ANALYSIS OF FACTORS AFFECTING THE TOTAL VALUE OF INDONESIAN NON-OIL EXPORTS

THESIS

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CHAPTER I

INTRODUCTION

1.1 Background of the Research

The process of globalization is rolling quickly and supported by specific technological advances in communications and information has resulted in the merging of the domestic market with international markets. Indonesia as one of the developing countries, adopted an open economic system in which the international economic traffic is very important in the economy and national development. Economic development requires that the welfare of the population should increase, and one measure of increased prosperity is the existence of economic growth (Abdul: 2002).

The relationship between exports and economic growth in recent years has become the attention of various circles. International trade, especially exports is believed to be driving forces in economic growth. Exports of aggregate output is very dominant in international trade. A country without a partnership with other countries will be difficult to meet their own needs.

Prioritisation exports to Indonesia have been encouraged since 1983. Since then, exports became attention to lead economic growth in line with changing emphasis on industrialization strategy of import substitution industries to export promotion industries. Exports have an important role future, especially after WTO negotiations agreement toward a world without trade barriers (Faisal: 2002).

Exports will continue to occupy an important role as a driving force in the domestic economy over the next decade, it is seen with many efforts to encourage export activities, whether conducted by government and employers, for example, by the issuance of policies such as: reducing the import duty tariff (especially material supporting materials exports). Simplification of certain commodity export trade system and other policies.

Due to the economic crisis that hit Indonesia since July 1997 has resulted in a decreased value of non-oil exports in 1998 amounted to 2.02% to U.S. $ 41.0 billion over the previous year. Similarly, in 1999 a decline in export value amounted to 5.13%, to $ 38.9 billion. The situation began to improve in 2000 along with starting the movement of the joints of the economy after a period of near-death experience, so that the export value reached U.S. $ 47.8 billion, which means also an increase of 22.85%. In 2001, non-oil export value reached U.S. $ 43.7 billion, down 8.58% compared to 2000. In 2002 the value of U.S. $ 45.0 billion, an increase of 3.12% compared to 2001. In 2003 the value of U.S. $ 47.4 billion, an increase of 5.24% compared to 2002. While in 2004 the value rose 17.93% to $ 55.9 billion.

Policy development is absolutely non-oil exports imposed in order to reduce the negative growth (decrease) in exports of oil and gas commodities. This has long been proclaimed by the government in an effort to obtain foreign exchange and to support economic productivity and employment. Efforts to reduce dependence on foreign trade in Indonesia from the export of oil and gas to non-oil exports can be seen in the increase of industrial commodities exports

through quality and diversification of production, so it can compete in international markets.

The trend of non-oil exports from 2000 to 2004, showed an increase by an average of 8.14%. The increase was due to the increased value of exports from the industrial sector 8.63%, 18.03%, the mining sector, and of other sectors amounted to 57.4%. In contrast the agricultural sector declined 2.82%. In 2001 the development of non-oil exports showed a decline of 8.53%.

In 2001, the decline in value of non-oil exports caused by the decline, industry sector 10.31% and 9.99% of agricultural sector. But in 2002 non-oil re-exports increased by 3.12% which is due to increased exports of agricultural, industrial, and mining respectively 5.32%, 2.81% and 5.29%. While in 2003 increased by 5.24% due to increased exports of industrial and mining sector amounted to 5.55% and 7.27%, while the agricultural sector decreased by 1.64% in value. In 2004 non-oil exports rose by 18% to U.S. $ 55.94 billion. This is due to an increase in industrial and mining sector amounted to 19.07% and 16.08%, while the agricultural sector decreased by 1.18%.

While non-oil export value from 2005 until 2008 showed a very significant increase. In 2008, the number of Indonesian non-oil export value of $ 107,894.2. Increased by almost 50% within 3 years, ie $ 66,428.4 in 2005. Improved growth of non-oil exports also supported by the increasing volume of non-oil exports of Indonesia.

In the turmoil of the world economy whose growth tends to slow down due to high oil prices and rising world food prices commodity, Indonesian

economy can still grow by 6.3 percent in 2007. In 2007 the value of Indonesian non-oil exports reach $ 92 billion or increased by 15.6 percent over the previous year.

Indonesian non-oil exports directed to various countries, especially to countries in Asia, America and Europe, Japan, United States, Singapore and China. Share of Indonesian exports to Japan, the United States, Singapore, and China ranging from 7-16%, while the share of exports to other countries is still below 5%.

Over the last five years, the market role of the four countries had not replaced by any other. Japan and China were identified as the country's most potential market, it is marked from the export trend (2002-2006) and the change in exports of Indonesia (2007) to these countries is larger than export trends and changes in national non-oil exports. Meanwhile, for the United States and Singapore, although the change tends to increase exports in 2007, but still below the change in total non-oil national exports.

