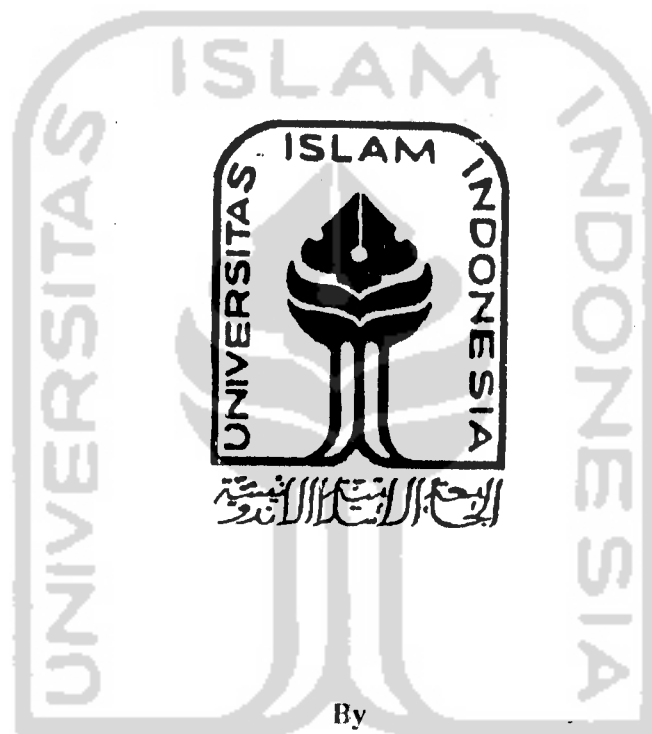


**THE DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN
INDONESIA FOR THE PERIOD OF 1975 TO 2002**

A THESIS

**Presented as Partial Fulfillment of the Requirements
to Obtain the Bachelor Degree in Economic Department**



By

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YOGYAKARTA
2005**

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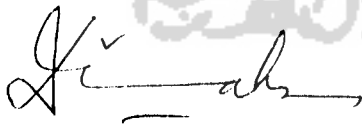
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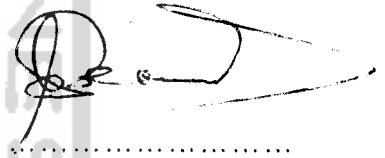
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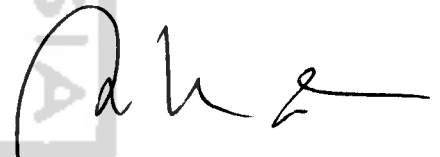
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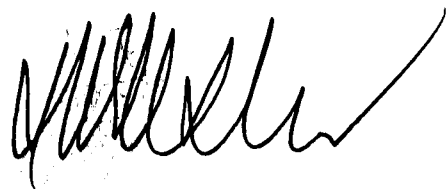


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Last but not least, I would like to thank to my best friends in Sedah family old school, Arief and Berty for the computer, advice and everything only God can

Last but not least, I would like to thank to my best friends in Sedah family old school, Arief and Berty for the computer, advice and everything only God can explain. Inggrit and Sari for a wonderful but weird friendship, you guys are the best. I also thank to all my peer member of 99' Economic Department of International Program, you guys rock. And for my brothers and sisters in Economic Department, I finally graduate before you guys.

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Yogyakarta, April 29, 2005

Riang Widya Wirawan

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ABSTRACT

Riang Widya Wirawan (2005). **The Determinants of Foreign Direct Investment in Indonesia for the period of 1975 to 2002**. Yogyakarta : Economic Department. International Program. Faculty of Economic. Islamic University of Indonesia.

The aim of this research is to analyze the influence of foreign direct investment variables, such as market size of a nation, the degree of openness of an economy, labor cost, and population.

This research uses multiple regression models and the method being used is Ordinary Least Square (OLS). To eliminate the mistakes and to make the estimation process easier, the writer uses computer program E-views version 3.0. The data employed in this research are secondary data on the basis of yearly data for the period of 1975 to 2002.

The result of this research yields in the following information: GDP as a proxy of market size of a nation, ratio of the sum of export and import to GDP as a proxy of the degree of openness of an economy, labor cost, and population affect foreign direct investment in Indonesia significantly. Market size of a nation has a positive impact to foreign direct investment. When market size of a nation increases, the foreign direct investment of Indonesia will also increase. The degree of openness of an economy has a positive impact to foreign direct investment. When the degree of openness of an economy increases, the foreign direct investment of Indonesia will also increase. Labor Cost has a negative impact to foreign direct investment. When labor cost increases, it will lead to the decrease of foreign direct investment in Indonesia. Population also has a negative impact to foreign direct investment. When population increases, the foreign direct investment in Indonesia will decrease. It can be shown from the existence of near multicollinearity but the OLS estimators still retain the property of Best Linear Unbiased Estimate, no heteroscedasticity and no decision of autocorrelation in this model. Besides that, the disturbance factor in this model is distributed normally and based on the regression result, there is a high value of R-squared.

ABSTRAK

Riang Widva Wirawan (2005). **Determinan- Determinan dari Investasi Luar Negeri Langsung di Indonesia dalam kurun waktu 1975 sampai 2002.** Yogyakarta : Jurusan Ilmu Ekonomi Studi Pembangunan. Program Internasional. Fakultas ekonomi. Universitas Islam Indonesia.

Tujuan dari penulisan skripsi ini adalah untuk menganalisa faktor-faktor yang mempengaruhi investasi luar negeri langsung di Indonesia, seperti ukuran pasar dari suatu negara, derajat keterbukaan ekonomi, biaya tenaga kerja, dan populasi.

Skripsi ini menggunakan model regresi berganda, dan metode yang digunakan adalah Ordinary Least Square (OLS). Untuk menghilangkan kesalahan-kesalahan dan untuk mempermudah proses estimasi, penulis menggunakan program komputer E-views versi 3.0. Data yang dipergunakan dalam skripsi ini adalah data sekunder berdasarkan data tahunan untuk kurun waktu 1975 sampai 2002.

Hasil dari penulisan skripsi ini adalah untuk memberikan informasi bahwa Produk Domestik Bruto (PDB) sebagai ukuran pasar suatu negara, rasio export dibanding Produk Domestik Bruto sebagai derajat keterbukaan ekonomi, biaya tenaga kerja, dan populasi mempengaruhi investasi luar negeri langsung di Indonesia secara signifikan. Ukuran pasar suatu negara mempunyai efek positif terhadap investasi luar negeri langsung di Indonesia. Ketika ukuran pasar suatu negara meningkat, investasi luar negeri langsung juga akan meningkat. Derajat keterbukaan ekonomi mempunyai efek yang positif terhadap investasi luar negeri langsung. Ketika derajat keterbukaan ekonomi meningkat, investasi luar negeri langsung juga akan meningkat. Biaya tenaga kerja mempunyai efek negatif terhadap investasi luar negeri langsung. Ketika biaya tenaga kerja meningkat, akan menyebabkan turunnya investasi luar negeri langsung di Indonesia. Populasi juga mempunyai efek negatif terhadap investasi luar negeri langsung. Ketika populasi meningkat, investasi luar negeri langsung akan menurun. Ini dapat ditunjukkan dengan adanya near multikolinear tetapi OLS estimatornya masih dalam kondisi Best Linear Unbiased Estimate, tidak adanya heteroskedastisitas, dan tidak adanya keputusan dalam autokorelasi di dalam model ini. Selain itu, factor pengganggu di dalam model ini didistribusikan secara normal dan berdasarkan hasil regresi, adanya nilai R-squared yang tinggi.

CHAPTER I

INTRODUCTION

1.1 Study Background

Less Developing Countries (LDC) often have classical problem to develop them selves that is because they are poor. And the problem is known as “vicious circle of poverty”. To break down the circle and to begin a new start, a country must be able to create or attract capital accumulation using the people’s savings, so that the capital accumulation can be used to push the economic growth to the next level. On the contrary, poor people or poor society do not have enough saving, leads to the extinction of capital accumulation and the poverty will still remain. One alternative that is offered by economists is to get foreign debt in order to maintain the need for investment. But this kind of effort creates another problem that is about the effectiveness of allocating the fund because poor countries have lack of management skill to manage the fund. This problem creates new and more effective solution to attract capital accumulation that is called Foreign Direct Investment (FDI).

Foreign Direct Investment (FDI) can benefit the economy by enhancing productivity. From a macroeconomic perspective, foreign capital inflows provide an essential source of loanable funds in poor recession-bound developing countries, where domestic savings are meager or immobilized by economic dislocation. In addition to technology diffusion and other endogeneous growth

influences. Foreign Direct Investment (FDI) animates the Keynesian accelerator at a time both investment and employment are stagnant.

Direct Investments are made to acquire a lasting interest in the enterprise operating in the country, with the purpose of having an effective voice in the management. As a result, the investor's association with the enterprise can be expected to continue for considerable period of time. On the other hand, portfolio investors are primarily concerned about the safety of their capital, the return of the investment, and the possibility of its appreciation in value. Portfolio investors may shift their capital with changing condition. One may conclude that direct investments have an inherent element of stability, while, in contrast, portfolio investments are more volatile, and that is the relevant to credit worthiness analysis. Direct investments are similar to capital contributions in a business enterprise.

A Multinational Corporation (MNC) is most simply defined as a corporation or enterprises that conducts and controls productive activities in more than one country. These huge firms, mostly from North America, Europe, and Japan (but also increasingly from newly industrializing countries like South Korea, Taiwan and Brazil) present a unique opportunity on a host of serious problems for the many developing countries in which they operate. Foreign Direct Investment (FDI) involves not only financial capital but also technological, managerial and intellectual capital, a composite bundle of capital stocks, know-how and technology, that jointly represents a stock of assets for production of goods and services. In this sense, the impact of foreign direct investment (FDI) on

host economies is expect to be a good predictor (leading indicator) of economic growth, productivity and/or capital accumulation. Data of Foreign Direct Investment (FDI) entered Indonesia for some years, shown in the table below.

Table 1
The Flow of Foreign Direct Investment in Indonesia

Year	FDI (millions US dollar)
1975	476
1980	183
1985	310
1990	1093
1995	4346
1998	-356
2002	-1513

Sources: International Financial Statistics (IFS)
(Years of volumes: 1975 to 2002)

From the table above, it can be see that during 1970's until 1980's, Foreign Direct Investment (FDI) that entered Indonesia was relatively small. This is because in those years Indonesia did not have appropriate policies related to the foreign capital or in other words the government did not apply policies that can attract foreign capital. The government was still afraid to the capital inflow maybe because they assumed that this kind of inflow could decrease economic growth, could lead to high import and low export, so that Indonesian economy can be

worst. As a result, the government applied very restrictive policy concerning with foreign capital inflow and import substitution. On the other hand, from foreign investors themselves, they assumed that Indonesia still belong to one of the countries that called Low Income Countries, so that their doubts to invest in Indonesia tends to be high, concerning the low level of purchasing power of domestic stuff. During 1990's, there was a large surge of non commercial bank private flows to developing countries, in particular Foreign Direct Investment (FDI) which was more than half of all private flows in 1998. The increase of FDI that entered Indonesia was especially from newly industrializing countries from East Asia such as South Korea, Taiwan, Hong Kong and Singapore. Since early 1980s, the world FDI flows, now attributable to almost 54,000 transnational corporations, have grown rapidly—faster than either world trade or world output. During 1980–97, global FDI outflows increased at an average rate of about 13 percent a year, compared with average rates of 7 percent both for world exports of goods and non factor services and for world GDP (at current prices) during 1980–96. In 1998, the global FDI inflows increased for the seventh consecutive year, and outflows for the third consecutive year, to reach some \$430-440 billion. (In principle, world FDI flows measured in terms of annual inflows should be equal to those measured in terms of annual outflows. In practice, however, because of differences in national methodologies and coverage, they are not.)

