role.

b. The similarity of production structure of ASEAN members. Their export compete each other, instead of being complementary in the same market. This is because they are blessed by relatively same endowment of resources. The skill and quality of worker also relatively similar.

c. The complicated bureaucracy both at ASEAN and at the national level consume a lot of time in approving economic cooperation under ASEAN framework.

d. The lack of compliance with the commitment to implement these projects. Initiatives were not always executed and followed up with adequate efforts, and information was not diffused to all parties in timely manner that enabled them to fully benefit from the cooperation.

e. The absence of the private sector's involvement may, perhaps, be regarded as a shortfall that, to a certain extent, constitutes a drawback in the realization of many ASEAN projects.

There are some factors that were likely to be a basic of the creation of AFTA. Thirawat divides those on two groups, which are internal and external factors. As internal Factors are:

a. Necessity to maintain the existence and survival of ASEAN at the post Cold-War era.

b. Indispensable exercise for all ASEAN countries in preserving and upholding their trade competitiveness and in adapting themselves to the new trade and environment of world trade law.

c. Usefulness for exploitation of new sources of natural resources and markets in the region.

d. The supplementary reason of its foundation, i.e. the change of policy due to the gains from the adaptation.

Meanwhile, external factors contributing the establishment of AFTA are:

a. Adverse impact of other trading blocs: trade diversion.

b. Attractiveness for foreign investment: exclusive market in ASEAN countries.

c. The need to enhance bargaining power vis-à-vis foreign countries and trading partners.

2.2. Tariff Reduction under Common Effective Preferential Tariff (CEPT) Scheme

The main instrument of AFTA is the Common Effective Preferential Tariff (CEPT). The CEPT agreement was applied for manufactured and semi-manufactured products, including capital goods and processed agricultural product, not for raw agricultural product. Product covered under the Accelerated Tariff Reduction Program (ATR), which also called the "fast-track" system, is from 15 product groups of the Harmonized System (HS) at the 6 digit level. The import tariff on these ATR products in intra-ASEAN trade has to be reduced max 5% during a period of 7 to 10 years. Separately, a "normal track scheme" was designed to bring the other product groups under the CEPT. Tariff rate for these products of more than 20 % have to be reduced to 20 % during a period of 8 % and subsequently reduced with 5 % every two years, to reach according to the original time-frame of 15 years, to max 5 % by 2008. According to the same original time frame, tariffs of 20 % or less have to be brought to max 5 % in 10 years (CEPT, art. 4.1)

The original schemes were revised as follows at the 26th Meeting of the ASEAN Economic Ministers in September 1994:

a. Normal Track

- Reduction of tariff rates above 20 % to 20 % by 1 January 1998 and subsequently from 20 % to 0 – 5 % by 1 January 2003 (Normal Track I).

- Reduction of tariff rates at or below 20 % to 0 – 5 % by 1 January 2000 (Normal Track II).

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b. Fast Track

- Reduction of tariff rates above 20 % to 0 – 5 % by 1 January 2000 (Fast Track I).

- Reduction of tariff rates at or below 20 % to 0 – 5 % by 1 January 1998 (Fast Track II).

Figure 2.1.

Tariff Reduction Schedule under CEPT Scheme
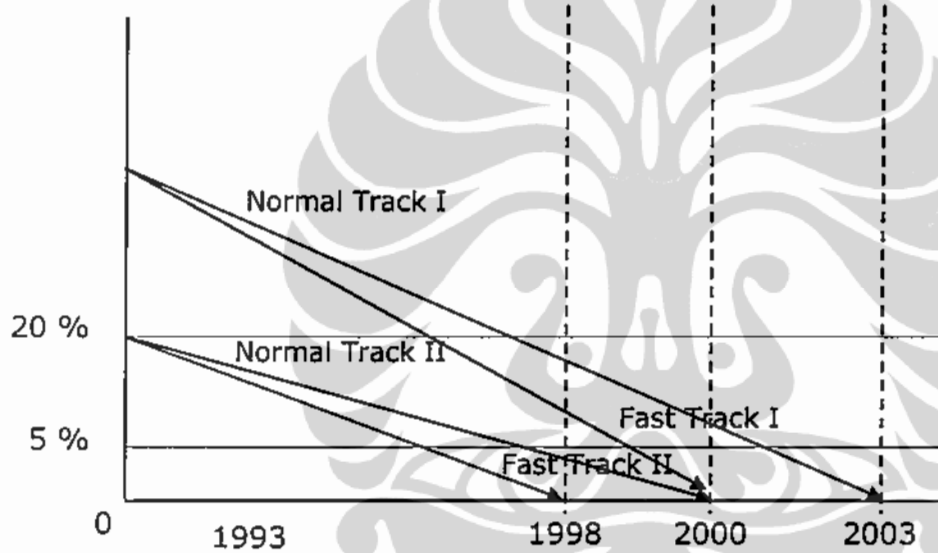
Source: Cuyvers and Pupphavesa (1996).

Table 2.1.

Averages CEPT of ASEAN Original Member Countries, 1993 – 2006

%

Country	1993	2001	2002	2006
Brunei	3,7	1,1	0,9	0,9
Indonesia	17,2	4,2	3,6	2,0
Malaysia	10,7	2,7	2,5	1,7
Philippines	12,4	4,4	4,1	3,6

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Singapore	0	0	0	0
Thailand	19,8	5,6	5,2	4,5

Source: Verico (2007)

Product Coverage under CEPT Scheme

The CEPT scheme covers products having 40 % ASEAN content (at least 40 % of its content originates from any member country). The scheme has been implemented on the basis of 4 product lists.

The Inclusion List (IL): products in the IL are those that have to undergo immediate liberalization through reduction in intra-ASEAN tariff rates, and removal of quantitative restrictions and other non-tariff barriers. Tariffs on these products should be cut to a maximum of 20 % by the year 1998, and to less than 5 % by the year 2002 (by the year 2006 or later for new members of ASEAN)

The Temporary Exclusion List (TEL): products in TEL can be shielded from trade liberalization for a temporary period. After the temporary period, all of these products would have to be transferred into the IL and begin process of tariff reduction.

The Sensitive List (SL): This list contains unprocessed agricultural products, such as rice and sugar, which are given a longer period for integration into the free trade area. The commitment to reduce tariffs to 0-5% and to remove non-tariff barriers is extended up to the year 2010 for the ASEAN-6 to meet this deadline (for Vietnam up to 2013, for Lao PDR and Myanmar up to 2015, and for Cambodia up to 2017).

The General Exception List (GEL): The products in this list are permanently excluded from the free trade area for reasons of national security, the protection of articles of cultural value and other reasons.

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Table 2.2.

Product List Covered by CEPT for 2001

Country	Inclusion List	Temporary Exclusion List	Sensitive List	General Exception List	Total
Brunei	6.284	0	6	202	6.492
Indonesia	7.190	21	4	68	7.283
Malaysia	9.654	218	83	53	10.008
Philippines	5.622	6	50	16	5.694
Singapore	5.821	0	0	38	5.859
Thailand	9.104	0	7	0	9.111
Cambodia	3.115	3.523	50	134	6.822
Laos	1.673	1.716	88	74	3.551
Myanmar	2.984	2.419	21	48	5.472
Vietnam	4.233	757	51	196	5.237
Total ASEAN	55.680	8.660	360	829	65.529
Percentage	84,74	13,40	0,55	1,28	100,00

Source: ASEAN Secretariat

2.3. Elimination of Non Tariff Barrier under AFTA Agreement

The barriers to an increase in intra-trade among ASEAN countries include quotas (or quantitative restriction), stringent standard testing procedures, customs classifications and valuation procedures, subsidy schemes for domestic producers and purchasers, local content rules and health and safety standards. They are measures that are not directly related to commercial policy but that are intentionally employed to restrict imports or to stimulate exports. In some cases, such as licensing requirements and monopoly positions of state trading companies, they have been instrumental in preventing the expansion of trade.

According to Article 5 of CEPT, ASEAN member states must eliminate NTBs on a gradual basis within a period of five years after the enjoyment of concessions applicable to their products. But this Article is too vague and is not sufficient to cope with this problem. Therefore, the ITWG (Interim Technical

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Working Group) is now charged with NTB identification and classification according to UNCTAD guidelines. Finally, at the 10th AFTA Council, it was decided that NTBs must be eliminated by 2003; custom surcharges must be eliminated by 1996; and as for technical standards, the effort of harmonization must be undertaken. The substantial ensuing developments are the simplification and harmonization of customs procedures and, specially, measures such as the harmonization of tariff nomenclature; the accelerated implementation of the WTO Valuation Agreement in the year 2000, the conclusion of a Framework Agreement on Mutual Recognition Arrangement (MRAs) in December 1998, allowing member countries to recognize one another's product standards or regulations to facilitate intra-ASEAN trade; and the conclusion of a Framework Agreement on the Facilitation of Goods in Transit also in December 1998.

2.4. ASEAN Industrial Cooperation (AICO)

Recognizing that the ever changing world economic environment continues to pose new challenges as well as provide new opportunities, ASEAN needs to adjust its program for economic cooperation. The conclusion of the Uruguay Round negotiations; the implementation of the WTO commitments by ASEAN member countries; the implementation of the CEPT Scheme for AFTA and the eventual implementation of the APEC Action Agenda on trade and investment liberalization and facilitation; has and will change the global economic landscape including ASEAN. ASEAN also realized that some of the parameters upon which its existing industrial cooperation programs were designed are no longer valid to-day.

With the view to enhancing ASEAN's industrial competitive edge and maintain the attractiveness of ASEAN as an investment region and a premier global production base, ASEAN began looking for a new form of industrial cooperation scheme to replace the ASEAN Industrial Joint Venture (AIJV) and the Brand-to-Brand Complementation (BBC) Schemes. Learning from the shortcomings of these two schemes, the new scheme will retain some of the features of the BBC and AIJV scheme but will offer more in terms of tariff and

non-tariff incentives. The new ASEAN industrial cooperation scheme shall be based on the CEPT Scheme for AFTA; promote investment from technology-based industries and enhance value added activities.

Towards this end, the new ASEAN industrial cooperation scheme has the following objectives:

1. Increased ASEAN industrial production;
2. Closer ASEAN integration;
3. Increased investments from ASEAN and non-ASEAN sources;
4. Increased intra-ASEAN trade;
5. Improved economies of scale in production and scope;
6. Enhanced technology base;
7. Internationally competitive ASEAN industries;
8. Increased private sector participation; and
9. Increased industrial complementation.

The new industrial cooperation scheme shall operate on the following principles:

1. Mutually beneficial and equitable;
2. CEPT-AFTA based;
3. Simplified and uniform application, approval and administrative procedure;
4. Private sector driven;
5. Be attractive and manageable to SMEs;
6. Offer incentives other than tariff and local content accreditation;
7. Promote resource pooling and sharing; and
8. Regionally acceptable and workable.

The AICO Scheme is the latest industrial cooperation program of ASEAN to promote joint manufacturing industrial activities between ASEAN-based companies. A minimum of two companies in two different ASEAN countries are required to form an "AICO Arrangement".

An AICO Arrangement is a cooperative arrangement consisting of a minimum of two participating companies from two different ASEAN countries. It is not a legal entity but merely an "umbrella association" under the scheme

wherein the output of the participating companies will enjoy a preferential tariff rate in the range of 0-5%. An AICO Arrangement should involve not only the physical movement of products between the participating companies and countries but also resource sharing/pooling and/or industrial complementation.