Beside the four main destination countries, there are some countries had good potential market, Korea, India, Thailand, Spain and Australia so it can be an alternative market to anticipate the decline in Indonesian exports to United States. Among these countries, India belong to the market with huge potential because of the population is over 1 billion, economic growth increased rapidly and the changes in lifestyle especially for the upper middle class. The Indonesian export to India consist of vegetable oil, wood and wood products, textile, paper,

paperboard and processed products, metal ores, coal, motor vehicle parts, pulp, coffee, tea, cocoa and spices.

Central Bureau of Statistics noted, the large non-oil exports to Japan, United State, China and Singapore. The non-oil export always increased in every year except on 2009.

The country became the largest non-oil export destination of Indonesia is Japan's largest export value amounted to $ 13,795.3 in 2008. Followed by America, which reached $ 12,531.1 in 2008. While China ranks 3rd with export value of $ 7,787.2 in 2008. In the table above, can be seen, although Japan and the United States is a non-oil exporting countries with the greatest value, but in 2009 a decline in both countries. While the value of exports to China did not decrease in every year, even increase $ 1,132.9 in 2009.

Based on description above, writer trying to learn more about how significant the related factors, such as exchange rate, GDP of importing countries, population of importing countries and the total non-oil export a year earlier on demand for Indonesian non-oil export to main destination countries in thesis with title :

"ANALYSIS OF FACTORS AFFECTING THE TOTAL VALUE OF INDONESIAN NON OIL EXPORTS"

1.2 Problem Definition

Based on the above description of the background problem can be formulated as follows:

1. What is the effect of exchange rate of Indonesian Rupiah against currency of Indonesia trading partner on the total value of Indonesian non-oil export?
2. What is the effect of Indonesia trading partners real GDP on the total value of Indonesian non-oil export?
3. What is the effect of Indonesia trading partner population on the total value of Indonesian non-oil export?
4. What is the effect of the previous year export value on the total value of Indonesian non-oil exports?

1.3 Objectives Research

Based on the formulation of the problem which has been described previously, the purpose of this study are:

1. To analyze the effect of exchange rate on the total demand for Indonesian non-oil exports;
2. To analyze the effect real GDP on the total demand for Indonesian non-oil exports;
3. To analyze the effect of population on the total demand for Indonesian non-oil exports

4. To analyze the effect of the previous one year export value on the total demand for Indonesian non-oil exports.

1.4 Benefits of Research

The result is expected to provide benefits:

1. As input for the government and other stakeholders as decision makers in order to make appropriate policy in the economy.
2. For additional information, literature and comparison for future research.
3. For the writer is to train analyze a problem based on science and knowledge gained during her studies at Andalas University.

1.5 Organization Thesis

The organization of this thesis consists of 6 chapters. The following brief content of the chapters are as follow:

Chapter 1 : Introduction

Chapter 2 : Literature Review

Chapter 3 : Research Methodology

Chapter 4 : Overview of Indonesian Export

Chapter 5 : Empirical Result and Analysis

Chapter 6 : Conclusion and Suggestions

CHAPTER II

LITERATURE REVIEW

2.1 Theory of International Trade

International trade theory starts from the theory of mercantilism which assumes economic growth of a country growing as a result of the expenditure of other countries. Analysts mercantilism which was pioneered by Mun (1571-1641) with his England's Tresuary by Foreign Trade agreed that, the only way for a country to become rich and powerful is to do as much as possible export and import as little as possible.

International trade is a trade done by a resident of a country with a population of other countries on the basis of mutual agreement. Residents are referred to in the form of inter-individual (individual to individual), between individuals and the government of a country or a country's government with other governments. In many countries, international trade became one of the main factors to increase the GDP. Although international trade has been occurring for thousands of years, its impact on economic interests, new social and political felt the last few centuries. International trade also helped encourage industrialization, transportation advances, globalization and the presence of multinational companies.

In addition, trade can produce benefits for each country involved because it would encourage trade specialization in the production of certain commodities which contain comparative advantage that countries concerned can concentrate

its resources on the sector and exporting some of its output to take advantage of other commodities that its comparative advantage he did not understand.

According to the *Hecksher-Ohlin* theory in Salvator (1997), a country will export the commodity they produce more of absorbing the factors of production are relatively abundant and cheap in the country, and in the same time he will import the commodity whose production requires a relatively scarce resource and expensive in the country. In short, a country rich or relatively more labor abundant will export commodities are relatively labor intensive and will import commodities are relatively capital intensive. In principle, trade between the two countries arise because of differences in demand and supply, and also because the desire to expand the marketing of export commodities for foreign exchange earnings in an effort to increase the provision and development of the country concerned.