The increase in direct investment flows has laid the foundation for a marked expansion of international production by transnational corporations, which now have an estimated \$3.4 trillion invested in about 449,000 foreign

affiliates throughout the world. The value of sales by these foreign affiliates has increased more rapidly than that of foreign trade (world exports), reaching an estimated \$9.5 billion.

As FDI flows have grown in volume, they have also become more widely dispersed among home (outward investor) and host (recipient) countries. Developing countries' share in total FDI inflows rose from 26 percent in 1980 to 37 percent in 1997, and their share in total outflows rose from 3 percent in 1980 to 14 percent in 1997. Firms based in industrial countries are still the primary source of FDI, but direct investment originating in developing countries has more than doubled since the mid-1980s. Industrial countries as a group also attract the greater proportion of such investment, but their share is eroding as developing countries become increasingly attractive destinations for investment.

Among developing countries, though, the distribution of world FDI inflows is uneven. In 1997, for example, developing Asia received 22 percent; Latin America and the Caribbean, 14 percent; and Africa, 1 percent. In relative terms, however, the picture looks different: expressed as a ratio of gross fixed capital formation, FDI inflows to Africa were 7 percent in 1996, compared with 13 percent for Latin America and the Caribbean and 7 percent for developing Asia. In other words, inflows to Africa have a greater impact on the countries of that continent in relative terms than the absolute figures suggest.

Many countries do not believe that monetary crisis which attack Thailand, Philippines and Malaysia is finally follows by Indonesia. Since economic

distortion happened in July 1997 in Indonesia (which is known as monetary crisis), that crisis had destroyed all pivotal strength of economic (Sri Adiningsih, 2000). The impact of that crisis is the collapse in industry sector and followed by the lack of nine basic needs, increasing of price, poverty and unemployment. Once again, it affects the trust of investors to make investment in Indonesia. The investors assumed that because of the economic and political situation in Indonesia, it would be very risky and hard to do business activities. As a proof of this condition, starting in 1998 the level of Foreign Direct Investment is negative. In fact, some of Multinational Corporation (MNC) such as Sony and Reebok had closed their company and removed their business to other countries because of the government's failure in handling this kind of problems.

Indonesia needs to recover from this disease and build the international trust and create a good and comfortable situation, especially on economic and political sector so that the foreign investment will increase in the next period, which will lead to the increase of capital accumulation and in the end, the economic growth will also increase in the desirable level of growth. The data of Gross Domestic Product (GDP) that represent the economic growth of Indonesia for some years are shows in the table below.

Table 2
Gross Domestic Product of Indonesia (1993 based years)

Year	GDP (billions of rupiah)
1975	108873.0
1980	159357.4
1985	200834.1
1990	271968.1
1995	383792.3
1998	376374.9
2002	426943.0

Sources: Center Bureau of Statistic (BPS)
 (Years of volumes: 1975 to 2002)

Based on the study background above, the writer was interested to analyze the case of The Determinants of Foreign Direct Investment (FDI) in Indonesia. In this research, the writer analyzes the determinants of Foreign Direct Investment (FDI) in Indonesia for the period of 1975 to 2002. Hopefully, this research will be useful as a consideration, a suggestion and a reference for others in order to attract foreign investors.

1.2 Problem Identification

The writer decided that the main topic of this research is analyzing the determinants of foreign direct investment (FDI). This is interesting because the

Indonesian government prefers to choose foreign direct investment after experienced the high level of foreign debts that have to be pay because of the crisis. The level of economy is one indicator for a country's welfare. This research is to analyze kinds of factors that determine the foreign direct investment in Indonesia.

1.3 Problem Formulation

The study background at the previous page explained that there is a problem that occurs in the efforts of improving capital accumulation due to the increase in the level of economic in Indonesia. The writer wants to do this research in order to obtain the conclusion by using formulas that in calculating the data of the determinants. What kinds of determinants are and whether they give positive or negative impact and whether they are significant or nor.

1.4 Problem Limitation

There are so many factors influencing foreign direct investment in Indonesia, but the writer decided to emphasize about GDP that has been use as proxies for market size of a nation, the degree of openness of an economy that is measure by the ratio of the sum of export and import to GDP, labor cost and the population in Indonesia. The research uses data of growth domestic product (GDP), foreign direct investment (FDI), export, import, labor cost and population in Indonesia for the period of 1975 to 2002.

1.5 Research Objectives

The purposes of this research are:

1. To analyze the determinants of foreign direct investments in Indonesia.
2. To apply the method of Ordinary Least Square (OLS) theory in the real case economy.

1.6 Research Contribution

The final result of this research can be use as:

1. A reference of further studies, especially in the development of economic aspect.
2. For government, it is use as the consideration in making decisions, which related with International economic problem, one of them is foreign direct investment.
3. To give positive contribution to other parties who have interests to conduct some further research about the determinant of foreign direct investment in Indonesia.
4. To compare the theories which have been received with the real term of condition.

1.7 Hypothesis

Based on those problems above, the hypothesis are:

1. The market size of a nation has a positive impact and it is significant to foreign direct investment (FDI).
2. The degree of openness of an economy has a positive impact and it is significant to foreign direct investment (FDI).
3. Labor Cost has a negative impact and it is significant to foreign direct investment (FDI).
4. Population has a positive impact and it is significant to foreign direct investment (FDI).

1.8 Definition of Terms

- Foreign Direct Investment:
 1. Investment in business that being held by foreign citizens in a country, usually involve majority ownership of related business
 2. Joint venture between foreign company with company of a country (ex: between Japan company and Indonesia company)

- Gross Domestic Product:

The value of all final goods and services produced, includes the income of corporation and foreign citizens that operate or work in a country, with an exception of the income of citizens and company of a country in abroad.

- Labor Cost:

Total Payments in terms of wages and salaries in which held by a company for labor force used.

- **Population:**

The sum of people or citizens that lives in a certain area, such as: in rural area, in urban area, in a country or in the world.



CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Review of Related Literature

“The Continuing Role of Foreign Investment in East and South East Asia”

The investment of foreign capital has been the driving force for Asia's economic growth for many years. With the liberalizing of restrictions of capital flows across the region in the 1980s, however, has come a vast increase of private capital flows in the form of portfolio investments and loans. For the five Asian economies affected most by the financial crisis (Indonesia, Malaysia, Thailand, South Korea and the Philippines) foreign direct investment was to account for only 4.5% of private capital flows with borrowings and portfolios comprising the other 95.5%. The volatility of this global private capital was exposed in the financial crisis where credit flows for the Asian-5 declined by \$125bil or 150% from 1996 to 1998. The growth of foreign capital and its decline, reveal not only a change in composition of foreign investment but also a change in the nature and purpose of foreign investment for Asia. It is the thesis of this paper that foreign investment has driven the economic and business growth of Asia over the past several decades and will continue to dominate the economic-business growth of Asia in the future. Further, that if Asia is to avoid another financial crisis as seen in 1997-98 then a new style of business and financial management is needed that aligns business practice and regulation with the demands of the global market(Dr Christopher Reynolds).

“Capital Controls and Foreign Direct Investment”

This paper examines the effects of three types of capital control policies: (i) the existence of multiple exchange rates (ii) controls on capital account and (iii) the stringency of requirements for the repatriation and/or surrender of export proceeds, on foreign direct investment flows. They examine how each capital control measure affects FDI across 75 developing countries over the period 1970-2000. Overall, they find that capital controls deter FDI. However the impact has changed over time. Specifically, prior to the 1990s, the only restriction that had a significant impact on FDI was the exchange rate structure. However, in the 1990s, all three measures of capital controls were influential, suggesting that investors have become discriminatory and punitive over time. In addition, the impact of liberalization on FDI varies by region. Capital account control is the only significant policy for East Asian and Pacific countries whereas exchange rate system and export restrictions are both important determinants of FDI in Latin America and Caribbean. None of the instruments has effects on FDI in Sub-Saharan Africa and Middle East & North Africa (Elizabeth Asiedu and Donald Lien).

“Foreign Direct Investment: Good Cholesterol?”

This paper studies the proposition that capital inflows tend to take the form of FDI, i.e. the share of FDI in total liabilities tends to be higher in countries that are safer, more promising and with better institutions and policies. It finds

that this view is patently wrong since it stands the historical record on its head. It then uses alternative theories to make sense of the facts. It begins by studying the determinants of the size and composition of the flows of private capital across countries. It finds that while capital flows tend to go to countries that are safer and have better institutions and financial markets, the share of FDI in total flows is not an indication of good health. On the contrary, countries that are have more risk, less financially developed and have weaker institutions tend to attract less capital but more of it in the form of FDI. Hence, interpreting the rising share of FDI, as a sign of good health is unwarranted. This is even more so, given that FDI's recent rise has taken place while total private capital inflows have fallen (Ricardo Hausmann and Eduardo Fernandez-Aires).

“The Determinants of Foreign Direct Investment in Transition Economies”

The foreign direct investment plays a crucial role, in terms of fostering accelerated growth, technical innovation and enterprise restructuring. Hence this paper offered a rigorous econometric model of the foreign direct investment process in the CEE transition economies. In so doing, they examine the role played by economic and political risk in the host economy, and the influence of prospective EU membership. Their analysis is based upon a new panel data set containing information on FDI flows from 18 established market economies to 11 transition economies over the period 1994 to 1998. They develop an eclectic approach under which we establish that FDI inflows are determined by country risk, unit labor costs, host market size and gravity factors. They simultaneously

model the credit rating of the host transition economy and find it to be strongly influenced by private sector development, industrial development, the government balance, reserves and corruption. By introducing variables for key announcements of progress in EU accession, they show that announcements have impacted directly upon FDI receipts but have not influenced country credit ratings. Hence they find that political announcements concerning timetables for admission to the EU can increase levels of FDI thereby improving economic performance. The implications are an increasing concentration of FDI into the more successful transition economies, and increasing differentiation in per capita income within the region associated with inclusion or exclusion from the EU (Alan A. Bevan and Saul Estrin).

“The Pattern and Determinants of US Foreign Direct Investment in Industrialized Countries”

The direct effects of undertaking FDI may be considerable in terms of employment, and capital availability, the impact of FDI on the export behavior of the home country is also of importance to the home country. In the case that FDI substitutes for exports, FDI is seen as a divergence of resources away from the domestic market. Production is being relocated to a foreign market which may have considerable welfare implications for the home country. This paper includes lagged exports as a determinant of outward FDI in order to investigate if outward FDI and exports have been complements or substitutes over the period considered, and if this relationship is the same for all destination countries. FDI

and exports are also interlinked in the sense that exports normally precede FDI, with the firm 'learning' about overseas market opportunities initially through exports before engaging in FDI (Rajesh Narula and Katharine Wakelin).