The major privilege of the new scheme is that approved AICO products, output of an AICO Arrangement, shall enjoy preferential tariff rates of 0-5% immediately upon its approval. The 0-5% tariff represents the final CEPT rate to be reached by ASEAN by year 2003. Thus with the immediate application of the 0-5% preferential tariff rate, this will provide a head start to AICO products compared to non-AICO products. Other incentives includes local content accreditation where applicable and other non-tariff incentives to be provided by the participating member countries.

Under the AICO Scheme, an approved AICO Products may be in the form of finished products, intermediate parts and components or raw materials. In any AICO Arrangement the AICO Products are categorized as AICO Final Products; AICO Intermediate Products and/or AICO Raw Materials. The AICO Final Products which represents the final output of a specific AICO Arrangement shall have unlimited access into the market of the participating countries. The AICO Intermediate Products and/or AICO Raw Materials in a specific AICO Arrangement while on the one hand can enjoy the same 0-5% preferential tariff rate, have limited market access. These products may only be imported and used as inputs in the manufacture of the approved AICO Final Products in a particular AICO Arrangement.

The AICO Scheme offers participating companies tariff privileges and other incentives. The major privilege of the new scheme is that AICO products, upon their approval shall immediately enjoy preferential tariff rates of 0-5%. Other incentives include local content accreditation where applicable, and other non-tariff incentives to be provided by the participating countries. The preferential tariff rate will also be applicable to the importation of intermediate products and/or raw material inputs for the manufacture of an AICO Final Product and/or AICO Intermediate Products.

To form an AICO Arrangement, the prospective companies must fulfill the following criteria:

a. be incorporated and operating in any ASEAN country;

b. have a minimum 30% national equity

c. Undertake resource sharing/pooling or industrial complementation or other industrial cooperation activities that are accepted by the participating country.

Although the national equity condition is imposed as a criterion, the equity condition is not as stringent as the AIJV. The AIJV requires a minimum of two ASEAN countries equity participation contributing at least 40% to the total equity of that AIJV entity and that each of the participating country must hold a minimum of 5%. Under the AICO Scheme, national equity holding of one ASEAN member country in each of the participating company is sufficient. Since two companies are required to form an AICO Arrangement, each company must have its own national equity holding.

For companies that cannot meet the equity condition, a waiver is possible if the proposing company meets other criteria imposed by the participating country in lieu of the 30% national equity. The new scheme will initially be applicable to manufacturing companies only. Enabling provisions has been incorporated in the draft agreement of AICO Scheme to expand the scheme to other sectors at a later stage. The scheme shall cover all products except those products falling under Article 9 (General Exception) of the Agreement on CEPT Scheme. The incentives under the AICO Scheme include:

a. Local content accreditation where applicable

b. Investment incentives offered by the relevant national authorities.

2.5. ASEAN Investment Area

Pursuant to the mandate of the Fifth ASEAN Summit, ASEAN Ministers signed the Framework Agreement on the ASEAN Investment Area (AIA) on 7

October 1998 in Manila. The AIA aims to make ASEAN a competitive, conducive and liberal investment area through the following measures:

a. Implementing coordinated ASEAN investment cooperation and facilitation programs;

b. Implementing a coordinated promotion program and investment awareness activities;

c. Immediate opening up of all industries for investment, with some exceptions as specified in the Temporary Exclusion List (TEL) and the Sensitive List (SL), to ASEAN investors by 2010 and to all investors by 2020;

d. Granting immediate national treatment, with some exceptions as specified in the Temporary Exclusion List (TEL) and the Sensitive List (SL), to ASEAN investors by 2010 and to all investors by 2020;

e. Actively involving the private sector in the AIA development process;

f. Promoting freer flows of capital, skilled labor, professional expertise and technology amongst the member countries;

g. Providing transparency in investment policies, rules, procedures and administrative processes;

h. Providing a more streamlined and simplified investment process; and

i. Eliminating investment barriers and liberalizing investment rules and policies in the sectors covered by agreement.

The AIA will have important implications for investment strategies and production activities in the region. For instance, the AIA will encourage investors to think increasingly in the regional terms and to adopt a regional investment strategy and network of operations. It will provide greater scope for division of labor and industrial activities across the region, creating opportunities for grater industrial efficiency and cost competitiveness. In addition, current and potential investors will benefit from the AIA arrangements in the following ways:

a. Greater investment access to industries and economic sectors as a result of the opening up of industries under the AIA arrangements, if investors qualify as ASEAN investors;

b. National treatment, if investors qualify as ASEAN investors;

c. Grater transparency, information and awareness of investment opportunities in the region;

d. More liberal and competitive investment regime; and

e. Lower transaction cost for business operations across the region.

An ASEAN is defined as being equal to a national investor in terms of the equity requirements of the member country in which the investment is made. Thus, a foreign firm with majority interest can avail itself of national treatment and investment market access privileges, in addition to the other benefits provided under the AIA agreement and other regional economic scheme.

The privileges offered by the AIA in investment market access and the granting of national treatment take immediate effect for ASEAN investors, with exception of those sectors in the list of exclusions. There are three categories of exclusions for which these privileges will not be accorded immediately: (1) Temporary Exclusion List (TEL) contains industries and investment measures that are temporarily closed to investment and not granted national treatment, but will be phased out within specified timeframes; (2) Sensitive List (SL) covers industries and investment measures that are not subject to phasing out, but will be reviewed by the AIA Council in 2003 and thereafter at subsequent interval; and (3) General Exception List (GEL) consist of industries and investment measures that cannot be opened up for investment or granted national treatment because of reasons of national security, public morals, public health or environmental protection.

Brunei Darussalam, Indonesia, Malaysia, Myanmar, The Philippines, Singapore and Thailand have until 1 January 2003 to phase out their TEL for the manufacturing sector. The newer members of ASEAN, Cambodia, Laos and Vietnam have until 1 January 2010.

A ministerial-level ASEAN Investment Area Council has been established to oversee the implementation of the Framework Agreement. The Council is assisted by the ASEAN Coordinating Committee on Investment. Three approaches will form the main pillars for establishing the ASEAN Investment Area: Cooperation and Facilitation Program shall enhance ASEAN's competitiveness and provide investors with an efficient and low-transaction cost investment environment. It includes activities aiming at facilitating investment flows, human-resource development and the upgrading of skills of ASEAN investment agencies. Promotion and Awareness Program shall promote ASEAN as single investment destination. It aims to give investors a betters understanding and awareness of the region investment opportunities. This program includes regular high-level outward ASEAN Joint Investment Promotion Missions, the creation of investment website and databases, and the publications of timely and useful investment information. Liberalization Programs shall open up investment regimes throughout the region by eliminating investment barriers, liberalizing investment rules and policies, and granting national treatment.

CHAPTER III
REGIONAL INTEGRATION AND FDI THEORIES

3.1. Regional Integration Theory

By intention to improve economic performance, a country decides to form regional economic cooperation. The formation, system and implementation of the cooperation is varied depend on politic, social and geographical condition.[5] There are three conditions that considered as a basic of total trade liberalization policy:

a. Avoiding *X-inefficiency*[6] development. Trade liberalization policy is expected to drive the rationalization process of the industry, together with the process of optimally management allocation.

b. Avoiding or minimizing macroeconomic instability which affect on the rising of what so called *stop-go macroeconomics cycle*.[7] The protection policy that followed by unrealistic exchange rate is tended to emerge *foreign exchange bottlenecks*.[8]

c. Boosting full capacity production by spreading the market through export.

Based on the theory of regional integration stages from Bella Balassa, there are six stages on regional integration process, which are[9]:

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[5] Friedrich, Klaus, 1974, International Economics, Mc Grow Hill Kagakusha Ltd, Tokyo.

[6] X-inefficiency is the additional cost or expenditure that affected by the lack of incentives or competitive pressure. It usually happens in monopolistic firms that neglect to minimize unit cost of production due to they behaved as price maker. X-inefficiency includes the cost of maintenance of excess capacity, luxurious executive benefits, political lobbying seeking protection and favorable regulations and litigation. (Khemani, R. S. and D. M. Shapiro, 1993)

[7] It is balance of payment crisis affected by government policy in boosting domestic demand that usually followed by increasing of import. (Kanaga, 2008)

[8] The classic statement of a foreign exchange bottleneck is in a simple corn-tractor model. The economy produces corn, saves and exports corn to import tractors which constitute investment and produce the corn. In this economy, let the current objective be to increase investment. This means buying more tractors from abroad. Now, if the finance minister cannot tax the economy into saving more corn, to purchase more tractors by exporting this corn, then the economy has a savings bottlenecks. However, if the economy can be coaxed or taxed into more saving, but the economy faces a unitary price elasticity of demand in the world markets of its corn, foreign exchange receipts will not increase. Tractor imports and therefore investment will not increase; we then have a transformation or foreign exchange bottleneck. (Desai and Bhagwati, 1979)

[9] Hady, Hamdy, 2001, "*Ekonomi International*" Ghalia Indonesia, Jakarta, Page 88 – 89.

1. Preferential Trade Arrangement (PTA), which is the agreement that provide preferential tariff and non-tariff to member countries on several original products. In case of ASEAN region, before the enactment of AFTA, ASEAN countries deal to reduce tariff among ASEAN member countries around 25 % - 50 % for several original product of member countries.

2. Free Trade Area (FTA), which is regional agreement in nullifying tariff and non tariff barrier among member countries. In this stage internal tariff among member would be nullified, but external tariff for non member states are regulated by each member itself. The agreement does not cover the external tariff. Now, ASEAN is on this stage, we can see that even though ASEAN member countries had decided to implement CEPT in order to nullify the internal tariff, but each member has own policy in dealing with external tariff. For instance, Singapore has nullified tariff for non ASEAN countries, but other ASEAN countries still impose discriminative tariff for non ASEAN countries.

3. Custom Union (CU), which is regional agreement that regulate about imposing zero tariff to member countries and giving the common external tariff for non member countries. In this stage, the agreement does not just cover about internal tariff, but also regulate about the common external tariff that has to be implemented by all member countries for product from non member.

4. Common Market (CM), which is regional agreement that liberates movement of production factor among member countries. For instance, European Common Market, Central American Common Market (CACM), Caribbean Community and Common Market (Caricom).

5. Economic Union (EU), which is regional cooperation that cover about common regulation on some sectors for instance tax, labor and social security.

6. Monetary Union (MU), which is the wider regional cooperation that cover about common currency for all member countries. For instance European Union who has common currency namely Euro.

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3.2.   RTA and FDI: A Theory and Evidences

Heinrich and Konan (2001) argued that Regional Trade Agreements (RTA) is inherently second-best; expanding market size and liberalizing trade between participants, but also discriminating against non-members in complicated ways. FDI tends to arise in imperfect competitive markets in order to internalize economic distortions. Caves (1996) and Markusen (2002) founded that multinational firms often exploit the services of a firm-specific, intangible asset that is non-rival in production across plants within a given firm. This asset such as a production blueprint or managerial expertise can be moved relatively easily across borders, and so such a firm will have an incentive to jump barriers to the free flow of goods and factors of production, provided the cost of setting up a subsidiary is not too high. In this way, FDI can substitute for trade as local production supplants imports, or can complement trade through an increase in intra-firm trade in intermediate inputs (Konan forthcoming).