In an open economic system, international trade is inseparable from the development of world economy as a whole. The development of world economy is essential to consider particularly the impact on the demand side, particularly the demand for export commodities. So for Indonesia with its economy which is open, trade is vital for efforts to promote sustainable economic growth.

International trade has several benefits, among others:

1. Getting things can not be produced in own affairs

   Many factors influence the difference in production in each country. Factors such as geography, climate and level of mastery of science and

technology. With the international trade, each country is able to meet their own needs that are not produced.

2. Obtain benefits of specialization

   The primary reason for foreign trade activities is to obtain profits realized by specialization. While a country can produce a product the same kind as those produced by other countries, but they can sometimes be better if the country is importing goods from abroad.

3. Expanding markets and adds benefits

   Sometimes, employers do not run the machines (production tools) with the maximum because they are afraid will happen over-production, resulting in falling prices of their products. With the international trade, the entrepreneur can run the most of the machines and sell the excess product to overseas.

4. Modern technology transfer

   Foreign trade allows a country to learn a more efficient production techniques and ways to more modern management.

Many factors that encourage a country to international trade, including the following:

1. To meet the needs of domestic goods and services
2. The desire to obtain profits and increase state revenues

3. The big difference in the ability of mastering science and technology in the process of economic resources
4. The existence of excess domestic product that needs new markets to sell the product.
5. The big difference in circumstances such as natural resources, climate, labor, culture and population that causes the difference in production output and production limitations.
6. A similar taste to a product.
7. The desire to open cooperation, political relations and support from other countries.
8. The occurrence of the era of globalization so that no one country in the world to live alone.

2.2 Export Supply and Demand Theory

Theoretically, the export of goods is influenced by an offer (supply) and demand. In international trade theory states that the factors that affect the exports can be seen from the demand side and supply side (Krugman and Obstfeld, 2000; Salvator, 1996). From the demand side, exports are influenced by export prices, real exchange rate, world income and a devaluation policy. While the supply side, exports are influenced by export prices, domestic prices, real exchange rate, production capacity that can be produced through investment, raw material imports, and deregulation policies.

Export is the simplest form in the international trading system and is a strategy in marketing to overseas production. Factors such as income and the targeted country's population is a basic consideration in the development of export (Kotler and Armstrong, 1996).

According to Nicholson (1998) when the total income increase, assuming other factors do not change (cateris paribus), then the quantity of goods purchased for each person will also change, but the increase was dependent on the type of goods, if the goods are normal goods then the improvement will tend to be slow.

Competitive products, supply and domestic demand will depend on the price of goods, while foreign demand and supply (export) will depend on the price in foreign currency (Krugman and Obstfeld (2000) translated by Basri (2004), explained also that trade will occur in a market if there are differences in price at the time before the trade, if both countries produce the same product. In addition to the various factors mentioned above, trade relations between countries that affect the import of export activity is the exchange rate of each country.

2.3 Factors Affecting the Development of Exports

2.3.1 Exchange Rate

Exchange is an exchange ratio of one country to another. Trade conducted between the two countries is not as easy as that done in one country, because they must use two different currencies such as those between countries

of Indonesia and the United States. American importers have to buy dollars to purchase goods from Indonesia. Instead Indonesian importers have to buy U.S. dollars to settle payments for goods bought in America. The magnitude of a particular currency needed to obtain one unit of foreign currency is called the *exchange rates* of foreign currencies.

Currency exchange rates play a central role in international trade relations, because the exchange rate allows to compare the prices of goods and services produced by a country. This is also explained well by Salvatore (1999) that in conducting trade transactions between countries, they use foreign currency rather than country currency. They need a standard currency such as U.S. $ to transact. If the domestic currency has appreciated against foreign currencies, the price of imports for domestic residents to be cheaper, but if the value of domestic currency to depreciate the value of foreign currency becomes more expensive for the parties which resulted in exports become cheaper overseas.

The exchange rate is the currency of a country is measured by the value of one unit of currency against other currencies. If a country's economic conditions changed, it is usually followed by changes in exchange rates are substansional. Currency Problems arise when a country engages in transactions with other countries, where each country uses different currencies. So the exchange rate is a price to be paid by a country's currency to acquire other currencies.

Economists distinguish between exchange rate into two: the nominal exchange rate and real exchange rate. The nominal exchange rate (nominal exchange rate) is the relative price of currencies of two countries.For example, if the United States dollar and the Japanese yen is 120 yen per dollar, then the United States can exchange one dollar for 120 yen in the money market. Instead of Japanese who want to have the dollars will pay 120 yen for each dollar purchased. When people refers to "exchange" between two countries, they usually mean the nominal exchange rate (Mankiw, 2003).