"Foreign Direct Investment and Economic Growth"

The paper looks at the role of foreign capital in the growth process of developing countries. The first section looks at regional and country specific trends in the flow of foreign direct investment. The trends show that foreign direct investment is more likely to flow in high growth countries and countries with high levels of income. The second section of the paper looks at the determinants of foreign direct investment, by imposing cointegration and error correction models on a forecasting system, the result show that the size of economy, its growth rates, and manufacturing profitability are the most important determinants of foreign direct investment. The third section looks at the channels through which foreign direct investment affect economic growth, trade and employment. In a macroeconomic framework model, the study finds that foreign direct investment promotes export, domestic investment and trade. However, the study finds that FDI has no statistical effect on employment (Kennedy K. Mbekeani).

2.2 Theoretical Framework

2.2.1 Foreign Direct Investment

FDI has become an important source of private external finance for developing countries. It is different from other major types of external private capital flows in that it is motivated largely by the investors' long-term prospects for making profits in production activities they directly control. Foreign bank lending and portfolio investment, in contrast, are not invested in activities controlled by banks or portfolio investors, which are often motivated by short-term profit considerations that can be influenced by a variety of factors (interest rates, for example) and are prone to herd behavior. These differences are highlighted, for instance, by the pattern of bank lending and portfolio equity investment, on the one hand, and FDI, on the other, to the Asian countries stricken by financial turmoil in 1997: FDI flows in 1997 to France, Germany, Italy, Japan, and the United States remained positive in all cases and declined only slightly for the group, whereas bank lending and portfolio equity investment flows declined sharply and even turned negative in 1997.

While FDI represents investment in production facilities, its significance for developing countries is much greater. Not only can FDI add to investible resources and capital formation, but, perhaps more important, it is also a means of transferring production technology, skills, innovative capacity, and organizational and managerial practices between locations, as well as of accessing international marketing networks. The first to benefit are enterprises

that are part of transnational systems (consisting of parent firms and affiliates) or that are directly link to such systems through non equity arrangements, but these assets can also be transfer to domestic firms and the wider economies of host countries if the environment is conducive. The greater the supply and distribution links between foreign affiliates and domestic firms, and the stronger the capabilities of domestic firms to capture spillovers (that is, indirect effects) from the presence of and competition from foreign firms, the more likely it is that the attributes of FDI that enhance productivity and competitiveness will spread. In these respects, as well as in inducing transnational corporations, they decided to locate their activities in a particular country in the first place, policies matter.

A. Theories of Foreign Direct Investment

In international movement of "capital", there are two types of capital movements: First, Foreign Direct Investment (FDI) refers to a movement of capital that involves ownership and control. Means the company from the origin country has right (de jure or de facto) to control its asset in the capital importer country. For example, when U.S citizens purchase common stock in a French firm, they become owners and have an element of control because common stockholders have voting rights. The building of plant in Sweden by U.S Company is also FDI, because clearly there is ownership and control of the new facility (a branch plant by the U.S). Foreign Direct Investment is usually discuss in the context of the **multinational corporation (MNC)**. These terms refer to the

phenomenon where production is taking place in plants located in two or more countries but under the supervision and general direction of the headquarters located in one country; Second, Foreign Portfolio Investment refers to the flow of financial capital. Means shareholders have no right to control the assets as in direct investment, they only get interest from its capital which is invested into capital importer country. For example, the deposit of funds in a U.S bank by a British company or the purchase of bonds (a certificate of indebtedness, not certificate of ownership) of a Swiss company or the Swiss government by a citizen or company based in Italy. These flows of financial capital have their immediate impacts on balances of payments or exchange rates rather than on production or income generation.

In other explanation, the international movement of financial resources takes two main forms:

1. private foreign direct and portfolio investment, consisting of:
 - a. Foreign "direct" investment by large multinational (or transnational) corporations with headquarters in the developed nation.
 - b. Foreign "portfolio" investment (e.g. stocks, bonds and notes) in LDC "emerging" credit and equity markets by private institutions (banks, mutual funds, corporations) and individuals.
2. public and private development assistance (foreign aid), from:
 - a. Individual national governments and multinational donor agencies.

- b. Private non governmental organization (NGO), most working directly with developing nations at the local level.

B. Advantages of Foreign Direct Investment

Foreign Direct Investment or direct investment has some benefits, such as:

1. Direct investment transfers capital, science, technology and managerial skill to the less developed countries.
2. Support domestic company to invest by itself in the form of supporting company and cooperate with foreign company. Foreign company support domestic company through two ways:
 - a. Directly help the growth of domestic company by human skill, money, raw material, training, and experience.
 - b. Indirectly create demand of additional services (such as transportation agents) which becomes inefficient if foreign company handle this sector by itself.
3. Most of profits from direct investment are reinvested in order to expand the company, modernization, and build related industries.
4. Direct investment is directed or allocated to productive sector. Therefore, it adds production capacity of host country and creates labor market.
5. Usually direct investment focuses on manufacturing industries that produce primary goods for export, so, it will increase export and foreign exchange. In the development context, the additional foreign currency can be used to import capital equipments and materials to assist in

achieving the country's development plan, or can be used to pay interest or repay some principal on the country's external debt. It means it automatically will relieve the host country.

6. Increased tax revenue. If the host country is in the position to implement effective tax measures, the profit and other increased income flowing from the foreign investment project can provide a source of new tax revenue to be used for development projects. However, the country must spend such revenue wisely and refrain from imposing too high a rate of taxation on the foreign firm, as this might cause the firm to leave the country.
7. Weakening the power of domestic monopoly. This situation could result if, prior to the capital foreign capital inflow, a domestic firm or a small number of firms dominated a particular firm in the host country. With the flow of direct investment, a new competitor will be exists, resulting in a possible increase in output and fall in price in the industry.
8. Access to the world markets. Less developed countries capable of producing at competitive cost often find it difficult to penetrate foreign markets. Many multinational corporation, particularly in natural resources, chemicals, and other heavy industries, are vertically integrated, oligopoly firms for which many transactions take place within the firm.

C. Cost of Foreign Direct Investment

Besides having so many of good impact as explained above, there are also occurs negative or bad impact of foreign direct investment for host country. And some alleged disadvantages to the host country from foreign capital inflow are:

1. Adverse impact on the host country's commodity terms of trade. A country's terms of trade are defines as the price of a country's export divided by the price of its imports. In the context of FDI, the allegation is sometimes made the term of trade will deteriorate because of the inflow of foreign capital. This could occur if the investment goes into production of export goods and the country is a large country in the scale of its export. Thus, increased exports drive down the price of export relative to the price of imports.
2. Can reduce domestic savings. The allegation, in the context of developing country, is that the inflow of foreign capital may cause the domestic government to relax its efforts to generate greater domestic savings. If tax mechanisms are difficult to put into place, the local government may decide there is no need to collect more taxes from low-income population for financing of investment projects if a foreign firm is providing investment capital.
3. Decreased domestic investment. Often the foreign firm may partly finance the direct investment by borrowing funds in the host country's capital market. This action can drive up interest rates in the host country and lead to decline in domestic investment through "crowding-out effect". In a

related argument, suppliers of funds in developing country may provide financial capital to the Multinational Corporation rather than to local enterprise because of perceived lower risk.

4. It might also make instability the balance of payment and the exchange rate. When the foreign direct investment comes into the country, it usually provides foreign exchange, thus improving the balance of payment or raising the value of host country's currency in exchange markets. However, when imported inputs need to be obtained or when profits are sent to the home country, a strain is placed on the host country's balanced of payments and the home currency can then depreciate in value. A certain degree of instability will exist that makes it difficult to engage in long term economic planning.
5. Loss of control over domestic policy is probably the most emotional of the various charges levied against foreign direct investment. The argument is that a large foreign investment sector can exert enough power in a variety of ways so that the host country is no longer truly sovereign. For example, this charge was levied forcefully against U.S. direct investment in Western Europe in the 1960s and it is often raised against U.S. FDI into developing countries.
6. Although the benefit of FDI is to increase employment but it is also suspected to increase unemployment. This argument is usually made in the context of developing countries. The foreign firm may bring its own capital-intensive techniques into the host country; however, this kind of

techniques may be inappropriate for labor-abundant country. The result is that the foreign firm hires relatively few workers and displaces many others because it drives local firm out of business.

7. The FDI can also establish local monopoly. This is the converse of the presumed "benefit" that FDI would break up a local monopoly. On the "cost" side, a large foreign firm may undercut a competitive local industry because of some particular advantages (such in technology) and drive domestic firm from industry. Then the foreign firm will exist as a monopolist, with all accompanying disadvantages of a monopoly.
8. Inadequate attention to the development of local education and skill. First propounded by Stephen Hymer (1972), this argument has the multinational company reserving the jobs that require expertise and entrepreneurial skill for the head office in the home country. Jobs at the subsidiary operations in the host country are at lower levels of skill and ability (e.g., routine management operations rather than creative decision making). The labor force and the managers in the host country do not acquire new skills.

D. Barriers of Foreign Direct Investment

Inhibiting factors of foreign direct investment in less developed countries are not only the economic factor but also political, law enforcement, and cultural factor. Those factors are: (i) Rate of Return on capital is low because of small domestic market; (ii) lack of infrastructure facilities such as transportation,

energy resources, banking system, and skill labor; (iii) afraid of acquisition-nationalization, or government ownership, and reservation of certain product for domestic company; (iv) regulate foreign company tightly in order to gets national purpose such as tax discrimination and require company to give labor market in certain amount not only in the staff level but also in managerial level; (v) bad administration in foreign exchange system; (vi) discrimination of local court because the different in law concept; (vii) instability of domestic economy and politic. (Jhingan, 2000)

E. Steps to Encourage Foreign Direct Investment

In order to attract foreign investment, host country's government should apply regulations that will make foreign investor interested to invest their money. There are several steps that can be done to attract foreign investor:

1. Political Stability and safe condition are the main requirement to attract investor. However, the problem of political stability is not responsibility of economist, but the existence of good life insurance can be as a good consideration for investor. Therefore, host government should build good insurance company.
2. Host country should give good information to foreign company relate with the investment scene. It can be informed trough their trade counselor who is pointed at the developed country.

3. Host country can reduce production cost of foreign company through build good infrastructure (transportation, energy resources, road, etc), and also offer skilled labor.
4. Host country should guarantee will not change foreign company become host country's state own company for certain period. If there was a changes of foreign company become host country's state own company, host country should pay the amount of money have agreed before.
5. Tax stimulation has strong interest to attract foreign investment. Tax holiday is one of the most common tax strategies to attract foreign investment. Tax holiday means foreign company exempt from paying tax, usually for three to six years.
6. Joint ventures partnership also good strategy to encourage foreign investment. Through joint venture companies, host government expect to receive appropriate technology, limit the repatriation of profits, and maintain local control. In the case of net capital, foreign investor maximally only can hold asset 49%.
7. All of steps above will not benefit to foreign investment if there is not enough facilities for the inflow of foreign investment. Government has to simplifying procedures and regulations for entering foreign investment in the host country. Therefore, government should apply clear foreign investment policy.