There are now few models that explicitly look at the effects of PTAs on FDI, each more appropriate to a particular sort of PTA arrangement between FDI source and host countries. Motta and Norman (1996) employ a three-country model that highlights horizontal FDI between source countries, arising in an oligopoly environment, with all firms and countries being identical except for the formation of a customs union between two of the countries. Each country is assumed to have a single, indigenous firm which must consider the trade-off between incurring trade costs of building a new production facility. Perhaps the most significant result of this model is the investment replacement effect. Regional firms face a reduce level of internal trade distortion and so rationalize their regional FDI. Then they tend to switch their marketing focus become giving more attention to intra-regional trade as firms seek economies of scale in production. This investment is replaced by the external firm, which establishes an export platform in the region and contributes to even greater intra-regional trade than those regional firms.

In addition, Heinrich and Konan (2000) analyze integration among host economies in the context of horizontal FDI in a model featuring scale economies

and free entry, where monopolistically competitive foreign firms either export to the region, or produce within the region through multinational subsidiaries. They show in partial-equilibrium setting that FDI in the PTA may expand or contract, contingent on the extent of tariff-jumping FDI prior to integration, though prices of the good produced by the multinational always fall upon integration. They analyze a general equilibrium version with asymmetric host countries. On their final conclusion, first, they find that the level of external protection has magnifying effect. If the integrating region provides a more favorable climate for investment, then the higher the external tariff, the greater is the incentive for tariff-jumping FDI. However, if multinationals over-invested the region prior to integration, the PTA may lead to reverse tariff jumping, which is exacerbated as external tariff rates increase. Second, any increase in FDI to the region tends to favor low-tariff countries at the expense of high tariff countries, which draws resources out of other sectors and increases factor prices. Integration permits a more regionally-efficient distribution of multinationals as firms can service high-tariff members by intra-regional exports from subsidiaries in low tariff members. Third, there is no clear relationship between a country's comparative advantage relative to other PTA members and PTA-induced FDI. The PTA favors the country with a regional comparative advantage in the industrial sector as a general rule. But other factors tend to be more telling when considering the impact of the PTA on FDI inflows. Fourth, as is the case for national firms, the larger the region relative to non-member countries, the greater is the responsiveness of regional multinational activity to integration. Finally, the PTA favors small members in terms of FDI inflows as they gain improved access to large counties upon integration.

3.3. International Trade and FDI

Some studied had run to confirm the relation between trade and FDI. Most of those confirmed that the reduction of trade barrier allowing more intensive trading with PTA partner will be responded by increasing investment to the

respected countries. However it is of course depend on the capacity of the firm to expand the production and the characteristic of host country.

Blomstrom and Kokko (1997) conceptualized the two as different modes of reaching foreign markets. According to this view, FDI is attracted to protected markets, where it is cheaper to set up a subsidiary than pay the tariff required to serve the market through exports (a practice referred to as "tariff-jumping" FDI). By alleviating or eliminating tariffs between PTA members, preferential liberalization removes incentives for this type of investment. On the other hand, as long as some trade diversion takes place following the PTA's entry into force, the reduction in trade flows with non-PTA trading partners may be accompanied by increases in investment inflows. However, in line with intuition, empirical evidence suggests that tariff-jumping FDI is "transient, lasting as long as the artificial policy-induced incentives" (Balasubramanyam, 2001).

According to Medvedev (2006), more recently, studies have proposed that FDI need not to be undertaken simply to circumvent trade barrier. Instead, the literature has focused on the role of intangible assets of MNCs as major motivation of FDI. Dunning (1977) provides a conceptual framework where a MNC's decision to undertake foreign investment is guided by one or more the following motivation: ownership advantage, where a firm's ownership of a product or production process gives it market power in a foreign country, location advantage, where a firm enjoys benefits from relocating production abroad that exceed its plant-level economies of scale at home, or internalization advantage, where a firm gains more by internalizing production rather than licensing it to a foreign associate. Embedding these ideas in a general equilibrium model with endogenous MNCs, Markusen (2002) argues that "trade and investment are complement when the substitutes when the countries are similar and investment is horizontal".

Globerman (2002) builds an argument that FDI is likely to respond positively to preferential trade liberalization regardless of whether MNC production structure is vertical or horizontal. This view is based on the growing of importance of intra-industry and intra firm trade, as opposed to inter-industry

trade based on differential endowment. Regardless of whether an MNC is vertical-taking advantage of production process economies of scale- or horizontal - benefiting from product economies of scale-, the reduction of trade barrier between PTA members makes it less costly for affiliates to ship intermediate and final product each other. Thus, since MNC production structure is highly integrated, intra PTA FDI is likely to respond positively to preferential trade liberalization. At the same time, as long as external protection does not increase, extra-PTA FDI should not decline. This view has supported by some recent empirical literature, which points to the importance of openness in attracting FDI and the decline of tariff jumping as a primary motivation for FDI flows. In reviewing cross-country regressions on the determinants of FDI, Chakrabarti (2001) stated that after market size, openness to trade has been the most reliable indicator of the attractiveness of a location for FDI. Thus, there are reasons to believe that FDI and trade may be complements.

Blomstrom and Kokko (1997) point out that "a firm's capacity to undertake new FDI projects may be restricted by its administrative capability or availability of investment capital". This implies that, in addition to the possibility that intra- and extra- PTA FDI can be substitutes (an investment parallel to the standard trade creation/diversion argument), it also could be the case that within a PTA, investment will be attracted to some markets at expense of others (including the home/source country market). In particular, a more liberal intra-PTA environment may encourage a MNC to reorganize its production structure by concentrating investment in affiliates with the greatest location advantages – leading to greater FDI inflows in some PTA partners but also to outflows from others. Thus, the net change in FDI flows as a result of preferential trade liberalization could be either positive or negative, depending on the type of FDI, individual country characteristics and MNC's capacity to undertake new investment projects.

3.4. FDI and Market Size

There are some studies of FDI finding the highly significant positive of the market size of host countries on FDI inflows, such as Lim (2001), Kolstad and Tondel, 2002; Chakrabarti, 2001. To the extent that a PTA creates an extended market through closer integration of PTA partners, this channel suggest a positive relationship between PTA ands and FDI. Blomstrom and Kokko (1997) argued that this effect works through increased firm size, a larger market may allow some firms to grow beyond what they would have been able to achieve in segmented national markets, or the competitive pressures of a larger marketplace may force some firms to expand through mergers and acquisitions of former competitors. In other case, larger firms are likely to have greater R&D expenditure, leading to creation of new intangible assets that motivate more FDI. Furthermore, larger firms may simply have more capacity to participate in new FDI projects due to scale economies. Since the market size of country not party of PTA remains unchanged, the extended market FDI effect is first and foremost an intra-PTA phenomenon; however, additional extra-PTA FDI could also be generated if MNC's capacity to undertake FDI increases.

PTA extended common market effect on FDI is not automatic, and its magnitude depends on the economic and geographic proximity of the partners. Although preferential liberalization can potentially bring some FDI benefits even for distant countries, the impact is likely to be much stronger for closer-positioned partners with established economic ties. Therefore, while the sign of this effect is almost certainly positive, its relative size is likely to vary considerably across different PTAs (Medveded, 2006).

3.5. FDI and Interest Rate

Most of the study relating FDI and interest rate use interest rate as proxy of cost of capital. One of which was study being conducted by Palit and Nawani (2007) confirming that interest rate have negative impact on FDI inflows to both India and East, Southeast and South Asia countries. On the hypothetical statement, they argued that though cost of capital or domestic interest rate is

expected to influence incoming FDI, the nature of the impact is somewhat ambiguous. Theoretically, capital arbitrage should encourage capital to move to locations having higher interest rates. On the other hand, there is also the possibility of foreign investors mobilizing resources from domestic capital markets at later stages for expansion. High interest rates compared with home countries might be a discouraging factor in this regard. Empirically, there are examples of interest rates being statistically significant (Bende, Nabende et al 2000) as well as insignificant (Banga, 2003). Moreover, Wand and Swain (1995) proved that cost of capital variable is negatively correlated with FDI inflows. The finding was also supported by Petrochilos (1989), Huang (1992) and Jorgensen (1963).

Related to Palit and Nawani (2007) argument that capital arbitrage should encourage capital to move country having higher interest rate, it is important to be underlined that the kind of investment intended to seek return trough capital arbitrage is portfolio investment. However, there is other kind investment that operationally different with portfolio. FDI can not be included into definition of portfolio due to it is intended to get effective voice in management, not only seeking short return through interest rate. Based on that consideration, those two kinds of investment i.e portfolio and FDI can be considered each other as trade-off faced by investor due to before they execute to invest they have to decide first either invest in portfolio or direct investment. Considering about this, the high differentiation between home and host country interest rate (interest rate differential) hypothetically will discourage FDI inflows. This is because investor will prefer to play in money market using portfolio investment when the return on this more interesting than have to work hard building direct investment.

3.6. The Determinant of Foreign Direct Investment Inflows

Binh and Haughton (2002) argued that to isolate the effect of the RTA on foreign direct investment, it is important to control for the effects of other variable that determine the flows of FDI. They classified these as "clear influences". His survey also identifies several variables that likely (but not certainly) influence

FDI, this literature refer to these as "possible influences". Those variables as follows:

3.6.1. Clear Influences: Openness and Size⁺

The openness signals that the government has policies in place that welcome both trade and (by implication) competition and it helps reassure investor that they can repatriate their profits. Foreign investors also appear to prefer to set up in larger markets (Chakrabarti, 2001). If the firms are oriented toward the domestic market, this is in order to achieve economies of scale. Even for export oriented firms, a larger domestic economy typically provides a wider pool of labor and more potential supplier.

3.6.2. Probable Influences: Exchange Rate, Savings and Macroeconomic Stability

There is evidence that the amount of foreign investment that flows into a country depends on the country's exchange rate, saving rate and macroeconomic stability. It is widely believed that an overvalued exchange rate discourages foreign investors. Under such circumstances it would be difficult to use the country as a platform of export, since there would be strong competition from keenly priced import, and the initial investment will be expensive. Mc Millan (1998) examines the question of whether FDI substitutes for, or complements, domestically financed investment. A large FDI inflow could displace local investment; on other hand, it could increase the demand for associated investment in such activities as the provision of input and infrastructure. Based on a review of the literature, and her own work using data from Africa, she finds that higher levels of domestic investment and savings are associated with more, rather than less, FDI. It is plausible that investors appreciate macroeconomic stability, including low inflation, a discipline budget, and a sensible and reasonably stable exchange rate.

3.6.3. Possible Influences: Growth, Taxes, Geography, Wages and Policies

In attempting to model the determinant of FDI, researchers also have tried a long list of possible variables, including the following:

a. The growth rate of GDP. The more growing country is expected to attract more FDI inflows.

b. Tax incentives. The lower tax particularly for new investment project is the incentives that encourage more FDI inflows to respected countries.

c. Geography. Some researchers argue that FDI flows to countries that are located near markets, or are culturally accessible

d. Natural resources. Some FDI flows to countries that have natural resources, especially oil and minerals.

e. Low wages. It is sometimes argued that foreign investors are looking for low-wage locations. Nevertheless, foreign investor is actually not seeking low wage labor *per se*, but the high quality one as well.

f. Good infrastructure. A good infrastructure of roads, ports, and telecommunications makes life easier for investors, but needs to be keenly priced if it is to be a selling point.

g. Policy reform. The more investment friendly policy will encourage more FDI inflows. .

h. Institutions. This variable is related with law enforcement and society order.