The real exchange rate is the relative price of goods between the two countries. The real exchange rate states the rate at which we can trade goods from one country to the goods from other countries. Exchange rate or rate is the price of one country's currency against the currencies of other countries (Krugman and Obsfelt, 2000). Nominal exchange rate (nominal exchange rate) is the relative price of the currency of two countries (Mankiw, 2003). Real exchange rate is the nominal exchange rate that has been corrected with the relative price of domestic prices compared to prices abroad.

2.3.2 Gross Domestic Product (GDP)

According to Lipsey (1995), Gross Domestic Product (GDP) is the national income as measured from the expenditure side is the amount of consumption expenditure, investment, government spending and import-export. GDP is categorized into two, namely the nominal and real terms. It said

nominal GDP, if the total GDP valued at current prices. While GDP is valued at the price of basic period is called real GDP, often referred to as the real national income.

Nicholson (1998) states when a person's total income increases, assuming the prices do not change (cateris paribus), we might expect the quantities purchased for each item will also increase. Goods that follow this trend is called normal goods (normal goods). Most of goods are normal goods, when income increases, in practice people tend to buy more goods. Demand for luxury goods (luxury) will increase more rapidly if revenue rises, but demand for goods for daily use (necessity) will increase more slowly. In addition, Nicholson (1998) also mentions the inferior goods, which in character if one's income increases, individuals will reduce their consumption.

Similarly, export demand will also be influenced by real GDP from the export destination countries, then there is a positive correlation between the GDP of main importer countries to demand import product, and vice versa. The increase of imports as a result of increased GDP importing country can be seen from the two mechanisms as follows:

1. The increase in GDP of importing countries led to increased investment. Higher investment led to increased demand for imported goods including capital goods and raw materials as inputs in the production process has to offer (supply) by other countries.

2. The increase in GDP of importing countries led to the increasing needs of the final product because not all be met by domestic production.

2.3.3 The Population of Export Destination Countries

Increased in population can affect the export through two sides are, the supply and demand. On the supply side, population growth can be interpreted as additional manpower to do the production of export commodities. Added the population from the demand side, will cause the increase of domestic demand (Salvatore, 1997).

2.3.4 Export Value One Year Earlier

The variable value of Indonesian exports to the country of destination a year earlier, will influence the country to re-import or not on the following year. Consumption level of a country on goods exported will affect how big a volume of goods to be imported in the future.

2.4 Previous Research

Aji (2006) in "Performance Analysis of Indonesian Fishery Exports to Japan and the United States Year 1984-2003" analyzes the export performance and the factors that influence the Indonesian fishery exports to Japan and the United States with constant analysis and adaptation Market *Share-Falcetti Calna* model. By dividing the two 10-year time series of fishery exports, shows that exports to Japan (1984-1993) had passed while (1994-2003) experienced a

decrease in both periods was driven by the effects of export growth in Japanese market. Exports to Japan significantly influenced by the Japanese earnings. Negatively related to relative export prices, while income trading partners is positively associated with export demand.

Thorny Samanhudi (2009), researching on the Analysis of Factors Affecting Agriculture Products Export of Indonesia to the United States. In this research, the author use panel data to analyze the factors that affect the export of rubber, CPO, and cocoa to the United States. The author uses the software eviews-3 to test the research data with three types of estimation methods, namely pooled least square with common intercept, pooled least square with Fixed Effect Method and Fixed Effect with Weighted Least Square Method. Results from research show that agriculture product prices, Indonesia has a significant influence on the volume of Indonesian exports of agriculture products. If the price of agriculture product rises, so it will reduce the volume of export commodities of Indonesia. GDP variable has a positive influence on the volume of agriculture exports of Indonesia. Exchange rate has a significant influence on the exports volume of Indonesian agriculture products. While the population has no significant effect on the volume of Indonesian exports of agriculture products to USA.

Zainal (2007) studied the factors affecting the export demand for Indonesian sports shoes and leather shoes (2002 – 2006). In this research, the author use panel data to estimate the export demand for sport shoes and leather shoes. From the regression results using the Eviews-4 showed that export

demand for sport shoes, the best model is the random effect, while export demand for leather shoes is the best model is the fixed effect. The results showed that real GDP variable has a positive effect of export demand, the price of leather shoes negatively impact on export demand, real exchange rate has a positive effect of export demand and voladitas exchange rate has no significant effect on export demand for leather shoes.

Results of research conducted by Sunenti (2005) which analyzes the flow of trade and the factors that affect the export of rattan furniture in Indonesia. Variables that positively affect the income per capita, population and exchange rates against the dollar, while the distance, price and transportation costs gives a negative influence. Of the six variables, only per capita income, population and transportation costs are significant at 5 percent level.