8. Besides eliminate all of the barriers of foreign investment, host country has to apply concrete policy toward foreign investment, such as give free charge for company that will import raw materials or give information and advice in a law and labor policy to the foreign company.

2.2.2 Gross Domestic Product

There is a distinction between GDP (gross domestic product) and gross national product (GNP). From the definition itself, GDP is the value of all final goods and services produced in the country within a given period. It includes the value of goods produced, such as houses and CD's, and the value of services, such as airplane rides and economist's lecturer. The output of each of these is valued at its market price, and the values are add together to give GDP. Meanwhile, GNP is the value of final goods and services produced by domestically owned factors of production within a given period. The different between GDP and GNP arises because some of the output produced within a given country made by factors of production owned abroad. For example, part of U.S. GDP corresponds to the profit earned by Honda from its U.S. manufacturing operations. These profits are part of Japanese GNP, because they are the income of Japanese-owned capital. For the same case of example, part of Indonesia GDP corresponds to the income earned by an American working in Indonesia. That's American's income is part of Indonesia GNP though it is not part of Indonesia GDP. The different between GDP and GNP corresponds to the net income earned

by foreigner. When GDP exceeds GNP, residents of a given country (e.g., Indonesia) are earning less abroad than foreigner are earning in that country. In the United States, until 1990's, presented GNP as the basic measurement of economy's output. Then, it switched to GDP for three reasons: (i) that GDP is what most other countries do, so that international comparisons became easier; (ii) GDP is easier to measure, since data on net foreign earnings are poor; and (iii) GDP is a better measure of the job-creating potential of the economy than is GNP.

The result is that Gross Domestic Product (GDP) is the basic measure of economic activities. Within GDP, there are three important distinctions must be made:

a. Nominal and real GDP.

Nominal GDP measures the value of the economy's total output, at the price prevailing in the period during which the output produced. Real GDP measures the total output produced in any one period at the prices of some base year. Real GDP, which values the output produced in different years at the same prices, implies an estimate of the real or physical change in production or output between any specified years.

b. Level of GDP (nominal or real) and the growth of GDP

The different between the growth rates of real and nominal GDP occurs because the prices of goods have been rising, or there has been inflation. The inflation rate is the percentage rate of increase of the level of prices during a given period. So that, nominal GDP changes because of the prices of goods

changed or there was inflation. Meanwhile, real GDP is calculated by holding the prices of goods constant in a given year. The growth rate of the economy is the rate at which real GDP is increasing. There are several reasons that cause real GDP to grow over time:

- I. The available amount of resources in the economy changes. The resources conveniently split into capital and labor. The labor force, consisting of people either working or looking for work, grows overtime and thus provides one source of increased production. The capital stock, including buildings and machines, likewise has been rising overtime, providing another source of increased output. Increases in the availability of factors of production (the labor and capital used in the production of goods and services) thus account for the part of the increase in real GDP.
- II. The efficiency with which factors of production work may change. These efficiency improvements called productivity increases. Over time, the same factors of production can produce more output. These increases in the efficiency of production result from changes in knowledge, including learning by doing, as people learn through experience to perform familiar tasks better.
- III. The change in the employment of the given resources available for production. Means that not all the capital and labor available to the economy actually used at all times or there is unemployment. The

unemployment rate is the fraction of the labor force that can not find jobs.

A. Calculating Gross Domestic Product (GDP)

- **Production Approach or Value Added Approach**

By definition GNP and GDP are production side of national income, which counted by adds all of final goods and services. There are two reasons why it is impossible to apply:

- It is difficult to differentiate whether goods and services are final or nor, because final goods and services are goods and services that ready to consumed by consumers, without needed any further process of production. So, the term “final” here, refers to the consumer. For example, flour bought by household is consider as the final good, but if the buyer is a bakery, that wheat is not final good but raw material that used in further production process to produce breads.
- Measurement based on the value of final goods and services will create double counting. For example, flour that already counted as final good will be count once more at the time the value of breads count.

In practice, double counting is avoided by working with “value added”. First, at each stage of the manufacture of a good, only the value added to the good at that stage of manufacture is counted as part of GDP. The value of wheat produced by the farmer is part of GDP. Second, the value of final good (flour bought by household) minus the value of raw material (wheat that goes to bread).

If we follow this process along, we will see that the sum of value added at each stage of processing will equal to the final value of the bread sold.

- **Income Approach**

National Income based on Income Approach is defined as the sum of all the income of factors of production, such as:

- (a) Wage or salary as the income of labor;
- (b) Rent as the income of property (e.g., land, building);
- (c) Interest as the income of capital;
- (d) Dividend as the income of obligation;
- (e) Contra prestige as the income of skill; etc.

- **Expenditure Approach**

National Income based on Expenditure Approach is defined as the sum of all expenditures that being done by factors of production. Usually in the form of identity equilibrium that is called national income identity, the formula is as follow:

$$Y = C + I + G + (X - M)$$

Where: Y= National Income

X = Export

C = Consumption

M = Import

I = investment

G – Govt. Expenditure

B. Problems of GDP Measurement

GDP in practice, used not only as a measure of how much is being produced but also as a measure of the welfare of the residents of a country. Because GDP data are far from perfect in measuring either economic output or welfare, there are four major problems:

- Some outputs are poorly measured because they are not traded in the market. Specific examples include government services, non market activities such as volunteer work, and do it yourself activities in the home.
- It is difficult to account correctly for improvements in the quality of goods. For example, computers and cars which quality has improved while the price has fallen.
- Some activities measured as adding to real GDP in fact represent the use of resources to avoid or contain "bad" such as crime or risks to national security.
- The accounts do not take environmental pollution and degradation into account. This issue is particularly important in developing countries. For instance, one study of Indonesia claims that properly accounting for environmental degradation reduces the annual growth rate of the economy in recent years 3%.

2.2.3 Population

As mentioned in GBHN, the main aim of development in Indonesia is to achieve the welfare of population. This aim will not be reached if the government can not solve the Indonesian population problems such as the big number of population and their unequal distribution. Efforts to distribute population equally have been done by transmigrating population of Java Island to the outer of Java. Beside that, by implementing regional autonomy, it is expected that migration to provinces in Java can be reduced. The effort to push down population growth rate has also been done by implementing family planning program since the early 1970.

While people have been concerned about human population growth for literally thousands of years, the existence of what we would now consider large human populations is a relatively phenomenon. The population of the earth did not reach the first billion until the early 19th century, long after the first publication of Thomas Malthus's famous Essay on the Principles of Population in 1798. Population did not reach two billions until the early 20th century (between 1925 and 1935). The third, fourth, and fifth billions arrived around 1960, 1975, and 1990 respectively, with the sixth expected to arrive with the millennium. Most estimates put the current (1997) human population of the earth around 5.8 billion. The present rate of population growth, however, is between 1.6 and 1.7 percent per year. If that rate of growth were remain to stable, we would expect an additional billion people in about ten years, and would expect the current population to double in size in less than fifty years. However, while most

demographers expect population size to continue to grow well into the next century, many also predict that the rate of growth will decline during the next twenty years, and that world population may even stabilize at some time during the next century. There is a little agreement, however, about what mechanism is likely to cause the rate of growth to diminish, or about the population levels that may be achieved before stability or decline in total population size.. Some argue that human population is likely to keep growing until environmental destruction and consequent resource scarcity causes widespread famine, bringing the death rate high enough to compensate for the birth rate. Others more hopefully propose that fertility rates may fall as economic and human development gives people (and especially women) more control over their reproductive lives.

Is the increase in human population a problem, and if so, what kind of problem is it? Concerns about population growth usually identify the problem in one of two ways: first, human population growth may imply proliferation of destitution and misery for present and future generations of human beings. Some theorists, following Thomas Malthus, have argued that population increase will go hand in hand with increasing poverty, since there will be less of everything to go around. But those who find the simple Malthusian view untenable may still have a second good reason to be concerned about population growth, since the growing human population may unsustainably exploit resources and destroy the earth's great ecosystems. There is a third important reason why population growth and high human fertility should be regarded as a serious problem: the high fertility

rates that lead to rapid population growth impose inordinate personal costs and an unacceptably high risk of death on women in their reproductive years.

According to the conventional economic argument, population growth is an essential ingredient to stimulate economic development. Larger populations provide the needed consumer demand to generate favorable economies of scale in production, to lower production costs, and to provide a sufficient and low-cost labor supply to achieve higher output levels.

A. Classical theory of Population by Thomas Malthus

Thomas Robert Malthus liked arguing with his father. The elder Malthus held liberal views and was optimistic about the prospects for betterment of human society. His more conservative-minded son, however, could not help but feel that social problems were here to stay, and that there must be real limits to the improvement of society.

One theological argument, of course, is that social problems are inevitable because human nature is sinful. One might think this should have settled the matter for Robert, who after all had been ordained, at around age 22, in the Church of England. But he also had studied mathematics, and shown scientific inclinations; neither he nor his father seems to have regarded their debate as essentially theological.

Searching constantly for stronger arguments, Robert eventually hit on an idea so persuasive that he decided to publish an essay laying it out in detail. Thus.

it was that in 1798 he gave the world one of its great books, *An Essay on the Principle of Population*. The gist of his case was that humans, like other forms of life, tended to reproduce in numbers greater than could be easily supported by available resources. This mismatch between population and resources generated poverty, crime, and greed. True, periods of relief occasionally would occur after plagues had sharply reduced population, or technological breakthroughs had abruptly increased available resources (especially food); but the power of population was so great that soon there again would be too many people. Population might eventually stabilize, but it would do so at a level above that of "easy support." Relief from social problems, then, would be rare and temporary.

A key point in Malthus' argument--which has been under nearly non-stop debate for two centuries now--has been widely overlooked: his claim that population tended to stabilize at a level greater than what resources could easily support meant that there would be not only social problems, but also nearly constant pressure for culture change. As he wrote toward the end of the *Essay*, the press of population "is constantly acting upon man as a powerful stimulus, urging him to the further cultivation of the earth, and to enable it consequently to support a more extended population" (1976:121). The possibility that population pressure could help explain cultural evolution would lie in neglect for a long time indeed; when scholars at last latched onto it, they would label it, ironically enough, an "anti-Malthusian" approach

Humans are torn between self interests and group interests. If we define the ultimate group interests as those of society as a whole, then there is clearly a conflict between the two. The focus of this conflict rests with the pursuit of short-term personal gain, which is opposed by the requirement for long-term group survival. The net balance between these two factors determines the nature of economic (and political) systems.

Current economic systems provide a basis for many more humans to live than could possibly be supported in a subsistence way of life. That is, current population levels depend upon non-renewable, as well as renewable, resources for their existence. However, these systems also provide an opportunity for a few individuals to pursue self interest at the expense of the many. To avoid anarchy and subsequent collapse, society lays down both personal and economic rules for acceptable conduct. Over time, these rules change as the acquisition of wealth and power by the few feeds upon itself. The many pay the price not only economically and socially, but environmentally as well.

We all understand the concept behind the laws of supply and demand. Most have failed to notice, however, that recent economic innovations have repealed these laws. Supply, demand and price can be economically manipulated in the short term, with no concern about the long term consequences (e.g. chromium). Increased demand can be artificially created by economic forces which appeal to the population's short-term interests (e.g. advertising). Resources

which are in fact scarce, particularly considering long-term need, can be made to appear abundant (e.g. oil), at least in the short term.