CHAPTER IV
RESEARCH METHODOLOGY

4.1. Construction of The Model

As methodology to meet the research objectives, this study adopts the model developed by Binh and Haughton (2002). Originally, they estimated the effect of trade liberalization on foreign direct investment in Vietnam. The effect are simulated using the results of an econometric model of the determinants of FDI, which is estimated in reduced form using data from sixteen ASEAN countries from 1990 to 1999. In their model, they putted real FDI per capita as dependent variable, while as independent variable were lagged of real FDI per capita, export over GDP, real exchange rate, dummy member of WTO, government budget and domestic saving as proportion of GDP. The study had founded that all variables included in were significantly affect on FDI inflows in Asia though in various direction. Export, real effective exchange rate, dummy member of WTO and government budget was confirmed to have positive effect on FDI inflows in Asia. In the contrary, the rest were in reserve direction. Meanwhile, after simulating the effect through econometric model, it is confirmed also that trade liberalization representing by bilateral trade agreement with USA and the membership on WTO leads to 30 percent more FDI into Vietnam in first year, and an eventual doubling of the flow. This would boost economic growth by 0.6 percentage points annually.

Based on explanation above, it can be known that Binh and Haughton (2002) model analyzed the behavior of FDI inflows to Vietnam from the demand side. That was the reason why this study adopts their model. This study was also intended to see the behavior of FDI inflows from demand side though the scope of this study was wider than adopted model, where they just limit the observation on Vietnam merely, while this study enlarge the observation into ASEAN as a region. Meanwhile, this study modifies the model to adjust with the objective. The thesis use FDI as dependent variable, while as independent variable it employs share of GDP, intra ASEAN trade, interest rate differential, inflation and dummy AFTA.

<div align="center">30</div>

University of Indonesia

The effect of AFTA..., Ali Manshur, FE UI, 2008.

The using of intra ASEAN trade as one of independent variables is based on the study conducted by Verico (2007). Originally, he analyzed the impact of ASEAN's intra trade to FDI inflows from non member states. He used Indonesia, Malaysia and Thailand as object of the study. To answer the research question, he employed an econometric model where FDI as dependent variable while Intra Industry Trade Index. He also used a dummy variable to test the significance of intra trade to FDI before and after implementation of AFTA. The data has been used was time series data with time interval from 1987 to 2006. On the conclusion, He founded that increasing FDI inflow to ASEAN was affected by increasing trade relation among member countries. He use Intra Industry Trade Index as proxy of trade relation among members, while hereby the thesis use intra ASEAN trade as proxy of it due to this study is using panel data regression as tool analysis. The thesis assumed that increasing value of trading among ASEAN member countries represents increasing trade relation among them.

In many study, the market size variable is represented by nominal GDP or real GDP merely. So why does this thesis using share of GDP as proxy of market size in this study? We recalled first that share of GDP is defined by proportion of GDP of particular economy compared with the total world GDP. Before deciding to invest in particular region, one of the considerations of outsider investor is how big market size of it compared with other alternative region. When we try to analyze the effect of market size on FDI inflow to particular region, the value of GDP merely is probably not sufficient to meet the objective due to it does not consider about the market size of other region or the world as whole. Increasing market size represented by value of GDP of particular countries do not mean that they have being attractive for foreign investor, instead the growth of it is faster than other region or the world. When analyzing uses nominal or real GDP of observed country merely, that possibility may not be captured. That's why; one of the best ways to measure market size as determinant of FDI inflow is by comparing GDP of particular country with total world GDP.

Originally Binh and Haughton (2002) used domestic saving and budget deficit as proxy of macroeconomic variable. However, this study employs inflation as representation of that variable due to the argument of Blanchard

(2006) arguing that inflation is one of major macroeconomic variable beside output and unemployment. Thus, in detail, the model of this thesis as follows:

$$FDI_{it} = \beta_1 + \beta_2 SGDP_{it} + \beta_3 IAT_{it} + \beta_4 IRD_{it} + \beta_5 INF_{it} + \beta_6 AFTA + \varepsilon \ldots\ldots\ldots [4.1]$$

Where:

FDI_{it}	:	Foreign Direct Investment Inflows from non ASEAN member countries to country i at t period;
$SGDP_{it}$	:	Share of GDP of country i compare with the world at t period;
IAT_{it}	:	Intra ASEAN trade of country i at t period;
IRD_{it}	:	Interest Rate Differential between interest rate in country i and international interest rate at t period;
INF_{it}	:	Inflation rate in country i at t period;
$AFTA$	:	Dummy variable, which is unity for the period after implementation of AFTA and zero otherwise.

In estimating the result, this thesis will employ panel data regression methods using Eviews 5.1. The study admit that each observed countries has own characteristic differentiating each other, therefore the study uses panel data analysis in order to accommodate the heterogeneity of observed countries

The sign of coefficient that being expected in estimating the model are:

a.   Share of GDP is expected to be positive.

This variable represents the size of domestic market. The bigger of it is expected to attract more FDI inflows.

b.   Intra ASEAN Trade is expected to be positive.

Majeed and Ahmad (2006) founded that trade represented by the value of export has significant positive effect on FDI. Verico (2007) also concluded that increasing intra trade relations between member states could increase FDI inflow from non member states. He used intra industry trade index as proxy of trade relation between ASEAN member countries. Due to this thesis

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employ pooled data regression as tool of analysis; this thesis will use intra ASEAN trade as proxy of trade relation between member countries. However, this thesis expects that increasing intra ASEAN trade will lead to increasing FDI inflow from non member countries.

c. IRD is expected to be negative

It expresses the different level of interest rate between observed countries and international interest rate represented by London Inter Bank Offer Rate (LIBOR). The relation between Interest Rate Differential and FDI inflows is expected to be negative, the higher deviation between domestic and international interest rate will discourage FDI inflows to respected countries and otherwise.

IRD represents the deviation of cost of capital between host and home country. Actually the nature of the impact of it is somewhat ambiguous. Theoretically, according to principle of capital arbitrage, capital will move to country having higher interest rate. It means that higher IRD tend to encourage capital inflows. Nevertheless, there is possibility of foreign investors to postpone the expansion in form of direct investment in order to get "easier return" from capital arbitrage system. In this regard, higher IRD will discourage FDI inflow.[10]

d. Inflation rate is expected to be negative.

Inflation rate is a proxy of macroeconomic variable. Foreign investors prefer to invest in a country whose lower inflation rate due to the expectation of cheaper initial investment and raw material. Those conditions expected to lead to producing more competitive product later sold at international market. Lower inflation rate also represents suitable macroeconomic condition for investment signed by expanding domestic market size due to increasing purchasing power of consumer. That's why, it can be concluded that lowering inflation rate will encourage FDI inflow to respected country and otherwise.

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[10] Palit, Amitendu and Shounkie Nawani, 2007, *Technological Capability as a Determinant of FDI Inflows: Evidence from Developing Asia and India*" Indian Council for Research on International Economic Relation, Page. 14-15.

e. Dummy AFTA is expected to be positive.

After the implementation of AFTA, it was expected that there was an increasing of FDI inflow to ASEAN member countries

4.2. Operational Definition of the Variables

Before operating the model, first, will be explained about operational definition of those variables being included in this study.

4.2.1 Foreign Direct Investment (FDI)

The value of FDI being analyzed in this study is that in net value, which uses Balance of Payment basis. It includes equity and inter-company loans.

Definitions of FDI are contained in the Balance of Payments Manual: Fifth Edition (BPM5) (Washington, D.C., International Monetary Fund, 1993) and the Detailed Benchmark Definition of Foreign Direct Investment: Third Edition (BD3) (Paris, Organization for Economic Co-operation and Development, 1996).

According to the BPM5, FDI refers to an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Further, in cases of FDI, the investor's purpose is to gain an effective voice in the management of the enterprise. The foreign entity or group of associated entities that makes the investment is termed the "direct investor". The unincorporated or incorporated enterprise-a branch or subsidiary, respectively, in which direct investment is made-is referred to as a "direct investment enterprise". Some degree of equity ownership is almost always considered to be associated with an effective voice in the management of an enterprise; the BPM5 suggests a threshold of 10 per cent of equity ownership to qualify an investor as a foreign direct investor.

Once a direct investment enterprise has been identified, it is necessary to define which capital flows between the enterprise and entities in other economies should be classified as FDI. Since the main feature of FDI is taken to be the lasting interest of a direct investor in an enterprise, only

University of Indonesia

capital that is provided by the direct investor either directly or through other enterprises related to the investor should be classified as FDI. The forms of investment by the direct investor which are classified as FDI are equity capital, the reinvestment of earnings and the provision of long-term and short-term intra-company loans (between parent and affiliate enterprises).

Data on FDI flows are on a net basis (capital transactions' credits less debits between direct investors and their foreign affiliates). Net decreases in assets (FDI outward) or net increases in liabilities (FDI inward) are recorded as credits (recorded with a positive sign in the balance of payments), while net increases in assets or net decreases in liabilities are recorded as debits (recorded with a negative sign in the balance of payments). Hence, FDI flows with a negative sign indicate that at least one of the three components of FDI (equity capital, reinvested earnings or intra-company loans) is negative and not offset by positive amounts of the remaining components. These are instances of reverse investment or disinvestment.

4.2.2 Share of GDP

This variable is counted by dividing nominal GDP of observed countries with world GDP. Share of GDP represents the relative market size of observed countries compare with that in total of the world. In detail, the formula as follows:

$$SGDP_{it} = \frac{GDP_{it}}{WGDP_t} \times 100$$

Where: $SGDP_{it}$ is share of GDP of country i at t period, GDP_{it} is GDP of country i at t period and $WGDP_t$ is total GDP of the world at t period.

4.2.3 Intra ASEAN Trade

In this thesis, Intra ASEAN trade is defined as the total export and import of good of observed countries with other ASEAN members. The destination of export or the source of import does not limit into ASEAN members who observed in this study but to all ASEAN member who covered by AFTA agreement. The thesis does not also limit the observation on several or

particular product, so the value of export and import being used is total export of all commodities of observed countries.

4.2.4 Interest Rate Differential

Interest Rate Differential is a differential measuring the gap in interest rates between two similar interest-bearing assets. Hereby, IRD is calculated by deducting domestic interest rate with international interest rate. We uses 3 month deposit rate as proxy of domestic interest rate, while as representation of international interest rate, we use 3 month London Inter Bank Offer Rate (LIBOR).

4.2.5 Inflation Rate

Hereby, inflation defined as annual percent change of Consumer Price Index of observed countries. In detail the formula as follows:

$$INF_t = \frac{CPI_t - CPI_{t-1}}{CPI_{t-1}} \times 100$$

Where: INF is inflation rate, while CPI is average consumer price index of respected year.

4.3. Data Source

This study uses annually data, which is begun from 1998 until 2007, collected from various source. The FDI inflows data is taken from ASEAN secretariat, while the other macroeconomic data is being collected from International Financial Statistic – IMF, UN-Comtrade, Econstat and Central Bank of observed countries.