Results of other studies related to the flow of trade is conducted by Sinaga (2007). This study analyzes the flow of Indonesia's natural rubber trade to the world market by focusing on several major destination countries. Factors that influence the flow of trade is the destination country's GDP, the population of the country of destination, distance to destination countries, exchange rate of USD against foreign currencies purpose, synthetic rubber consumption country of destination and product export value tire country of destination. Based on the output of multiple linear regression, the biggest factors affecting Indonesia's natural rubber exports to the country of destination is variable destination country's GDP and export value of products tire country of destination.

2.5 Hypothesis

From the description of the theory and previous research that has been described, it can be hypothesized as follows:

1. Exchange rates negatively affect the total of demand for Indonesian non-oil exports
2. Real income of Indonesia trading partner is very positive effect on total of demand for Indonesian non-oil exports
3. Population of Indonesia trading partner has positive influence on the total of demand for Indonesian non-oil exports
4. The total value of non-oil exports a year earlier positive effect on export demand next year.

2.6 Framework of Operational Thought

The independent variables in this study is the exchange rate, real GDP, population, total value of non-oil export in the previous year, while the dependent variable is the total value of Indonesian non-oil exports.

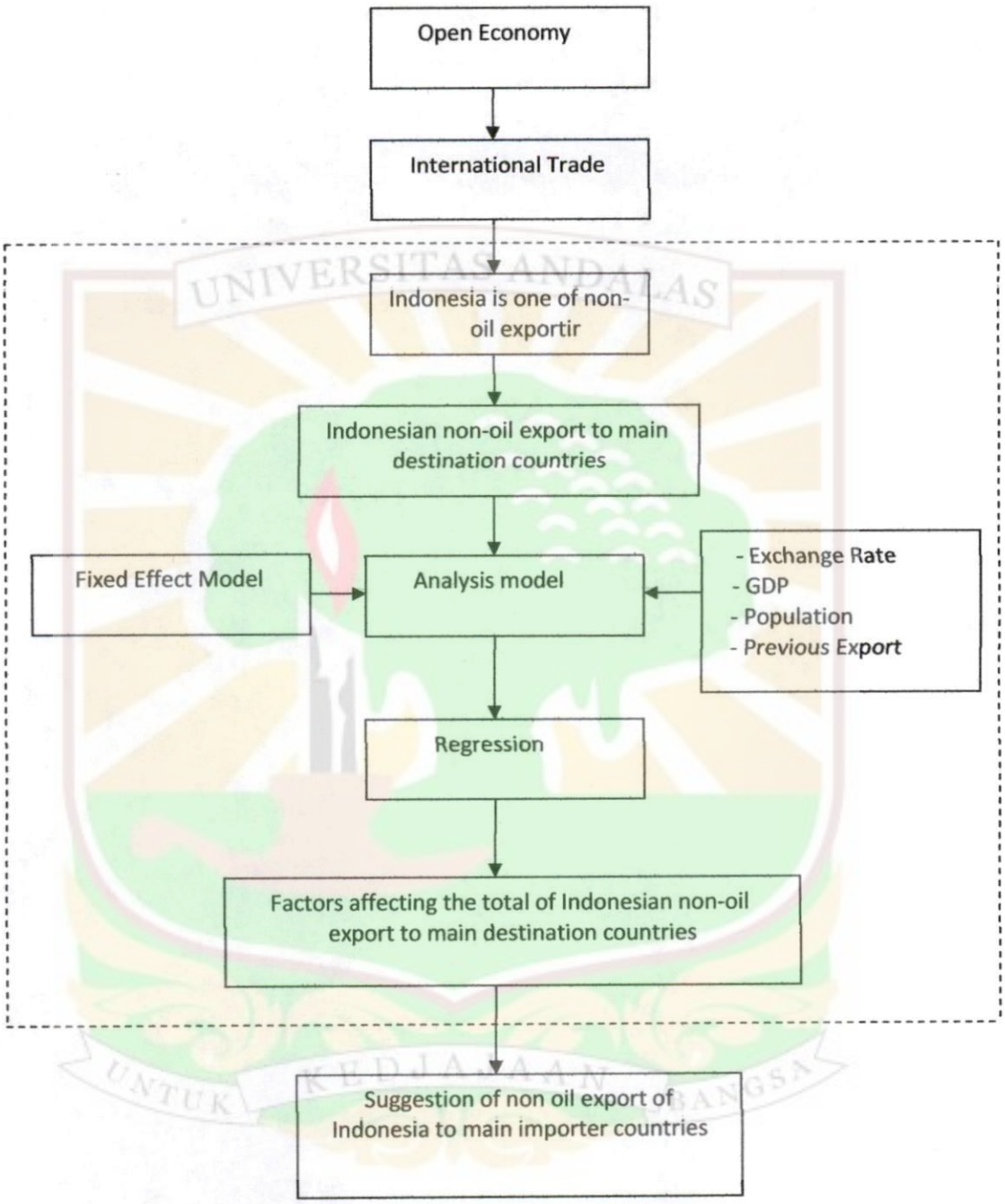

Figure 2. The Framework of Operational Thought

CHAPTER III

RESEARCH METHOD

3.1 Research Scope

This study focused on factors that influence the development of Indonesian non-oil exports, such as currency exchange rates, real GDP, population, and value of non-oil export in the previous year.