The "short" in short-term is getting shorter. Among the population, instant gratification is the rule of the day. Easy credit has played a significant role in the dominance of this attitude in some societies. Thus, "buy now - pay later" has contributed to a substantial decline in societal group interests. The result has been a proliferation of subgroups, each competing with the others to satisfy its own self interests. As the number of these subgroups increases even more rapidly than the population, the societal group becomes paralyzed as it attempts to solve its problems.

B. Negative Consequences of Population Growth

According to the latest empirical research, the potential negative consequences of population growth for economic development can be divided into seven categories:

- a. **Economic growth.** Evidence shows that rapid population growth lowers per capita income growth in most LDCs, especially those that are already poor, dependent on agriculture, and experiencing pressures on land and natural resources.
- b. **Poverty and Inequality.** The negative consequences of rapid population growth fall most heavily on the poor because they are the ones who are made landless, suffer first from cuts in

government health and education programs, bear the brunt of environmental damage, and are the main victims of job cuts due to the slower growth of the economy.

- c. **Education.** Large family size and low incomes restrict the opportunities of parents to educate all their children. At the national level, rapid population growth causes given educational expenditures to be spread more thinly, lowering quality for the sake of quantity. This turn feed back on economic growth because the stock of human capital is reduced by rapid population growth.
- d. **Health.** High fertility harms the health of mother and children. It increases the health risks of pregnancy, and closely spaced births have been shown to reduce birth weight and increase child mortality rates.
- e. **Food.** Over 90% of additional LDC food requirements are caused by population increases.
- f. **Environment.** Rapid population growth contributes to environmental degradation in the form of forest encroachment, deforestation, fuel-wood depletion, soil erosion, declining fish and animal stocks, inadequate and unsafe water, air pollution, and urban congestion
- g. **International Migration.** Rapid population growth creates an excess of job seekers over job opportunities. This happens in

LDCs, and will cause economic and social cost due to the recipient countries, increasingly in developed countries.

2.2.4 Labor Cost

The interpretation of labor cost per unit of manufacturing output (hereafter called unit labor cost) is straightforward--it is the cost of worker compensation and benefits per unit of manufactured output. Unit labor costs rise when compensation and benefits rise faster than labor productivity. To see this, recall that labor productivity can be measured as the quantity of output produced for a given hour of labor input. If labor productivity increases by 2 percent and worker compensation remains unchanged, then unit labor costs would decline.

Conversely, if labor productivity remains unchanged but worker compensation and benefits rise by 4 percent, then unit labor costs would rise. Thus changes in unit labor costs reflect the net effect of changes in worker compensation and changes in worker productivity.

Labor is usually the single largest component of production costs. Accordingly, unit labor cost is an important indicator of trends in production costs, share prices, and inflation. Let's consider each of these relationships. First, a sustained rise in unit labor costs will cause an upward shift in a firm's average and marginal cost curves. Second, rising production costs will reduce profits, and if these effects spread across the economy they will be reflected in a decline in

equity indices such as the S&P 500. Third, firms confronted with rising unit labor costs will be pressured to raise prices, which can trigger accelerating inflation.

Consequently, unit labor cost is closely watched by monetary policy authorities at the Federal Reserve Bank and the Conference Board, which uses unit labor costs in its lagging indicators series of the Index of Economic Indicators.

A. The Value of Labor

The next step is to investigate the value of labor itself. According to Smith, nature sets the "minimum" wage:

A man must always live by his work, and his wages must at least be sufficient to maintain him. They must even upon most occasions be somewhat more; otherwise it would be impossible for him to bring up a family, and the race of such workmen could not last beyond the first generation.

It is difficult for wages to rise much above this minimum. Smith partially attributes this to inequality of bargaining power. The power of the worker to withhold his labor is far weaker than the power of the employer to withhold access to employment:

A landlord, a farmer, a master manufacturer, or merchant, though they did not employ a single workman, could generally live a year or two upon the stocks [capital] which they have already acquired. Many workmen could not subsist a week, few could subsist a month, and scarce any a year without employment.

In the long-run the workman may be as necessary to his master as his master is to him; but the necessity is not so immediate

This "natural" inequality was supplemented by legal inequality. When Smith was writing *The Wealth of Nations* - and for another fifty years thereafter - British workers were prohibited from forming unions and bargaining collectively. There were no similar prohibitions on employers:

We rarely hear, it has been said, of the combinations of masters, though frequently those of workmen. But whoever imagines, upon this account, that masters rarely combine, is as ignorant of the world as of the subject. Masters are always and everywhere in a sort of tacit, but constant and uniform, combination, not to raise the wages of labour above their actual rate. To violate this combination is everywhere a most unpopular action, and a sort of reproach to a master among his neighbors and equals. We seldom, indeed hear of this combination, because it is the usual, and one may say, the natural state of things which nobody ever hears of. Masters, too, sometimes enter into particular combinations to sink the wages of labour even below this rate.

Yet there were sometimes forces leading wages upward. Rapid economic growth can create a shortage of labor. The reinvestment of profits will lead to ever greater employment. However, higher wages, by improving living conditions and thus reducing infant and child mortality, quickly lead "to the great multiplication of the species." The race between the demand for labor and the supply of labor will eventually be won by the supply of labor and wages will once again fall to the "lowest rate which is consistent with common humanity."

Additionally, labor of greater skill or difficulty will itself take on a natural price in terms of common labor:

If the one species of labor should be more severe than the other, some allowance will naturally be made for this superior hardship; and the produce of one hour's labor in the one way may frequently exchange for that of two hours' labor in the other.

Or if the one species of labor requires an uncommon degree of dexterity and ingenuity, the esteem which men have for such talents, will naturally give a value to their produce, superior to what would be due to the time employed about it. Such talents can seldom be acquired but in consequence of long application, and the superior value of their produce may frequently be more than a reasonable compensation for the time and labor which must be spent in acquiring them.

B. The Level of Wages

Ricardo's theory of wages was similar to Smith's, but much more severe. Thomas Malthus, Ricardo's good friend, had published his famous *Essay on the Principle of Population* in 1798. While Adam Smith had noted a *tendency* for population to increase when wages were high, Ricardo (and Malthus) turned this tendency into a *ruthless certainty*:

The natural price of labour...depends on the price of the food, necessities, and conveniences required for the support of the labourer and his family.

With a rise in the price of food and necessities, the natural price of labour will rise; with the fall in their price, the natural price of labour will fall. ...

It is when the market price of labour exceeds its natural price that the condition of the labourer is flourishing and happy, that he has it in his power to command a greater proportion of the necessities and enjoyments of life, and therefore to rear a healthy and numerous family. When, however, by the encouragement which high wages give to the increase of population, the number of labourers is increased, wages again fall to their natural price, and indeed from a reaction sometimes fall below it.

When the market price of labour is below its natural price, the condition of the labourers is most wretched: then poverty deprives them of those comforts which custom renders absolute necessities. It is only after their privations have reduced their number, or the demand for labour has increased, that the market price of labour will rise to its natural price, and that the labourer will have the moderate comforts which the natural rate of wages will afford.

C. Labor Theory of Value

It all fits together into a fairly complete and consistent theory of value. Value is determined by the amount of labor needed for production, including, of course, the labor used to produce the raw materials and the 'worn out' part of the capital equipment. For wheat and similar products, value is determined by the amount of labor needed for production on the poorest land. Wages are determined by the

values of the goods and services that a working class family needs to survive and reproduce. The capitalist pays his suppliers, repairs or replaces his worn out equipment, pays the workers and sells the product for a price determined by the amount of labor it took to produce it. Whatever is left over is profit. If the price of bread is high, wages will also be high and there will be little profit, but agricultural landowners will collect high rents. If the price of bread is low, wages will also be low and there will be high profits and little rent. Note that profit and rent are incorporated into this value theory, not added on as a cost as Smith had done.

There was still one major problem with the labor theory of value. It would only work well as a theory of natural price if the ratio of labor costs to capital costs was the same in all industries. Labor could not be an invariant standard of value when some industries used lots of labor and little capital while others used lots of capital and little labor, since a change in the distribution of income between wages and profits would alter costs in different industries by different amounts. Ricardo was still pondering this problem when he died. We will return to it later in this chapter. Nonetheless, Ricardo's labor theory of value was something of a sensation. Thirty years after Ricardo's *Principles of Political Economy*, John Stuart Mill, in his own *Principles of Political Economy* (1848) saw little reason to modify Ricardo's foundation of economics:

Happily, there is nothing in the laws of Value which remains for the present or any future writer to clear up; the theory of the subject is complete: the only

difficulty to be overcome is that of so stating it as to solve by anticipation the chief perplexities which occur in applying it.

Marx's Labor Theory of Value

For the most part, Karl Marx worked within the framework of David Ricardo's labor theory of value. The two most important differences were Marx's emphasis on fixed capital and his use of the labor theory of value to identify the *source* of profit. Like Ricardo, Marx started by adding up all of the direct and indirect labor used. The **value** of something that requires 10 hours of direct labor plus raw materials that took 12 hours of labor to produce plus 1/1,000 of the life of a machine that took 5,000 hours of labor [including raw materials and tools] to make would be 'worth' 10 [labor] + 12 [materials] + 5 [depreciation of capital] hours of labor, a total value of 27 hours.

So how does the capitalist, who could normally sell this item at its *value* of the money equivalent of 27 hours of labor, make a profit? Only by being able to buy at least one of the inputs at a price below its value. He buys his machines from other capitalists - who are able to sell them at their value. He buys his raw materials from other capitalists as well, and has to pay full value. So profit doesn't come from machines or raw materials.

Labor is different. If the value of anything is the amount of labor it took to produce it, we need to ask: What is the value of labor? The value of labor is itself the amount of labor it takes to produce the food and other necessities consumed by the worker and the worker's family. And, at least since humans invented agriculture, labor has produced a **social surplus** - more than is necessary to

simply sustain the worker at the level that was deemed by society to be 'right' for workers. If the worker in our current numerical example consumes goods and services that took 6 hours to produce, the value of his labor is the money equivalent of just that-6 hours of labor. And the value of his labor is just exactly what Marx's "perfect" capitalist pays. Which leaves the capitalist with a profit (*surplus value* in Marx's terminology) of the money equivalent of 4 hours of labor.

Why doesn't the worker simply work on her own and keep the entire value of the output rather than let the capitalist extract a large portion of it? Because the *value* of any commodity is based on what Marx called the *socially necessary* amount of labor used to produce it. If the worker, working without the advanced machinery owned by the capitalist, could produce the product from the example above in 50 hours of labor, she could still only sell it for the equivalent of 27 hours of labor because that is how much labor it takes to produce it using modern machinery and production methods. In other words, the capitalist is able to appropriate the social surplus because the capitalist owns the very machinery that allows the social surplus to be as large as it is.

CHAPTER III

RESEARCH METHOD

3.1 Collecting Data:

The research is using quantitative method and time-series secondary data taken from International Financial Statistic (IFS) published by International Monetary Fund (IMF) and Center Bureau of Statistic (BPS). The data are: foreign direct investment (FDI); GDP that has been use as proxies for the market size of a nation; ratio of the sum of export and import to GDP as a proxy for the degree of openness of an economy; labor cost and population in Indonesia, take for the period of 1975 to 2002.