The time range of the data, which is from 1998 to 2007, is set by intention to proportionate the observation before and after the implementation of AFTA. As we know that 2003 is the starting point of implementation of AFTA for those observed countries, it means that until 2007 AFTA has just running for 5 year. Considering about that, in order to get equal observation, this thesis analyzes the data for 5 year before implementation of AFTA as well. In addition, the

determination of time range of observation has considered about the effect of economic crisis in 1997/1998, which strikes most of ASEAN countries including those being observed in this study. The study considers that the situation before and after economic crisis is completely different. In order to avoid the distortion of the analysis affected by economic crisis, this study just uses the data after it. It means that the result of this study can only be generalized for condition after economic crisis, while the condition before it might be different.
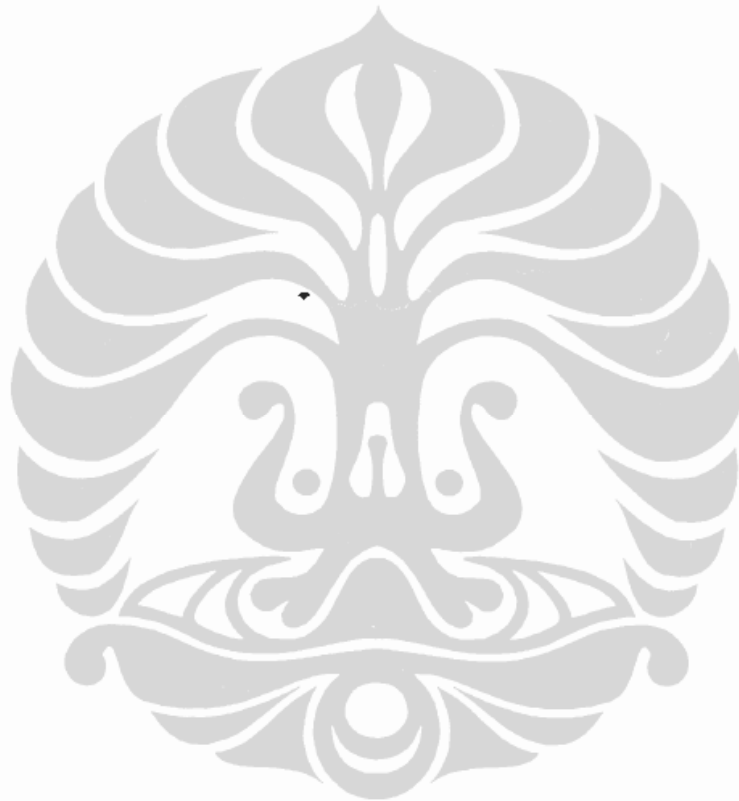
CHAPTER V

DATA ANALYSIS AND ESTIMATION RESULT

5.1. The Pattern of FDI inflow to ASEAN after Implementation of AFTA

5.1.1. The Position of ASEAN on the Global Competition in Attracting FDI

At 2004, a year after implementation of AFTA, FDI inflows going to ASEAN countries reach US$ 35,245 million or 4.75 % of total global FDI inflows. The performance was not seen satisfying when compared with that in other region. At the same period, South America region be able to collect FDI amount US$ 37,980 million or 5.12 % of total global FDI inflows, which was higher than what can be reached by ASEAN. Even, when we compare with China merely, the performance of ASEAN was still worse. China gathered 8.17 % of total global FDI inflows at 2004. Meanwhile, generally, European Union was the most attractive region for FDI at the time. They absorbed 27.52 % of global FDI inflows.

Table 5.1.

Distribution of Global FDI Inflows, 2004–2006 (US$ Millions, %)

Country / Region	2004		2005		2006	
	Value	Share	Value	Share	Value	Share
World	742,143		945,795		1,305,852	
European Union	204,245	27.52	486,409	51.43	530,976	40.66
United States	135,826	18.30	101,025	10.68	175,394	13.43
Australia	36,007	4.85	-34,160	-3.72	24,022	1.84
Japan	7,816	1.05	2,775	0.29	-6,506	-0.50
Africa	18,018	2.43	29,648	3.13	35,544	2.72
South America	37,980	5.12	45,279	4.79	45,019	3.45
Asia	169,999	22.91	208,744	22.07	259,434	19.87
China	60,630	8.17	72,406	7.66	69,468	5.32
India	5,771	0.78	6,679	0.71	16,881	1.29
ASEAN	35,245	4.75	41,071	4.34	51,483	3.94

Source: World Investment Report 2007, processed by author

Comparing with that at 2004, performance of ASEAN's FDI inflows at 2006 was looked well when we just focus on the value. At 2006, ASEAN collected US$ 51,483 million or grew 48.9 % compared with that at 2004. Nevertheless, the performance actually was going worse due to the growth of global FDI inflows was higher that what ASEAN reaches. At 2004 to 2006 period, global FDI inflows amount US$ 1,305,852 or grew 75.9 %. The worsening performance of ASEAN's FDI inflows could also be seen when analyzing the share of global FDI that goes to ASEAN. At 2006, ASEAN just caught 3.94 % of global FDI inflows. It decreased amount 0.81 % than the share at 2004. Meanwhile, at the same period, some regions or countries such as United States, Japan, China, and South America also underwent decreasing of the share of global FDI inflows the take. In contrast, European Union and India experienced the better performance. They absorb higher share of global FDI inflows compared with that at 2004.

5.1.2. Who is the Most Attractive Country in Regard of FDI Inflows?

Regardless the source of FDI inflows, over 2004 – 2006 period, Singapore was the most attractive country for FDI inflow in South East Asia region. Cumulatively, Singapore occupies around 45 % of FDI inflows to ASEAN at those periods or amount US$ 58,884.8 millions. This performance was even just slightly lower than accumulation of what had been gathered by four countries being included in this study. Totally, Indonesia, Malaysia, Thailand and The Philippines just are able to collect US$ 60,897 millions or around 47 % of FDI inflows to ASEAN.

By looking the growth of FDI inflows to ASEAN countries over 2004-2006 periods, the performance of Singapore actually did not as good as what explained before. FDI inflow to Singapore just grew 21.32 % over the periods. It was lower than ASEAN4 countries that grew 89 % in total. Meanwhile, the most growing country in attracting FDI was Lao who grew more than 1000 % over the periods. Brunei, Cambodia, Indonesia and the Philippines also experienced high growth in attracting FDI inflows. Those countries grew more than 100 % over the

periods. Those performances sharply contrasted with what taken by Myanmar. They underwent negative growth over the periods. However, generally, FDI inflow to ASEAN countries grew 49.16 % over the periods.

Table 5.2.

Total FDI Inflows to ASEAN Countries at 2004, 2005 and 2006
(US$, Millions)

No.	Country	Year			Cumulative
		2004	2005	2006	2004 -2006
1.	Brunei Darussalam	212.0	288.5	433.5	934
2.	Cambodia	131.4	381.2	483.2	995.8
3.	Indonesia	1,894.5	8,336.0	5,556.2	15786.7
4.	Lao, PDR	16.9	27.7	187.4	232
5.	Malaysia	4,623.9	3,964.8	6,059.7	14648.4
6.	Myanmar	251.1	235.9	143.0	630
7.	The Philippines	687.8	1,854.0	2,345.0	4886.8
8.	Singapore	19,827.5	15,001.9	24,055.4	58884.8
9.	Thailand	5862.0	8,957.0	10,756.1	25575.1
10.	Vietnam	1,610.1	2,020.8	2,360.0	5990.9
	ASEAN4	13,068.2	23,111.8	24,717.0	60897
	ASEAN	35,117.2	41,067.8	52,379.5	128564.5

Source: ASEAN Statistic, processed by author.

5.1.3. Intra and Extra ASEAN FDI Inflows.

By looking the source of FDI inflows to ASEAN countries as presented at figure 2, it can be concluded that in term of FDI, ASEAN countries were highly dependent on FDI from countries beyond ASEAN. At 2006, 88.08 % of FDI inflows to ASEAN came from non member countries. However, by looking the growth of the value of extra ASEAN FDI inflow, it also can be concluded that the dependency was going lower. At 2004, extra ASEAN FDI dominated more than 92 % of FDI inflow to ASEAN. When compared with that at 2006, it means that

the domination had decreased around 4 %. The scheme conducted by ASEAN under AIA might contribute on this performance.

Figure 5.1: Source of FDI Inflows to ASEAN, 2004-2006
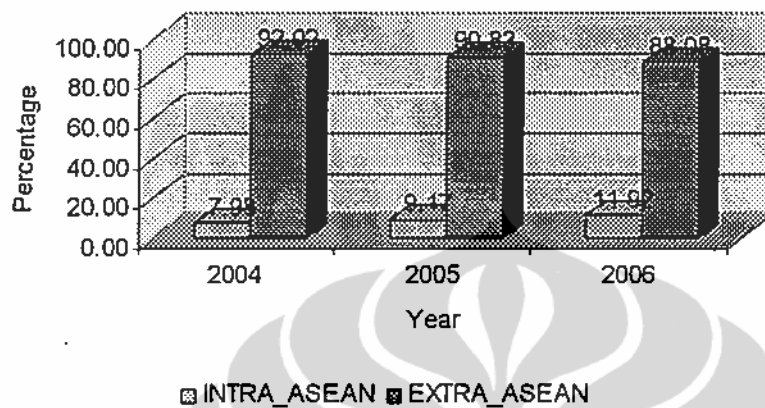
5.1.4. the Most Attractive Sector in ASEAN

According to the data of FDI inflows to ASEAN by economic sectors as presented in table 5, it can be seen that FDI inflows to ASEAN countries dominated by those in three sectors, which are manufacturing, trade and financial intermediation and services. At 2006, FDI inflow in manufacturing sectors occupied more than 30 % of total FDI inflows, which is the best sector in attracting FDI. While financial intermediation and services sector is in second position by 23 % of total FDI inflow, followed by trade sector in third position by 12.8 % of total FDI inflows.

The performance of those three major sectors were quite constant over 2004-2006 periods. The other six sectors also experienced a stable performance as well. Those did not be able to reach 10 % of total FDI inflows. Nevertheless, actually there was one sector that showed impressive performance, which was construction sector. It just experienced negative performance at 2004 by capture FDI inflow amount − 10.1 millions dollar. It means that for this sector, FDI outflow was higher than the inflows. The performance was getting better at 2005; the sector was able to collect FDI inflow amount 226.5 millions dollar or 0.6 % of total FDI inflows to ASEAN. The pick performance so far happened at 2006,

construction sector able to capture 1 % of total FDI inflows or amount 523.4 millions dollar.

Table 5.3.