3.2 Types and Sources of Data

Source of data has a very important role in research because with a source of data the researcher will find a place / source that can be used to identify all sources of information relating to the research undertaken. The data taken by authors in this research is secondary data derived from official publications, the Central Bureau of Statistics, Ministry of Trade, World Bank, Comtrade, books, journals, papers and scientific works related to this research. Year data is data for 2003 until 2009.

3.3 Analysis Model

According to Mudjarat (2001), panel data is combination of data between the time series data, which has observations on a single unit of analysis at a particular point in time. Special characteristics of time series data is a numerical sequence in which the interval between observations of a number of variables

are constant and fixed. While the cross section data is a unit of analysis at a particular point in time with the observation of a number of variables.

In this research, the writer uses panel data between time series data and data among commodities. Hsiao (1986), noted that the use of panel data in economic research has some major advantages compared to the data type of cross section and time series. First, it can give researchers a large number of observations, increasing the degree of freedom, the data have large variability and reduces the colinearity among explanatory variables, which can produce an efficient econometric estimation. Second, panel data can provide more information that can not be given only by the cross section data or time series only. Third, panel data can provide a better resolution in the inference of dynamic changes than the cross section data.

In this research, the formulation of the model is the first step in studying the relationship between variables.

The traditional model by Timbergen :

$$X_{ij} = \frac{AY_iY_j}{D_{ij}} \qquad (3.1)$$

The first model was develop by Timbergen (1962) and H. Linnemann (1966), the equation makes bilateral trade flows (X) dependent upon the product of the incomes (Y) of the two partner countries i and j, divided by the distance separating them (D).

And then he change equation (3.1) into log function;

$$LnX_{ij} = \alpha + \beta_1 LnY_i + \beta_2 LnY_j + \beta_3 LnD_{ij} + \varepsilon \quad (3.2)$$

Where:

$\alpha = LnA$

$X_{ij} = export\ from\ country\ i\ to\ country\ j$

$Y_i = income\ of\ country\ i$

$Y_j = income\ of\ country\ j$

$D_{ij} = distance\ between\ country\ i\ and\ country\ j$

Timbergen (1962) develop the model for international trade to estimate bilateral trade between two countries.

The variables used in this research are exchange rate of Indonesia against Indonesia trading partner currency, real GDP of Indonesia trading partner, population of Indonesia trading partner, and export value of one year before. To see how big the factors can influence Indonesia non-oil export during 2003 – 2009, writer will use Ordinary Least Square (OLS) Method and will follow the model of Kien and Hashimoto (2005) to analyse the factors affecting the total of Indonesian non oil export.

The function for this equation is :

X Ind = ***f(ER,GDP,PL,PE,)***

The spesification model for model above is :

$\mathbf{X_{Indit}} = b_0 + b_1\ \mathbf{ER_{1it}} + b_2\ \mathbf{GDP_{2it}} + b_3\ \mathbf{PL_{3it}} + b_4\ \mathbf{PE_{4\text{-}1it}} + \mu_{it}$

Where : i = 1,2,3,....,5 dan t = 1,2,....,7

Xind	=	Export Value of Indonesia (US$) to China, US, Japan, India, Singapore
Er_{it}	=	Exchange Rate of Indonesia against currency of importer countries (China, US, Japan, India, Singapore)
GDP_{it}	=	Real GDP of main importer countries (China, US, Japan, India, Singapore)
Pl_{it}	=	Population of main importer countries (China, US, Japan, India, Singapore) in billion.
PE_{it}	=	Export value one year before (US$) to China, US, Japan, India, Singapore
b0	=	Intercept
b1 b2 b3 b4	=	Regression coefficient
μ	=	Error variable
I	=	Importer countries (China, US, Japan, India, Singapore)
T	=	Year (2003, 2004, 2005, 2006, 2007, 2008,2009)

3.4 Data Collection Method

The method used in this research is literature study, with analysis of secondary data from official publications of research institutions dealing with this. Data used in this research is time series data and cross section data. The data used in this research are:

1. The value of Indonesia non oil export to main destination countries, namely China, Japan, USA, India, Singapore.
2. Exchange rates Indonesia against Yuan China, Yen, USD, Rupee, and Singapore Dollar.
3. Real GDP of China, Japan, USA, India and Singapore.
4. Population of China, Japan, USA, India and Singapore.
5. The value of non-oil export of the previous year.