3.2 Technique of Data Analysis:

Concerning this empirical study, analyzing data based on model of Ordinary Least Square (OLS) that will predicts the determinants of foreign direct investment (FDI). By using this method, decided after used MWD test, it is predicted that the Best Linear Unbiased Estimator (BLUE), will be obtained by researcher. The function is as follow:

$FDI = f(\text{the market size of a nation, the degree of openness of an economy, labor cost, population})$

Or $Y = f(X_1, X_2, X_3, X_4)$

The Ordinary Least Square (OLS) model is as follow:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$$

- Where Y = Foreign Direct Investment (FDI) (billions rupiah)
- X_1 = the market size of a nation (GDP) (billions rupiah)
- X_2 = the degree of openness of an economy (ratio of the sum of export and import to GDP) (degree)
- X_3 = labor cost (millions rupiah)
- X_4 = population (millions)

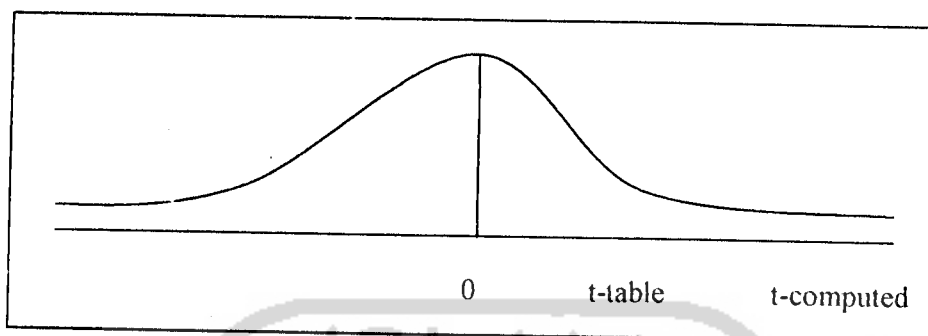
3.3. Statistical Test

3.3.1. Testing for t-statistic:

We can use the t test to test a hypothesis about any individual partial regression coefficient. The usual t -test involves the following procedure:

1. Determine the null (H_0) and alternative hypothesis (H_a), then define the alternative test: one tail test or two tail tests. If there is no specific information the alternative test using two tail test other wise one tail test. Suppose $H_0: \beta_1 = 0$; $H_a: \beta_1 > 0$, it is two tail tests.
2. Determine the level of significance (α)
3. Determine the critical value or t -table and t -computed or t -test.
4. Compare between t -table with t -computed.
5. Decision under the assumption of one tail test caused by the specific information in the hypothesis, if the t -computed greater than t -table we may reject H_0 and accept H_a or vice versa.

Determining t-test and t-table



Using t-statistic, we find that:

1. If $t\text{-statistic} > t\text{-table}$ ($df = n-k$); H_0 is rejected.
2. If $t\text{-statistic} < t\text{-table}$ ($df = n-k$); H_0 is accepted.

3.3.2. Testing for F-statistic:

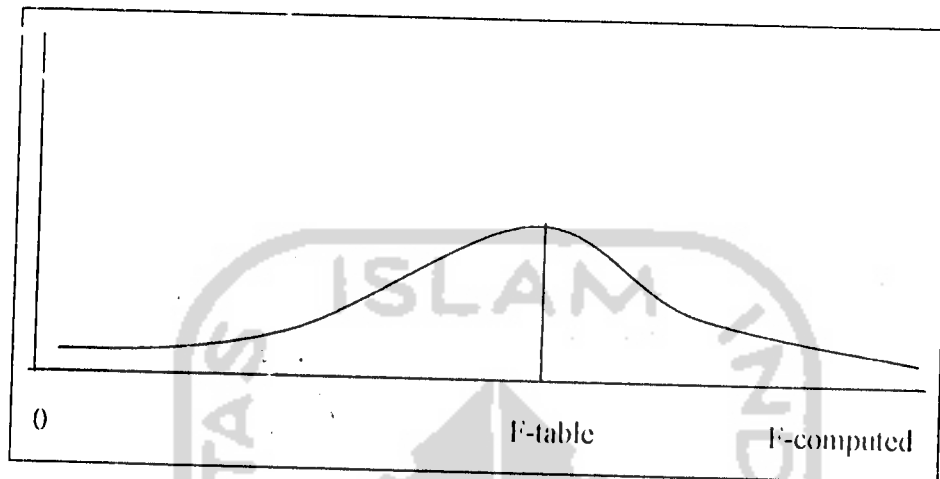
Throughout the previous section we were concern with testing the significance of the estimated partial regression coefficients individually, that is, under the separate hypothesis that each true partial regression coefficient was zero. But now consider the following hypothesis:

$H_0: \beta_1 = \beta_2 = \beta_3 = 0$, in which independent variables do not influencing dependent variable.

$H_0: \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$, in which independent variables influencing dependent variable.

This null hypothesis is a joint hypothesis that β_1 , β_2 and β_3 are jointly or simultaneously equal to zero and β_2 , β_3 and β_4 are not equal to zero.

Determining F-table and F-computed



Using F-statistic, we find that:

1. If F-statistic < F-table, in which H_0 is accepted.
2. If F-statistic > F-table, in which H_0 is rejected.

3.4. Coefficient of Determination (R^2)

An important property of R^2 is that, it is a non decreasing function of the number of explanatory variable or regressor present in the model, as the number of regressor increases, R^2 almost invariably increases and never decreases. R^2 is use to detect how far the independent variables influence the dependent variable in the model. The number of R^2 is between 0 - 1.

3.5. Classical Assumption

Basically this test is used to know whether the model in this research is a valid model or not. We can say one model is a valid model if there is no multicollinearity, autocorrelation and heteroscedasticity in the model.

3.5.1. Testing for Multicollinearity:

The term multicollinearity is due to Ragnar Frisch. Originally it meant the existence of a “perfect” or exact linear relationship among some or all explanatory variables of a regression model. For the k-variable regression involving explanatory variable $X_1, X_2, X_3, \dots, X_k$ (where $X_1 = 1$ for all observation to allow for the intercept term) an exact linear relationship is said to exist if the following condition is satisfied:

$$\lambda_1 X_1 + \lambda_2 X_2 + \lambda_3 X_3 + \dots + \lambda_k X_k + \mu_1 = 0$$

where $\lambda_1, \lambda_2, \dots, \lambda_k$ are constants such that not all of them are zero simultaneously, where μ_1 is a stochastic error term. To detect the multicollinearity, we can use the correlation method as the best one.

The multicollinearity is predicted happens when R is high, say in excess of 0.8. If R is high, the F-test in most cases will reject the hypothesis that the partial slope coefficients are simultaneously equal to zero. Since multicollinearity arises because one or more of the regression are exact or approximately linear combination of the other regressor.

One way of finding out which X variable is related to the other X variables is to regress each X on the remaining X variables and compute the corresponding

R, then follows the relationship between F and R. If the computed F exceeds the critical F at the chosen level significance, it is taken to mean that the particular X is collinear with other X. If it does not exceed the critical F, we say that it is not collinear with other X.

3.5.2. Testing for Heteroscedasticity:

One of important assumptions of the classical linear regression model is that the variance of each disturbance term u_i , conditional on the chosen values of the explanatory variables, is some constant number equal to σ^2 . This is the assumption of homoscedasticity, or equal (homo) spread (scedasticity), that is, equal variance. Symbolically,

$$E(u_i^2) = \sigma^2 \quad i = 1, 2, \dots, n$$

If this assumption is wrong or misleading, heteroscedasticity will exist. The present of heteroscedasticity still predict the OLS remain unbiased and consistent but no longer efficient whether it is for small sample or large sample, because the variance is not minimized. Symbolically,

$$E(u_i^2) = \sigma_i^2$$

Testing for heteroscedasticity can be found with Park test method. Park formalizes the graphical method by suggesting that σ_i^2 is some function of the explanatory variable X_i . The functional form he suggested was

$$\sigma_i^2 = \sigma^2 X_i^\beta e^{\mu_i}$$

or

$$\ln \sigma_i^2 = \ln \sigma^2 + \beta \ln X_i + \mu_i$$

where μ_i is the stochastic disturbance term.

Since σ_i^2 is generally not known, Park suggests using u_i^2 as a proxy and running the following regression:

$$\begin{aligned}\ln u_i^2 &= \ln \sigma^2 + \beta \ln X_i + \mu_i \\ &= \alpha + \beta \ln X_i + \mu_i\end{aligned}$$

If β turns out to be statistically significant, it would suggest that heteroscedasticity is present in the data. If it turns out insignificant, we may accept the assumption of homoscedasticity. In the other words, if the value of t-test is significant so there is heteroscedasticity in the model.

3.5.3. Testing for Autocorrelation:

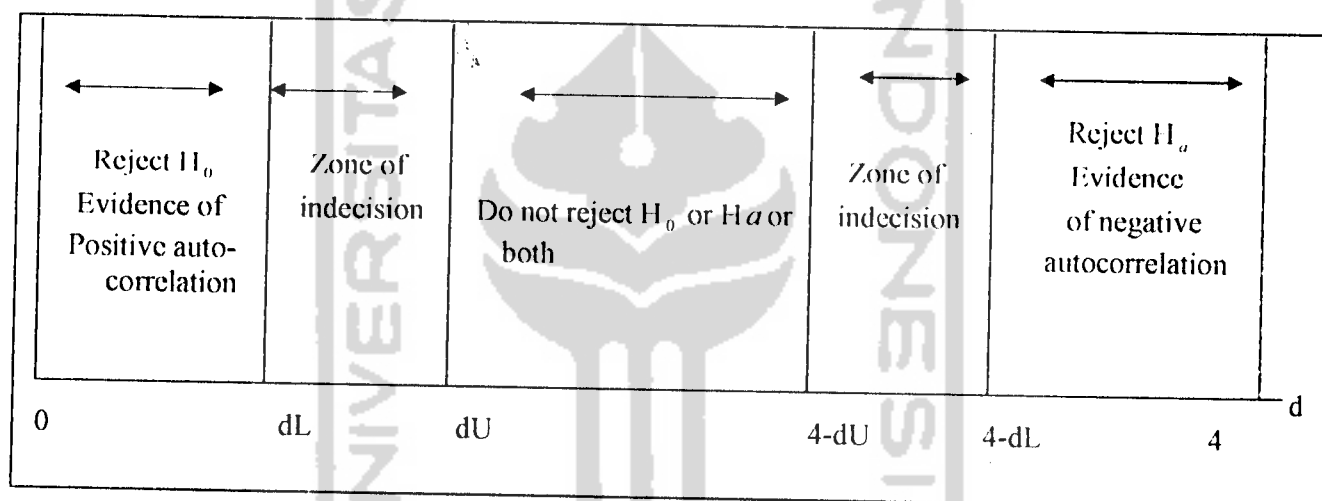
The term autocorrelation may be defined as "correlation between members of series of observations ordered in time (as time series data) or space (as in cross sectional data)." In the regression context, the classical linear regression model assumes that such correlation does not exist in the disturbances μ_i . Symbolically, $E(\mu_i \mu_j) = 0 \quad i \neq j$

Put simply, the classical model assumes that the disturbance term relating to any observation is not influenced by the disturbance term relating to any other observation. Autocorrelation is potentially a serious problem. Remedial measures are therefore surely appropriate. Of course, before one does anything, it is essential to find out whether autocorrelation exist in a given situation. In this section we shall consider a few commonly used tests of serial correlation. The most celebrated test for detecting serial correlation is that developed by

statisticians Durbin and Watson and is popularly known as the Durbin-Watson d statistic, which is defined as:

$$d = \frac{\sum_{t=2}^n [u_t - u_{t-1}]^2}{\sum_{t=1}^n u_t^2}$$

The actual test procedure can be explained better with the aid of figure below, which shows that the limit of d are 0 and 4.