Shares of FDI Inflows to ASEAN by Economic Sectors, 2004–2006
(US$ Millions, %)

Economic Sector	2004		2005		2006	
	Value	Share	Value	Share	Value	Share
Agriculture, Fishery and Forestry	221.7	0.6	184.4	0.4	341.0	0.6
Mining and Quarrying	557.5	1.6	2,266.1	5.5	1,376.0	2.6
Manufacturing	12,802.1	36.5	18,988.5	46.2	16,147	30.3
Construction	-10.1	0.0	226.5	0.6	523.4	1.0
Trade / Commerce	4,973.9	14.2	3,675.6	8.9	6,835.8	12.8
Financial Intermediation and Services	9,559.2	27.2	4,355.5	10.6	12,360.7	23.2
Real Estate	1,439.2	4.1	2,110.2	5.1	4,154.1	7.8
Services	2,801.6	8.0	4,467.0	10.9	5,038.9	9.4
Others	2,834.3	8.1	3,957.5	9.6	4,544.4	8.5

Source: ASEAN Investment Report 2007

5.2. Estimation Result and The Interpretation

5.2.1. The Process of Model Estimation

Firstly, we clearly state that the coefficient resulted by model estimation of this study is run upon all observed countries. It means that the result of analysis cannot be specified to one of observed countries merely, but applied to all of them as a unity. As mentioned in the fourth chapter of this thesis, this thesis uses panel data regression method as tool of analysis using Eviews 5.1 program. In short, the process is begun by testing whether there is an individual effect or not in the

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model using *F-test* or *Chow Test*. If it is founded that there is an individual effect in the model, the process continued by selecting the better approach in estimating the model whether *Fixed Effect Method (FEM)* or *Random Effect Method (REM)*. The test to do that is called *Hausman Test*. In contrary, when it is not founded that there is an individual effect in the model, the better approach to estimate the model is *Pooled Least Square*. After selecting the best approach to estimate the model, then the process will be continued by examining the model whether has being free from *heteroscedasticity*, *autocorrelation* and *multicoleniarity* matters or not. There are some tests or approaches to meet those objectives and in detail will be directly applied later on. Now, the estimation process will be started by running the stages step by step.

On the process of finding the fittest model using panel data regression, the basic model that has been constructed based on related theory as figured in fourth chapter has experienced the changes. The new model is semi log model which is also attributed by time lag at intra ASEAN trade and inflation variable. Due to the existence of time lag, the time of observation has been shortened become 8 years from 10 years previously. In detail the new model as follows:

$$FDI_{it} = \beta_1 + \beta_2 LnSGDP_{it} + \beta_3 IAT_{it-2} + \beta_4 IRD_{it} + \beta_5 INF_{it-1} + \beta_6 AFTA + \varepsilon \ ....[5.1]$$

By using the new construction of the model, the model will be run using PLS and FEM approach. Those approaches done by intention to provide the regression result needed to run the Chow-Test, which is the test to detect the existence of individual effect in the model. The result of the regression is figured at the table below:

Table 5.4.

The Regression Result using PLS and FEM

Variables	Pooled Lest Square		Fixed Effect Method	
	Coefficient	Prob.	Coefficient	Prob.
Log SGDP	24.00291	0.986	14732.35*	0.003
IAT (-2)	0.075791**	0.023	0.07981	0.203
IRD	-598.759***	0.055	-457.214**	0.065

INF(-1)	-317.537**	0.019	-271.026**	0.051
AFTA	2840.945*	0.002	1501.875**	0.073
f-statistic	7.15	0.000	9.79	0.000
R-squared	58 %		77 %	

*) significance at $\alpha = 1\%$, **) significance at $\alpha = 5\%$, ***) significance at $\alpha = 10\%$

The first stage to select the best approach in estimating the model is by testing the model using Chow-Test which is the test to confirm about the existence of individual effects. The test done by comparing the regression result of the model using PLS and FEM approach. The result of the test as follows:

Table 5.5.
Chow Test Result

SSR 1 (PLS)	SSR 2 (FEM)	F-Stat	F-Table		Conclusion
			α	F-Table	
28000000	69270292	6.217	1%	4.817	has individual effect
			5%	3.049	has individual effect
			10%	2.351	has individual effect

Based on the result of Chow Test as presented at table above, it can be concluded that at any level of confidence the model confirmed to has an individual effect. Concerning about that, the process should be continued by Hausman test to point out whether the model is better to be run using Fix Effect or Random Effect Estimation.

Theoretically, the next test should be run is Hausman Test, which is the test to select the better estimator whether fixed or random effects. Nevertheless, in case of this thesis, the special treatment must be done. Due to the estimation process of the model was run using E-views program and characteristic of the data, the Hausman test cannot be run. The Hausman test on E-views 5.1 program requires that the number of cross-section data has to be more than the number of coefficient (Nachrowi and Usman, 2006). This condition cannot be met by the data of this thesis.

Some may insist that, in case of this thesis, the data especially the cross-section data should be enlarged up to certain level in order to meet the requirement of Hausman test. Nevertheless, this possibility cannot be applied due to the cross section data, which are the observed countries, is picked under some criterions. So it is not any country can be included in this study. This circumstance makes Hausman test absolutely cannot be operated to the data. In addition, some experts suggest that better to use Fixed Effect Method if the time series of the data is more than the cross section (Nachrowi and Usman, 2006). Considering about that, at least until this stage, it can be concluded that Fixed Effect Method (FEM) is the fittest approach to estimate the model.

After skipping the second stage of model estimation process which is Hausmann Test because of some arguments as explained before, now the process are continued by examining the model using Classic Assumption Test. The objective of the test is to guarantee the model has been free from *heteroscedasticity*, *autocoleniarity* and *multicoleniarity* matters. In examining the existence of *heteroscedasticity*, the thesis uses Lagrange Multiplier (LM) test. The result of the test is figured in table below:

Table 5.6.
The Result of Lagrange Multiplier (LM) Test

T	n	LM	Chi-square		Conclusion
			α	Chi-square	
8	4	15.022	1%	11.345	heteroscedasticity
			5%	7.815	heteroscedasticity
			10%	6.251	heteroscedasticity

Based on the result of LM test as presented at the table above, it can be known that the model is contained by heteroscedasticity. The conclusion is taken by looking the fact that the result of LM testing is higher than the value of Chi-square table at any level of confidence. Considering about this fact, the model has to be rerun by adding some treatment. One of the treatments can be done to heal

heteroscedasticity is by activating *white cross-section standard errors & covariance (no d.f. correction)* in the process of regression of the model. After operating the treatment, the regression result has changed become as follows:

Table 5.7.

The Regression Result after Heteroscedasticity Treatment

Variables	Fixed Effect Method	
	Coefficient	Probability
C	15172.53*	0.000
Log SGDP	14732.3*	0.000
IAT(-2)	0.079**	0.042
IRD	-457.2**	0.032
INF(-1)	-271.0**	0.025
AFTA	1501.9**	0.028
f-statistic	9.79	0.000
R-squared	77.3 %	
Country specific intercept * :		
Indonesia	- 8528.29	
Malaysia	1725.48	
Thailand	- 321.84	
The Philippines	7124.65	

*) significance at $\alpha = 1\%$, **) significance at $\alpha = 5\%$

Regarding to autocorrelation, one of the indicators that usually used to detect the existence of it is the value of Durbin Watson statistic. The rule of Durbin Watson test as table below, as a notice H_0 = no autocorrelation, while H_1 = has autocorrelation.

Table 5.8.

Durbin-Watson Test (d)

The Value of DW stat (d)	Result
$0 < d < d_L$	Rejecting H_0, has positive autocorrelation

$d_L \leq d \leq d_U$	No decision
$d_U \leq d \leq 4 - d_U$	Accepting H$_0$, no positive/negative autocorrelation
$4 - d_U \leq d \leq 4 - d_L$	No decision
$4 - d_L \leq d \leq 4$	Rejecting H$_0$, has negative autocorrelation

Source: Widarjono (2005)

Based on the result of the regression of the model, it can be concluded that the model has free from either positive or negative autocorrelation due to the value of DW statistic is in the third category. The d of the model is amount 2.05, while d_U is 1.69 and d_L is 0.859. In fact, for the regression using Fixed Effect Method, the autocorrelation problem actually can be neglected. Nachrowi and Usman (2006) stated that fix effect method is not obliged to be free from autocorrelation assumption.

The multicoleniarity problem can be detected from the value of t-statistic, f-statistic and R-squared. The existence of multicoleniarity is shown by the existence of some variables that partially not significance (shown by t-statistic), but as whole all independent variables significantly influence dependent variable (shown by f-statistic). While the value of R-square also quite high showing that the ability of the model to explain independent variable is quite high. By looking the result of the regression of estimated model, it can be concluded that the model has free from multicoleniarity problem. The conclusion is taken based on the result of t-statistic and f-statistic that shows significance for all variables, while the value of R-square also quite high, which is higher than 75 %.

Based on all stages of the model estimation process as explained before, it can be concluded that after all possible test, Fixed Effect Method is the best approach to estimate the model and the model also can be suspected to be immune from heteroscedasticity, autocorrelation and multicoleniarity problems. The final result of the regression can be explained as the equation below:

$$FDI_{it} = 15172.53 + 14732.3 LnSGDP + 0.079 IAT(-2) - 457.2 IRD - 271.02 INF(-1)$$
$$+ 1501.9 AFTA + \varepsilon ....[5.2]$$

University of Indonesia

5.2.2. The Interpretation of Estimation Result

Based on estimation result, it can be stated that partially and generally the model has ability to explain the behavior of FDI inflows to ASEAN countries. It is shown by the value of t-statistic of each independent variable that significant though at various level of confidence. The conclusion telling in general all independent variable has an effect on FDI inflows is taken from the value f-statistic that significant even at 99 % level of confidence. Meanwhile, from the value of R square 77.3%, it can be concluded that the ability of the model to explain the behavior of FDI inflows reach 77.3%. However, the result also implies that there are some other variables suspecting to have effect on FDI inflows that do not included yet in this study. We suspect that one of those is infrastructure.

Palit and Nawani (2007) argued that infrastructure is one of the factors significantly influence FDI inflows to Southeast Asia. The kind of infrastructure being concern by them was information and computer technology (ICT). They used "infostate" index developed by the International Telecommunication Union (ITU) as proxy of infrastructure in the model. The index captures both the ICT-producing capabilities, as well as ICT-consuming capacities of individual countries. Their study founded that developed technological capabilities and availability of modern IT-enabled communication infrastructure are critical determinants for FDI inflows at ASEAN countries.

In fact, there are ongoing agreements among ASEAN countries discussing about infrastructure especially on transportation, information and communication technology. Those agreements are part of the effort to form planned ASEAN Economic Integration. Regarding to transportation, there are two action plans was and has being implemented by ASEAN. First, ASEAN Transport Cooperation 1999 – 2004 which was covered by Hanoi Plan of Action's Transport Action Agenda and the Successor Plan of Action. The cooperation has been focused on the development of the trans-ASEAN transportation network, finalization of ASEAN transport facilitation agreements, policy and development projects and studies, capacity building programs and mutual sharing of best practices and experiences. Cooperation has also been intensified with ASEAN private sector

associations of airlines, forwarders, ports, shippers' councils and ship owners, as well as with relevant international and regional organizations. To further enhance regional transport programs and to support the rising trend towards inter-regional free trade arrangements, cooperative partnerships have been forged with ASEAN dialogue partners like China, India and Japan. In addition, ASEAN member countries concluded nine regional transport agreements since late 1998. These were for the mutual recognition of commercial vehicle inspection certificates, ASEAN highway network development, goods in transit facilitation and its five implementing Protocols and for air freight services liberalization.

The second action plan is Transport Policy Agenda for 2005-1010 which was agreed at the Ninth ASEAN Transport Ministers Meeting in Yangon Myanmar in October 2003. At the meeting, they agreed to intensify regional activities to enhance multimodal transport linkages and interconnectivity, promote the seamless movement of peoples and goods, promote further liberalization in the air and maritime transport services, and further improve integration and efficiency of transport services and the supporting logistics systems. The Ministers also agreed to work towards developing a regional action plan for staged and progressive implementation of Open Sky arrangement in ASEAN.