3.5 Operational Restrictions

To diversify the perception of this writing, it presented some operational definitions are described as follows:

1. Export is the value of Indonesian non-oil exports in US$ to China, US, Japan, India and Singapore.
2. The exchange rate is the average of Indonesian currency exchange rates compared with China's currency (Rp / CNY), Japan currency (Rp/JPY), USA currency (Rp/USD), India currency (Rp/INR) and Singapore currency (Rp/SGD)
3. Importer national income is real GDP in units of US$ where the importer countries are China, US, Japan, India, and Singapore.
4. The population of importer countries is the total population in units of billion, where the main importer countries are China, US, Japan, India and Singapore. Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship--except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of their country of origin.
5. Previous export value is the value of exported non-oil exports from Indonesia to China, Japan, USA, India and Singapore every one year earlier in US$

3.6 Panel Data

In econometrics, a model that states between time series and cross section data called as panel data. Thus, in panel data have time series $T > 1$ and the cross section $N > 1$. According Mudjarat (2001), panel data is a combination of data series / time series, which has observations on a unit of analysis at a particular point in time. The special characteristic of time series data is a numerical sequence in which the interval between observations of a number of variables are constant and fixed. While cross-site data is a unit of analysis at a particular point in time with the observation of a number of variables.

In this research the author uses panel data by using data between time and data between the commodity sector called panel data. Using panel data has several advantages. According Baltagi (2001) the advantages of using panel data are:

a. When panel data relating to individuals, companies, countries, regions and others at a certain time, then the data is heterogeneous. Estimation techniques of heterogeneous panel data explicitly to be considered in the calculation;
b. Provide more informative data, more varied, more efficient degree of freedom, and to avoid collinearity between variables;
c. Panel data is better in terms for the study of the dynamics of adjustmen, which allows the estimation of each individual characteristic or characteristics over time separately;

d. Having the ability to better identify and measure the influence of the usual can not be detected by cross section data or time series only;

e. Panel data raises the bias generated by the aggregation of individuals or corporations because of more data;

f. Study panel data is more satisfactory to determine the dynamic changes compared with repeated studies of cross section.

So, by using panel data in this research, is expected to describe the Indonesian non-oil exports at a specific time period and some main destination country: China, Japan, USA, India and Singapore. Time series data used in this study is start from 2003 until 2009 .

The method in this research is using OLS method (Ordinary Least Square) for each country. This technique make regression by using cross section data or time series. But, for panel data, before we make regression, we should combine cross section data with time series. Then, these data will use to estimate model with OLS method. In addition, this model can see whether the independent variables had significant or not on the dependent variable through see the value of F test and t test.

For estimating models with panel data, there are several techniques that are offered are:

1. Ordinary Least Square

   This technique does not change that by creating a regression with cross section data or time series. However, for panel data, before making regressions we should combine cross section data with time series data.

Then this combination data is treated as a single unit of observation used to estimate models with OLS method.

2. Fixed Effect Model

Ordinary Least Square approach is intercept assumption and slope from regression equation which consider constant among commodity and time series. If not all variables include in model equation, so possible there is an unconstant variables.

In another word, this intercept possible to change in every individual and time. This approach in literature called as fixed effect model. This thought become basic thought in that model formation. This model not only can differentiate individual effect and time effect but also having a specialty like no making assumption that error component having no correlation with independent variales which can hard to fulfil.

3. Random Effect Model

In fixed effect model, the differences of individual and / or over time are reflected through the intercept. While in random effect model, the difference is accommodated by the error. This technique also takes into account that the error may be correlated along the time series and cross section.

Based on Winarno (2009), he tries to use simple steps to estimate panel data, the steps are:

1. Estimate with fixed effect

2. Test with chow-test to choose the method whether pool least square or fixed effect. The assumption : Ho = pool method and Ha = fixed effect

   If Ho accepted it means the method is common (finish)

   If Ho rejected it means the method is fixed effect (continue to step 3)

3. Estimate with random effect

4. Test with Hausman-test to choose the method whether pool random effect or fixed effect. The assumption : Ho = random effect and Ha = fixed effect.

   If Ho accepted it means the method is random effect (finish)

   If Ho rejected it means the method is fixed effect

3.7 Testing Assumptions

According to Santoso (1999), in making a multiple regression equation testing the assumptions needed to see whether the regression model that was created could be used.

1. **Autocorrelation**

Autocorrelation test is used to determine whether there is any deviation classical autocorrelation assumption, namely the correlation between residuals in one observation with another observation on the regression model. Prerequisites that should be fulfilled is the absence of autocorrelation in the regression model. Testing method that often used is by Durbin-Watson test (DW test) with the following conditions :

a) If d is smaller than dL or greater than (4-dl) then the null hypothesis is rejected, which means there is autocorrelation.

b) If d lies between dU and (4-dU), the null hypothesis is accepted, which means there is no autocorrelation.

c) If d lies between dL and dU or in between (4-dU) and (4-dL), it does not produce definitive conclusions.