CHAPTER IV

DATA ANALYSIS

4.1. Data Description

The dependent variable is Foreign Direct Investment and the independent variable consists of four variables, which are: market size of a nation, the degree of openness of an economy, labor cost, and population.

4.2. Data Analysis

The estimation result in linear model is as follow:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.77E+08	75146235	5.019408	0.0000
X1	1124.920	152.0149	7.400065	0.0000
X2	247981.1	51987.27	4.7700034	0.0001
X3	-1061.452	684.3047	-1.551139	0.1345
X4	-3724487.	644872.7	-5.775538	0.0000
R-squared	0.927721	Mean dependent var		37601063
Adjusted R-squared	0.915151	S.D. dependent var		52601918
S.E. of regression	15322360	Akaike info criterion		36.08796
Sum squared resid	5.40E+15	Schwarz criterion		36.32585
Log likelihood	-500.2314	F-statistic		73.80282
Durbin-Watson stat	2.576584	Prob(F-statistic)		0.000000

The estimation result from the data above can write as below:

$$Y = 0.00000000377 + 1124.920 X_1 + 247981.1 X_2 - 1061.452 X_3 - 3724487 X_4$$

4.3. Statistical Test

4.3.1 The t-test

The t-test used one tail side. Its critical value obtained from tables of distribution t.

A. The t-test for Market Size of a Nation

Computed t-value (t-test) = 7.400065

Critical t-value (t-table) = 1.706

Since the computed t-value is bigger than the critical t-value ($t\text{-test} > t\text{-value}$), it means that H_0 is rejected. Conclusion: market size of a nation has a positive impact and it is significant to foreign direct investment.

B. The t-test for The Degree of Openness of an Economy

Computed t-value (t-test) = 4.770034

Critical t-value (t-table) = 1.706

Since the computed t-value is bigger than the critical t-value ($t\text{-test} > t\text{-value}$), it means that H_0 is rejected. Conclusion: the degree of openness of an economy has a positive impact and it is significant to foreign direct investment.

C. The t-test for Labor Cost

Computed t-value (t-test) = -1.551139

Critical t-value (t-table) = -1.706

Since the computed t-value is bigger than the critical t-value ($t\text{-test} < t\text{-value}$), it means that H_0 is rejected. Conclusion: labor cost has a negative impact and it is significant to foreign direct investment.

D. The t-test for Population

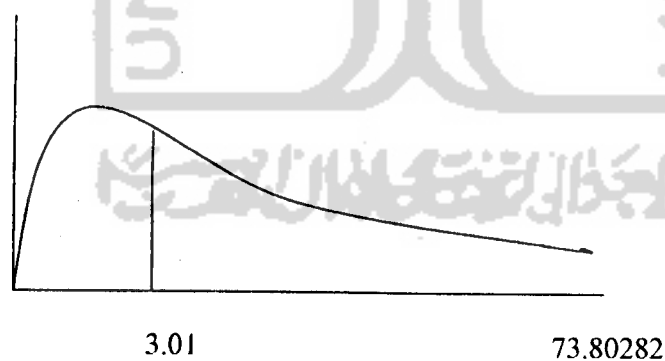
Computed t-value (t-test) = -5.775538

Critical t-value (t-table) = -1.706

Since the computed t-value is smaller than the critical t-value ($t\text{-test} < t\text{-value}$), it means that H_0 is rejected. Conclusion: population has a negative impact and it is significant to foreign direct investment.

4.3.2. F-statistic

Based on the regression result, F-table at level of significant 5% is 3.01 and F-test of this regression is 73.80282.



Because F-statistic is bigger than F-table, it means that H_0 is rejected and H_a is accepted. Conclusion: independent variables are collectively equal influencing the dependent variable.

4.4. Coefficient of Determination (R^2)

By considering the regression result, the coefficient of determination R^2 is 0.927721. It means that about 92.7721% of the variation in foreign direct investment can be explained by variation in the explanatory variables, that are: market size of a nation, the degree of openness of an economy, labor cost, and population. The rest is around 7.2279% may be explained by factors outside the model.

4.5. Classical Assumption

4.5.1. Multicollinearity Test

Based on the regression of each independent variable, we get the value of r using correlation matrix test as follow:

Variable	X_1	X_2	X_3	X_4
X_1	1.000000	0.649095	0.792028	0.977689
X_2	0.649095	1.000000	0.928645	0.709190
X_3	0.792028	0.928645	1.000000	0.814777
X_4	0.977689	0.709190	0.814777	1.000000

From the correlation matrix above, it is found that X_1 and X_4 have correlation. It is shown by the value of $r = 0.977689$ which is called near multicollinearity. But even if multicollinearity exist, the Ordinary Least Square (OLS) estimators still retain the property of BLUE. (Gujarati; p: 348)

4.5.2. Heteroscedasticity Test

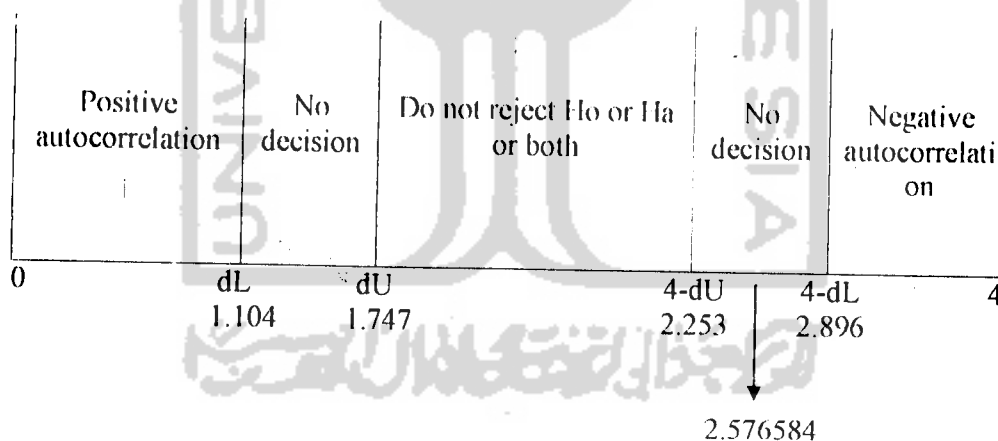
Based on the regression of residual value toward the independent variables by using Park test, the result is presented:

Variable	t-statistic	t-table	Heteroscedasticity
X_1	-0.270256	± 1.706	No Heteroscedasticity
X_2	0.726294	± 1.706	No Heteroscedasticity
X_3	0.840034	± 1.706	No Heteroscedasticity
X_4	-0.954276	± 1.706	No Heteroscedasticity

The result above shows that there is no heteroscedasticity in the model.

4.5.3. Autocorrelation Test

Durbin Watson (DW) test of this regression is 2.576584 and Durbin Watson (DW) table for $k = 4$, $n = 28$ and $\alpha = 0.05$, so $dL = 1.104$ and $dU = 1.747$.



Durbin Watson test of this regression is in the area between $4 - dU$ and $4 - dL$, so it can be concluded that there is no decision of autocorrelation.

4.6. Interpretation Data Analysis

This research summarizes the determination of Foreign Direct Investment (FDI) into four groups: first, Gross Domestic Product as a proxy of market size of a nation, second, ratio of the sum of export and import to GDP as the degree of openness of an economy, third, labor cost, and fourth, population.

4.6.1. Market Size of a nation (X_1)

The coefficient of market size of a nation is positive. This positive sign is the same as the hypothesis in this research. It means that an increase in market size of a nation will cause the increase of foreign direct investment. The estimation result of this variable is 1124.920, it means that if market size of a nation increase by Rp 1, billion, it will cause the increase of foreign direct investment as much as Rp 1124.920 billion.

4.6.2. The Degree of Openness of an Economy (X_2)

The coefficient of the degree of openness of an economy is positive. This positive sign is the same as the hypothesis in this research. It means that an increase in the degree of openness of an economy will cause the increase of foreign direct investment. The estimation result of this variable is 247981.1, which means that if market size of a nation increase by 1 degree, it will cause the increase of foreign direct investment as much as Rp 247981.1 billion.

4.6.3. Labor Cost (X_3)

The coefficient of labor cost is negative. This negative sign is the same as the hypothesis in this research. It means that an increase in the degree of openness of an economy will cause the decrease of foreign direct investment. The estimation result of this variable is 1061.452, which means that if labor cost increase by Rp 1 million, it will cause the decrease of foreign direct investment as much as Rp 1061.452 billion.

4.6.4. Population (X_4)

The coefficient of population is negative. It means that an increase in population will cause the decrease of foreign direct investment. The estimation result of this variable is 3724487., which means that if population increase by 1 million, it will cause the decrease of foreign direct investment as much as Rp 3724487. billion. This negative sign is different from the hypothesis in this research which stated that population has a positive impact to foreign direct investment. This means that if population increases it will cause the increase of foreign direct investment. Because population affects the amount of production factor that is human resources, the amount of output (goods and services) that can be achieved by Multinational Corporation (MNC) will increase for adding more human resources. As a result, foreign investors will attract to invest more because of the large amount of human resources in this case Indonesia has low level of wages and salary. In the end, foreign direct investment, especially in the form of Multinational Corporation (MNC) that

comes to Indonesia will increase because they have an increase in market operation. But the result of the regression showed that population has a negative impact to foreign direct investment. In Less Developing Countries such as Indonesia, rapid population growth is a burden to economic development. In LDC, the conditions of the economy are less capital but excess of population or labor force. Population growth generates pressures to land and create unemployment. Even the needs to create infrastructure to the society will relocate the government expenditure from productive assets. The education and social facility is getting harder to achieve. As a result, it will lead to the decrease of welfare standards and decrease capital accumulation. In the end, foreign direct investment will move to another country (outflow of FDI) with better quality of population growth not just considering the quantity of the population.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

From the interpretation of the data analysis in the previous chapter, several conclusions and implications are outlined as follows:

1.1. Conclusions

1. Based on the research, the coefficient of determination (R^2) is 0.927721. It means that about 92.7721% of the variation in foreign direct investment (FDI) can be explained by variation in explanatory variables that are Gross Domestic Product (GDP), ratio of the sum of Export and Import to Gross Domestic Product, Labor Cost and Population. The rest, which is around 7.2279% may be explained by the outside factors of this model.
2. From the examination result as a whole (F-test), the computed F-value is bigger than the critical F-value. This indicates that all independent variables influence simultaneously or jointly to the change of the dependent variable.
3. The t-test for Market Size of a Nation is bigger than the t-table, it means that H_0 is rejected. It also has a positive sign of coefficient. This indicates that this variable has a positive impact and it is significant to the dependent variable.