Meanwhile, regarding to telecommunication and information technology, there was e-ASEAN Framework Agreement which is adopted at the Eighth ASEAN Telecommunications and IT Ministers Meeting (TELMIN) on 29 August 2008 in Bali, Indonesia. The Agreement is intended to promote cooperation to develop, strengthen and enhance the competitiveness of the ICT sector in ASEAN; to promote cooperation to reduce the digital divide within individual ASEAN Member States and amongst ASEAN Member States; to promote cooperation between the public and private sectors in realizing e-ASEAN; and to promote the liberalization of trade in ICT products, ICT services and investments to support the e-ASEAN initiative. This Agreement shall cover measures to facilitate the establishment of the ASEAN Information Infrastructure; to facilitate the growth of electronic commerce in ASEAN; to promote and facilitate the liberalization of trade in ICT products, ICT services and of investments in support

of the e-ASEAN initiative; to promote and facilitate investments in the production of ICT products and the provision of ICT services; to develop an e-Society in ASEAN and capacity building to reduce ·the digital divide within individual ASEAN Member States and amongst ASEAN Member States; and to promote the use of ICT applications in the delivery of government services (e-Government).

5.2.2.1. The Intercept of the Model

The intercept of the model is confirmed to be significant at 99% level of confidence. As the regression model being used is the FEM, the intercepts vary for each cross-sectional unit (country), but still assuming that the slope coefficients are constant across countries. Table 5.7 above shows the individual effect of each countries, i.e. - 8528.29 (Indonesia), 1725.48 (Malaysia), - 321.84 (Thailand) and 7124.65 (the Philippines) of which it describes the difference between one country to other countries. Therefore the intercepts for each member countries would be 6644.24 (*15172-8528.29*) for Indonesia, 16898.01 (*15172+1725.48*) for Malaysia, 14850.69 (*15172-321.48*) for Thailand and 22297 (*15172+7124.65*) for the Philippines. From the result, it can be concluded that when all other influencing variables are not exist (the vale is zero), The Philippines has a tendency of a higher position on FDI inflow compared to other observed countries over the period.

5.2.2.2. Market Size

In many previous studies, market size variable is the most important factor determining the behavior of FDI inflows especially for those that aimed to prove the existence of tariff jumping investment, which is investment intended to avoid trade discrimination between insider and outsider firm and targeted to serve domestic market of respected economy. Hypothetically, when market size is going bigger, it will be followed by increasing FDI inflows to respected market.

Based on the estimation result, the study found that market size has positive impact on FDI inflows at ASEAN countries. This is in line with the

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hypothesis of the study. In detail, the estimation result shows that when share of ASEAN country's GDP to the world rise by 1 % of it at one year before, FDI inflows to ASEAN countries will follow to increase by USD 14.7 billion and otherwise. Although market size variable is confirmed to have significantly positive impact on FDI inflows, but the impact of it does not in the balance or adequate amount. This conclusion is taken from the coefficient of SGDP variable. To make it clearer, minds next simulation.

At 2006, share of GDP Indonesia to the world was 0.75 %. Assuming that SGDP of Indonesia increases 1% of the level of one year before, SGDP of Indonesia at 2007 would be predicted around 0.76 % of world GDP or USD 413 billions (as a notice, world GDP at the time was USD 54,347 billions). By comparing the predicted GDP at 2007 with the GDP at 2006, the change was around USD 48 billions. When we relate this simulation with the result of the estimation, it can be stated that in order to catch USD 14.7 billions FDI inflows, Indonesia has to pump up the GDP around USD 48 billions. That's why, it can be concluded that even though market size variable is positively influenced FDI inflows, the coefficient of it implies that the impact does not as big as the market size performed.

The inadequate impact of FDI in relation with the performance of market size in ASEAN countries may be caused by the high attention of investor on the other non economic factors supporting the safety and easiness of investment in ASEAN members, such as stability of politic, law enforcement and infrastructure. When investor does not sure that their investment will be safe until the predictable period providing expected return, the establishment of investment itself does not as easy as they want and spend too much money in getting the license, or the investment does not supported by reliable infrastructure, FDI will not increase at the optimal level though the market size of respected countries going bigger and bigger.

Some ASEAN member countries had undergone instability of politic at the period of observation for instance Thailand, the Philippines and Indonesia. Thailand and the Philippines quite often experience the turbulence in politic,

mostly related with the irregular succession or massive demonstration on rejecting government policies. Even in the Philippines, the President in many times had tried to be replaced through military codetta. While in Indonesia, the relatively new democratic process of electing the representative and the president often raises instability in society. Of course, those were the signal for investor to reevaluate their investment plan. In addition, the data shows that the easiness of doing business or establishing investment and infrastructure in ASEAN countries is relatively weak compared with other more advanced region. Those may be some reasons why the development of FDI inflow to ASEAN does not as faster as the growing of market size of its members.

5.2.2.3. Intra ASEAN Trade

In this study intra ASEAN trade is putted as representation of trade intensity among ASEAN member countries. Hypothetically, more intensive trade relation among members will encourage more FDI inflows to the region. From the estimation result of the model, that hypothesis is confirmed. The study founded that increasing 1 million of intra ASEAN trade of particular ASEAN member country will lead to increasing of FDI inflows to respected country by USD 79 thousand with 2 year time lagged. The existence of time lagged can be interpreted as the time needed by investor to consider about the level of trade relation among ASEAN members and the sustainability of it before deciding to execute the investment plan.

When trade relation among members become stronger, it will be signal for investor to quickly execute the investment inside region due to the ASEAN market has been larger and more integrated. In fact, they are not able to catch information about the intensity of trade relation among members at the same time with the time of investment execution. Therefore, they use the historical data to get consideration needed. Why is not just one year time lagged? Investor needs at least one period more to see the trend of the data in order to make sure about the sustainability of trade relation among members. Shortly, investor needs time to

make sure that the increasing of trade relation among ASEAN member does not accidental phenomenon but the long term one.

From the coefficient of IAT, it also can be concluded that the impact of intra ASEAN trade on FDI inflows at ASEAN countries is tend to be inadequate. The study shows that in attracting certain amount of FDI inflows to particular ASEAN member, they have to pump up the trading among them in amount that bigger than FDI possibly will be collected. The inadequate effect of intra ASEAN trade becomes clearer due to the requirement of two year lagged in influencing FDI inflows. The more intensive trade relation among ASEAN members of course will affect on the widening of ASEAN market as a unity and also will be more attractive for investor intending to serve ASEAN market. Nevertheless, The trade among ASEAN members that characterized by the trading of same category of product, which is mostly a natural resource-based product, becomes the trading of ASEAN member is not responsive to the expanding of internal market size. For instance in case of rubber Indonesia, Malaysia and Thailand are the major producer of world rubber. As well as on CPO, Indonesia and Malaysia are the major producer and exporter of that kind of product. This fact affects on the pattern of the trading among ASEAN members. The product traded among them is mostly in form of raw material and component, where those drive by MNC who treat ASEAN as production base through vertical specialization mechanism.[11] That's why, the increasing trade intensity among ASEAN member is not followed by FDI inflows from non member in the similar speed. The existing MNC driving trade inside region has become the circumstance of outsider firm to invest in order to respond the widening and integrating market in the region.

5.2.2.4. Interest Rate

The existence of interest rate variable in the model is to accommodate the possibility of trade-off faced by investor when deciding to invest in form of

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[11] See Goh, Ai Ting and Jacques Olivier, 2003, *"International Vertical Specialization, Imperfect Competition and Welfare"*, JEL

foreign direct investment. In the open financial market regime which adopted by observed countries, investor has choices whether investing the capital in financial market in order to enjoy risky easier earning through arbitrage mechanism or believing in long term return by investing in real sector in form of foreign direct investment. One of the considerations taken by investor regarding to that choices is the level interest rate applied in targeted country. When the difference of interest rate between home and host country is very high, investor may prefer to invest in money market than has to be work hard by building direct investment. That's why, this thesis suspect that interest rate differential is one of consideration of investor before deciding to execute direct investment in particular country. Hypothetically, the study expects that higher interest rate differential will be responded by decreasing FDI inflows.

This study found that hypothesis as mentioned above is sharply confirmed. The coefficient of IRD variable as result of estimation process shows negative and significant at 95 % level of confidence. It means that the study proves that interest rate differential has significantly negative effect on FDI inflows at ASEAN countries. In detail, the study stated that every increasing 1 point of IRD will be responded by lowering FDI inflows by USD 457.2 million. The question arises, where is the capital goes if IRD is zero? In investing in money market, investor has to cover the minimum cost. When the money market return is less than the minimum cost, there is no incentive for investor to play in money market. It means that they will resistance to mobilize their capital that possibly operated in real sector through direct investment when the return of money market is lower than minimum cost to play in. That's why; the increasing of IRD will be not always responded by lowering FDI inflows (in this case through capital flight from real sector except the money market return is higher than minimum cost to play in.

5.2.2.5. Inflation

In this study, inflation is a proxy of macroeconomic stability variable. When inflation arises, it represents instability of macroeconomic of respected

country and otherwise. The increasing of inflation also has direct effect on FDI inflows due to it implies a declining of purchasing power of local people of targeted countries. Investor, especially those who invest by intention to serve domestic market of targeted country, will be not interest to invest in country with low purchasing power of the people. Therefore, hypothetically, increasing inflation will be followed by decreasing FDI inflows.

The estimation result of this study has proved that hypothesis. The sign of variable INF of the model shows negative and significant at 95 % level of confidence. In detail, the estimation result concludes that the increasing 1 point of inflation year on year will be responded by declining FDI inflows by USD 271.2 millions with 1 year time lagged. The existence of 1 year time lagged means that signal of inflation does not directly responded by investor. Investor needs a time to consider whether the inflation has reached the level that threats the macroeconomic stability or not and whether it has been followed by tightening market size or not. Shortly, the current value of inflation cannot be a signal for investor to execute or deny their investment plan. They need a time to look the trend and the effect.

5.2.2.6. AFTA

One of the objectives of the establishment of AFTA is to prepare South East Asia as region that attractive for investment. Before deciding to form AFTA, ASEAN region actually has the conditions needed to be attractive for investors. The endowment of natural resources and relatively cheap labor are the value added of ASEAN as destination of investment. The attractiveness is become bigger when ASEAN members form AFTA. The elimination of tariff and non tariff barrier among ASEAN members under CEPT scheme is the main feature of AFTA beside some other such as ASEAN Investment Area (AIA) and ASEAN Industrial Cooperation (AICO). Those are expected can expand market size of ASEAN region, which actually had has big market though in separated member countries, through the easier and more intensive of trade among members.

Therefore, this study, hypothetically, prejudges that the implementation of AFTA can encourage FDI inflows to ASEAN countries.

In this study, that hypothesis is approved. The estimation result shows that the sign of dummy AFTA variable is positive. It proves that AFTA has an effect on FDI inflows in positive way. The study founded that after implementation of AFTA, FDI inflows to ASEAN has increased by USD 1.5 billions.

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CHAPTER VI
CONCLUSION AND RECOMMENDATION

6.1. Conclusion

After all technical process to meet the study objectives, the conclusions of this study are:

a. The implementation of AFTA has confirmed to have positive impact on FDI inflows to ASEAN countries. In addition, the study also proves that market size, intra ASEAN trade, interest rate differential and inflation also have an effect on FDI inflows to ASEAN member though in various directions.

b. From the conclusion of this study where implementation of AFTA has positive impact on FDI inflows to ASEAN countries, the study has confirmed that AFTA has influenced the behavior of the outsider firms who take discriminative treatment when they force to trade inside region. Responding the discrimination, the firm prefers to relocate the factory inside the region in order to enjoy preferential treatment provided by AFTA. Therefore, it can be stated that AFTA has encouraged what so called "tariff-jumping investment".

c. Market size, which is hereby represented by SGDP variable, has positive effect on FDI inflows. While trade variable which is represented by intra ASEAN trade also has positive impact on FDI inflows though with 2 year time lagged. This finding implies that the wider market size of ASEAN countries and more intensive trade relation among ASEAN members have encourage FDI inflows to them. This finding also implies that mostly the investment spreading across ASEAN countries is "market-seeking investment". The wider and more integrated ASEAN market has given incentive for investor to investing the money inside region.

d. Nevertheless, from the coefficient of SGDP and IAT, the study also founded that the impact of those variables on FDI inflows is tend to be inadequate or imbalance. It means that the respond of FDI inflows to ASEAN countries does not as fast as the expanding of market size of members and the growing of trade relation among them. This conclusion is also supported by the existence

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of two year time lagged at IAT variable, which implies that the increasing of trade intensity among members will be not quickly responded by increasing of FDI inflows to the region. It shows that there are other variable taking considered by investors in investing money inside region.

e. Interest rate differential and inflation are confirmed to have negative effect on FDI inflows. This finding shows that investor intending to invest in ASEAN countries considers about the fundamental of macro economy in each ASEAN member countries. In case of IRD, the study confirmed that investor considers about interest rate applied in targeted country in relation with the trade off faced by them before deciding to invest in real sector through direct investment, instead of investing in money market which possibly gains easier return. Inflation purely represents macroeconomic stability of targeted country providing a signal for investor regarding to the safety and the sustainability of return of their investment. The study confirmed that, the ineligible level of interest rate and uncontrollable inflation of ASEAN members will discourage FDI inflows to the region.

6.2. Recommendation

Based on the conclusion of the study, this study proposes some recommendations for government as the authority whom responsible to set the policy. The recommendation as follows:

a. The implementation of AFTA has confirmed to give positive impact on FDI inflows to ASEAN. In other side, the multinational free market agreement under WTO remains far away to be formed. Other region forming regional trade agreement also still applies discriminatory trade policy between member and non members. Facing this situation, we recommend to the ASEAN member's government to not be hurry to reduce external tariff and alleviate discriminatory treatment for non members that currently run under the existing agreement. ASEAN has to study deeper before decide to make FTA with other region or economy and make sure that ASEAN countries interest including in term of investment has been accommodated.

b. In relation with the recommendation at point a, the study suggests to ASEAN member's government to better focus on expanding product list covered by AFTA that currently remains limited and expanding also the sector permitted to be invested by foreign company, of course in considering local industry as well.

c. Regarding to the founding that interest rate differential and inflation have negative impact on FDI inflows to ASEAN, we recommend to ASEAN country's government to give more attention to the monetary policy particularly in setting the reliable interest rate for real sector and investment. The determination of interest rate has to consider about the level of it currently applied in other country. As well as in case of inflation. Government has to work hard protect inflation at certain level that reliable for real sector and investment. When central bank, for instance in Indonesia, decides to apply inflation targeting policy, fiscal authority also has to support it by setting appropriate policy. The monetary policy that in line with fiscal policy will give a signal for investor that the economy has well managed.

6.2. Further Study

a. The R-square of this study was just around 77 %. It means that the independent variables included in the model can only explain the behavior of FDI inflows to ASEAN by 77%. Therefore, for next study, we recommend to add more variable determining the behavior of FDI inflows in ASEAN. Micro economy variable such as tax and wages probably can be included in.

b. In accordance with the recommendation above, we also recommend to further researcher to cover the supply side determinant of FDI. As explained in research coverage, the study just limits the analysis only on demand side determinant, while regarding to Dunning O-L-I framework, there are also supply side determinant which are ownership and internalization. Therefore, we highly suggest to further study to include variable representing those determinant in order to get comprehensive understanding on the pattern of FDI inflows to ASEAN region.

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Appendix 1: List of the Data

Variable: FDI, millions USD

YEAR	INA	MLY	PHIL	THAI
1998	-317.64	2244.06	1611.11	6921.56
1999	-2317.23	3359.06	1244.08	5518.71
2000	-4317.43	3529.51	1392.47	2961.22
2001	-3038.55	473.96	886.70	2236.00
2002	-1191.94	3203.35	953.06	-276.00
2003	-982.55	2222.04	143.90	1199.00
2004	1690.30	3643.71	616.69	5173.29
2005	7452.70	3391.88	1841.30	8194.80
2006	4031.70	5591.91	2440.60	7933.90
2007	6321.20	7806.17	3255.66	7027.35

Variable: SGDP, %

YEAR	INA	MLY	PHIL	THAI
1998	0.35	0.25	0.22	0.37
1999	0.50	0.26	0.25	0.40
2000	0.52	0.29	0.24	0.39
2001	0.51	0.29	0.23	0.37
2002	0.60	0.31	0.23	0.39
2003	0.64	0.30	0.22	0.39
2004	0.62	0.30	0.21	0.39
2005	0.64	0.31	0.22	0.39
2006	0.75	0.32	0.24	0.43
2007	0.80	0.34	0.27	0.45

Variable: IAT, millions USD

YEAR	INA	MLY	PHIL	THAI
1998	18693.34	31075.90	8541.50	16368.65
1999	16556.35	35478.97	9749.07	18831.33
2000	21767.11	45781.19	11874.72	23657.24
2001	19013.85	38849.04	10448.45	22591.85
2002	19866.93	42598.20	12069.37	24445.78
2003	21450.65	46062.37	13795.29	29155.07
2004	25990.38	56815.41	15577.12	37082.60
2005	31649.84	65017.01	16475.06	45592.46
2006	36966.17	73910.61	18906.25	50927.28
2007	44584.22	81186.47	20907.00	58042.01

Variable: IRD

YEAR	INA	MLY	PHIL	THAI
1998	-5.59	2.93	-0.15	5.06
1999	-5.41	-1.29	-0.37	-0.68
2000	-6.53	-3.17	-1.32	-3.24
2001	-3.78	-0.40	0.03	-1.24
2002	-1.79	1.41	0.53	0.19
2003	-1.22	1.85	0.69	0.12
2004	-1.62	1.38	0.30	-0.62
2005	-3.56	-0.55	-1.15	-1.68
2006	-5.19	-2.04	-1.98	-0.76
2007	-5.30	-2.13	-2.04	-2.43

Variable: INF, %

YEAR	INA	MLY	PHIL	THAI
1998	58.39	5.27	9.27	8.07
1999	20.49	2.74	5.95	0.30
2000	3.72	1.53	3.95	1.57
2001	11.50	1.42	6.80	1.64
2002	11.88	1.81	3.00	0.62
2003	6.59	0.99	3.45	1.80
2004	6.24	1.52	5.98	2.77
2005	10.45	2.96	7.63	4.54
2006	13.11	3.61	6.24	4.64
2007	6.41	2.03	2.81	2.23

Variable: AFTA

YEAR	INA	MLY	PHIL	THAI
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0
2002	0	0	0	0
2003	1	0	1	1
2004	1	1	1	1
2005	1	1	1	1
2006	1	1	1	1
2007	1	1	1	1

Appendix 2: Output E-Views 5.1 of the Regression Using PLS

Dependent Variable: FDI?
Method: Pooled Least Squares
Date: 12/16/08   Time: 17:27
Sample (adjusted): 2000 2007
Included observations: 8 after adjustments
Cross-sections included: 4
Total pool (balanced) observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-371.9021	2288.389	-0.162517	0.8722
LOG(SGDP?)	24.00291	1402.082	0.017119	0.9865
IAT?(-2)	0.075791	0.031360	2.416824	0.0230
IRD?	-598.7590	299.0413	-2.002262	0.0558
INF?(-1)	-317.5379	127.7122	-2.486355	0.0197
AFTA?	2840.945	857.1610	3.314365	0.0027

R-squared	0.579122	Mean dependent var		2681.497
Adjusted R-squared	0.498183	S.D. dependent var		3137.478
S.E. of regression	2222.559	Akaike info criterion		18.41807
Sum squared resid	1.28E+08	Schwarz criterion		18.69289
Log likelihood	-288.6891	F-statistic		7.155112
Durbin-Watson stat	1.369975	Prob(F-statistic)		0.000250

Appendix 3: Output E-Views 5.1 of the Regression Using FEM (before heteroscedasticity treatment)

Dependent Variable: FDI?
Method: Pooled Least Squares
Date: 12/16/08   Time: 17:30
Sample (adjusted): 2000 2007
Included observations: 8 after adjustments
Cross-sections included: 4
Total pool (balanced) observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15172.53	5664.678	2.678445	0.0134
LOG(SGDP?)	14732.35	4574.035	3.220865	0.0038
IAT?(-2)	0.079810	0.060956	1.309314	0.2034
IRD?	-457.2143	236.0511	-1.936929	0.0651
INF?(-1)	-271.0261	131.6087	-2.059333	0.0510
AFTA?	1501.875	801.0390	1.874909	0.0736
Fixed Effects (Cross)				
_INA--C	-8528.293			
_MLY--C	1725.481			
_THAI--C	-321.8381			
_PHIL--C	7124.650			

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.773001	Mean dependent var	2681.497
Adjusted R-squared	0.694045	S.D. dependent var	3137.478
S.E. of regression	1735.440	Akaike info criterion	17.98817
Sum squared resid	69270292	Schwarz criterion	18.40041
Log likelihood	-278.8107	F-statistic	9.790256
Durbin-Watson stat	2.051413	Prob(F-statistic)	0.000008

Appendix 4: Output E-Views 5.1 of the Regression Using FEM (after white-heteroscedasticity treatment)

Dependent Variable: FDI?
Method: Pooled Least Squares
Date: 12/16/08   Time: 17:30
Sample (adjusted): 2000 2007
Included observations: 8 after adjustments
Cross-sections included: 4
Total pool (balanced) observations: 32
White cross-section standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15172.53	2818.989	5.382259	0.0000
LOG(SGDP?)	14732.35	2457.630	5.994535	0.0000
IAT?(-2)	0.079810	0.037044	2.154465	0.0419
IRD?	-457.2143	201.0353	-2.274299	0.0326
INF?(-1)	-271.0261	113.3666	-2.390706	0.0254
AFTA?	1501.875	640.3882	2.345257	0.0280
Fixed Effects (Cross)				
_INA--C	-8528.293			
_MLY--C	1725.481			
_THAI--C	-321.8381			
_PHIL--C	7124.650			

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.773001	Mean dependent var	2681.497
Adjusted R-squared	0.694045	S.D. dependent var	3137.478
S.E. of regression	1735.440	Akaike info criterion	17.98817
Sum squared resid	69270292	Schwarz criterion	18.40041
Log likelihood	-278.8107	F-statistic	9.790256
Durbin-Watson stat	2.051413	Prob(F-statistic)	0.000008