4. The t-test for The Degree of Openness of an Economy is bigger than the t-table, hence the value of the t-test is rejecting the H_0 area. It also has a positive sign of coefficient. It means that this variable affects the dependent variable positively.
5. The result of examination to the dependent variable individually indicates that Labor Cost has a negative impact, shown by its negative sign of coefficient and it is significant to the dependent variable. This is the same as the hypothesis formulation.
6. The t-test for population is smaller than the t-table and has a negative sign of coefficient hence this value is in the area of rejected H_0 in one tail test (negative). It means that this variable affects the dependent variable negatively.
7. From the classical assumptions, which are the test of Multicollinearity, Heteroscedasticity and Autocorrelation, the following results can be obtained. For Multicollinearity, there is a correlation between Market Size of a Nation and Population, which means that there is near multicollinearity. But since it does not effect the others, the Ordinary Least Square (OLS) estimators still retain the property of BLUE. For Heteroscedasticity, the result of this regression showed the inexistence of heteroscedasticity. For Autocorrelation using Durbin Watson d-statistic, the value of d-test is in the area of $4-d_U$ and $4-d_L$, which means that there is n decision of autocorrelation.

1.2. Implications

From the conclusion above, the following implications are formulates as:

1. Gross Domestic Product (GDP) has a positive impact to foreign direct investment. GDP is very important for international comparisons and measurement of job creating potential of the economy. The increase in GDP will increase the availability of production factors (the labor and capital used in the production of goods and services). Because GDP is the basic measure of economic activities, good governance is crucially need to set policy in order to increase GDP for attracting foreign direct investment to come to Indonesia.
2. Export and import also has a positive impact to foreign direct investment. If the sum of export and import of Indonesia is high, it means that the commodities are able to compete in international market (free trade). Free trade provides benefits such as: promotes competition, improved resource allocation and economies of scale, so that in areas where Less Developing Countries i.e. Indonesia, has a comparative advantage. Free trade also generates pressures for increased efficiencies, product improvement and technical change, thus raising factor productivity and lowering the costs of production. In term of economic growth, it will raise profits and promotes greater saving and investment. As a result, government needs to consider about trade policy, export performance and further economic growth.

3. Labor Cost has a negative impact to foreign direct investment. Indonesia has high supply of labor, and this makes the costs of labor tends to be low. When the labor cost is low, foreign direct investment would come to Indonesia because it will generate lower production costs and achieve higher output levels. But when labor cost increases, it will lead to the decrease of production costs and as a result, lower output level. The foreign direct investment will decrease because FDI will find another country with lower cost of labor. In this case, government should restrict certain level of labor cost, so that the production costs will not rapidly increase and high output level will be achieve.
4. Population has a negative effect on foreign direct investment. In Less Developing Countries such as Indonesia, rapid population growth is a burden to economic development. Because in LDC, the condition of the economy are less capital but excess of population or labor force. Population growth generates pressures to land and create unemployment. Even the needs to create infrastructure to the society will relocate the government expenditure from productive assets. The education and social facility is getting harder to achieve. As a result, it will lead to the decrease of welfare standards and decrease capital accumulation. In the end, foreign direct investment will move to another country (outflow of FDI) with better quality of population growth not just considering the quantity of the population. In this case, to make the disadvantages to be beneficiary, the government should control the population growth and

associate it with better quality of human resources (better education and social welfare) in order to increase foreign direct investment.



BIBLIOGRAPHY

- Asiedu, Elizabeth. and Lien, Donald (2002). Capital Controls and Foreign Direct Investment. Department of Economics. University of Kansas and University of Texas, San Antonio.
- Bevan, Alan A. And Estrin, Saul (October 2000). The Determinants of Foreign Direct Investment in Transition Economies. Centre for New and Emerging Market, London Business School, Working Paper Number 342.
- Gujarati, Damodar N (1997). "Basic Econometrics", 4th edition Singapore: McGraw-Hill, Singapore.
- International Financial Statistics, various editions 1975 – 2002. International Monetary of Funds.
- Jhingan, M.L., Ekonomi Pembangunan dan Perencanaan, Jakarta: PT RajaGrafindo Persada.
- Krugman, Paul. And Obstfeld, Maurice, (1996), International Economics : Theory and Policy, 5th edition. Addison-Wesley Publishing Company.
- Lembaga Penelitian Ekonomi IBII (2002). Makro Ekonomi Indonesia : Perkembangan Terkini dan Prospek 2003 - Daya Saing Indonesia Menghadapi AFTA - Simulasi Utang Luar Negeri Indonesia – Makro Model Indonesia. Jakarta : Lembaga Ekonomi IBII, Divisi Buku Perguruan Tinggi.
- Mankiw, Gregory. "Principle of Microeconomics", 2nd edition. Harvard University, USA: Harcourt College Publishers (2001).
- Mbekeani, Kennedy K (1997). Foreign Direct Investment and Economic Growth. NIEP Occasional Paper Series.
- Narula, Rajesh. and Wakelin, Katharine (1995). The Pattern and Determinants of U.S. Foreign Direct Investment in Industrialized Countries. Maastricht University, Netherlands.
- Report of Bank Indonesia, various editions, 1975 – 2002. Bank Indonesia.
- Samuelson. Paul. A and Nordhaus. William. D: "Economics", McGraw - Hill Publishing Company, Fifteenth Edition, 1995.

Statistical Year Book of Indonesia, various editions, 1975 – 2002. International Monetary of Funds.

Todaro, Michael P., (2000). Economic Development, 7th edition, New York University : Addison - Wesley Publishing Company.

Wolf, Clark (1999). Population Growth. University of Georgia, Athens.





RESEARCH DATA

obs	FDI (Y)	Market Size of a Nation (X1)	The Degree of Openness of an Economy (X2)	Labor Cost (X3)	Population (X4)
1975	731313.0	108873.0	4.000000	93.29500	136.6900
1976	182102.0	116113.8	6.000000	167.6250	138.2400
1977	268546.5	126566.2	9.000000	207.8330	140.7100
1978	251687.5	135131.0	10.00000	242.9200	143.1500
1979	1145592.	145028.5	20.00000	429.7940	145.5800
1980	548398.0	159357.4	28.00000	442.2400	148.0300
1981	717974.3	171989.9	22.00000	511.8000	150.5200
1982	1276290.	175853.6	7.000000	581.3600	153.0400
1983	2445688.	183227.1	5.000000	913.9940	156.4500
1984	1189025.	196008.1	30.00000	1073.370	159.8900
1985	966375.0	200834.1	33.00000	1710.230	163.3900
1986	1355794.	212633.9	19.00000	1888.070	166.9400
1987	2404215.	223107.4	35.00000	2180.250	170.1800
1988	7667250.	236004.1	42.00000	2836.070	175.5900
1989	8470246.	253604.3	47.00000	3442.050	179.1400
1990	16633940	271968.1	37.00000	4607.700	179.3800
1991	17486174	291563.4	33.00000	7177.690	186.1200
1992	21321080	309659.1	47.00000	8842.970	189.5500
1993	17179198	329775.8	53.00000	9743.530	192.9400
1994	52193460	354640.8	49.00000	11215.93	196.3000
1995	92123128	383792.3	39.00000	14999.46	194.7500
1996	71326526	413797.9	34.00000	15752.00	196.8100
1997	1.57E+08	433246.0	108.0000	18642.00	199.8700
1998	1.09E+08	376374.9	393.0000	28643.00	204.4200
1999	77323260	379557.7	386.0000	30443.00	207.4400
2000	1.48E+08	397934.3	604.0000	36464.00	210.4900
2001	1.56E+08	411132.1	574.0000	56239.00	214.8400
2002	87112254	426943.0	484.0000	56350.00	215.2800

REGRESSION RESULT

Dependent Variable: Y				
Method: Least Squares				
Date: 05/04/05 Time: 09:30				
Sample: 1975 2002				
Included observations: 28				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.77E+08	75146235	5.019408	0.0000
X1	1124.920	152.0149	7.400065	0.0000
X2	247981.1	51987.27	4.770034	0.0001
X3	-1061.452	684.3047	-1.551139	0.1345
X4	-3724487	644872.7	-5.775538	0.0000
R-squared	0.927721	Mean dependent var		37601063
Adjusted R-squared	0.915151	S.D. dependent var		52601918
S.E. of regression	15322360	Akaike info criterion		36.08796
Sum squared resid	5.40E+15	Schwarz criterion		36.32585
Log likelihood	-500.2314	F-statistic		73.80282
Durbin-Watson stat	2.576584	Prob(F-statistic)		0.000000

HETEROSCEDASTICITY TEST USING PARK TEST

Dependent Variable: LOG(U2)				
Method: Least Squares				
Date: 05/04/05 Time: 09:40				
Sample: 1975 2002				
Included observations: 28				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	311.2418	290.3144	1.072085	0.2948
LOG(X1)	-3.550776	13.13859	-0.270256	0.7894
LOG(X2)	1.017895	1.401491	0.726294	0.4750
LOG(X3)	4.683822	5.575752	0.840034	0.4095
LOG(X4)	-60.51017	63.40948	-0.954276	0.3499
R-squared	0.118326	Mean dependent var		-3.522774
Adjusted R-squared	-0.035009	S.D. dependent var		3.764320
S.E. of regression	3.829645	Akaike info criterion		5.683854
Sum squared resid	337.3222	Schwarz criterion		5.921748
Log likelihood	-74.57396	F-statistic		0.771684
Durbin-Watson stat	2.565678	Prob(F-statistic)		0.554744

MULTICOLLINEARITY TEST USING CORRELATION MATRIX

variables	X1	X2	X3	X4
X1	1.000000	0.649095	0.792028	0.977689
X2	0.649095	1.000000	0.928645	0.709190
X3	0.792028	0.928645	1.000000	0.814777
X4	0.977689	0.709190	0.814777	1.000000

SCATTER PLOT

Actual	Fitted	Residual	Residual Plot			
731313.	-8544079	9275392		*		
182102.	-5754645	5936747		*		
268546.	-2494745	2763292		*		
251688.	-1737037	1988724		*		
1145592	2627813	-1482221		*		
548398.	1.2E+07	-1.1E+07		*		
717974.	1.5E+07	-1.4E+07		*		
1276290	6134293	-4858003		*		
2445688	879357.	1566332		*		
1189025	8475087	-7286061		*		
966375.	936196.	30179.0		*		
1355794	-2672399	4028193		*		
2404215	699680.	1704535		*		
7667250	-3902286	1.2E+07		*		
8470246	3271297	5198949		*		
1.7E+07	1.9E+07	-2684201		*		
1.7E+07	1.3E+07	4947766		*		
2.1E+07	2.2E+07	-502682.		*		
1.7E+07	3.2E+07	-1.5E+07		*		
5.2E+07	4.5E+07	6931972		*		
9.2E+07	7.7E+07	1.5E+07		*		
7.1E+07	1.0E+08	-3.0E+07		*		
1.6E+08	1.3E+08	3.0E+07		*		
1.1E+08	1.1E+08	2568603		*		
7.7E+07	9.5E+07	-1.8E+07		*		
1.5E+08	1.5E+08	-4053941		*		
1.6E+08	1.2E+08	3.4E+07		*		
8.7E+07	1.2E+08	-2.9E+07		*		