Value of dU and dL can be obtained from Table Durbin Watson statistics which depend the number of observations and many variables that explain.

Durbin Watson test formula as follows: (Alhusin, 2003) :

$$d = \frac{\Sigma(e_n - e_{n-1})^2}{\Sigma e_i^2}$$

Description:

d = Durbin-Watson value

e = residual

2. Heteroscedastisity Test

Heteroscedasticity test used to determine whether there is any deviation heteroscedasticity classical assumption, namely the inequality of the residual variance for all observations in the regression model. Prerequisites that must be fulfilled in the regression model is the absence of symptoms of heteroscedasticity. There are several testing methods that can be used such as the Park Test, Test Glesjer, Seeing Patterns Regression Graphics, and Spearman Correlation Coefficient Test.

3. **Multikolinearitas**

Double multikolinearitas created by *Ragner Frish.* Its mean there is a perfect linear relationship among independent variables in regression model.

Multikolinearitas happen in regression model because of :

a. Error theory in regression function formation;
b. Total observation that will be analyse in regression model are too small.

There are several method to examine the multikolinearitas :

a. Using Variance Inflation Factor (VIF), if the value of VIF < 10, so there is no problem with multikolinearitas.
b. Compare the value of individual coefficient determination (r^2) with (R^2)
c. Through eigenvalue and condtion index

3.8 Statistical Testing

To determine whether the model used is good or not, there are several criteria for statistical testing of the coefficient of determination or R-Sq, F test and t test.

1. **The coefficient of determination**

According to Nachrowi and Usman (2002), to measure the adequacy of regression models, can be seen from the coefficient of determination (R-Sq). The value of determination coefficient is a measure that shows the large contribution of the explanatory variables against response variables. The greater the coefficient of determination, then the model better.

2. F test

F test used to see whether the explanatory variables together (simultaneously) gave a significant effect or no effect on the dependent variable (Nachrowi and Usman, 2002). First step we have to do is create hypothesis:

Ho = independent variable have no significant effect to the dependent variable

Ha = independent variable significantly affect to the dependent variable

$$F - test = \frac{R^2/(k-1)}{(1-R^2)/(n-k)}$$

(F-test)

R^2 = determination coefficient

k = independent variable

n = total sample

F-table = $\{\alpha; df_1 = (n-1); df_2 = (n-k-1)\}$

If Ftest > Ftable, Ho is rejected and we accept Ha, it means that all of independent variables together significantly affect dependent variable.

3. T test

T test is a test that aims to find out whether or not a significant regression coefficient. T test used to see whether the explanatory variables individually significant effect or no effect on the dependent variable (Nachrowi and Usman, 2002).

Ho: $\beta = 0$

Ha: $\beta \neq 0$

Based on data, value of β will be tested, if β = 0 it means that coefficient of dependent does not have significant effect with independent variable. If β ≠ 0 it means that coefficient of dependent have significant effect with independent variable. T-test:

$$\{\text{T-test}\} = \frac{\hat{\beta}_j}{SE(\hat{\beta}_j)}$$

$$\{\text{T-table}\} = \{\alpha; df = (n-k)\}$$

If t-test > t-table it means Ho rejected, it means β ≠ 0 or β is statistically significant. So, this hypothesis test is to test the significance of independence variables to dependence variables.

CHAPTER IV

OVERVIEW OF INDONESIAN EXPORTS

4.1 History of Indonesian Export

Indonesia as one of the developing countries have opened themselves to take part in international trade and world economic growth is very fast, then demanded the ability to compete can participate in it. Export will continue to occupy an important role as driving force in the domestic economy over the next decade, it is seen with many efforts to encourage export activities, whether conducted by government and employers, for example : by the issuance of wisdom such as reducing some import duty tariff (especially material supporting exports). Simplification of certain commodity export trade system and other policies.

One of the way to boost exports is to increase the promotions to prospective buyesr by holding a number of exhibitions of Indonesian products both at home and abroad, not only in the target traditional exports countries such as United State, Western Europe and Japan, but also in non traditional areas like the Middle East, Africa, Asia, Latin America and others.

In the last 25 years the export volume of Indonesia has experienced tremendous growth, from around U.S. $ 20 billion, has now reached an average of over U.S. $ 100 billion or an increase of almost 6 times.The highest non-oil export value recorded in August 2010 amounted to U.S. $ 11.8 billion or 82.8% of total national exports and make the record non-oil non-oil exports highest in

history. Things that support this success is the awareness of government to reduce dependence on oil and gas exports and initiate and facilitate the deregulation policy to encourage diversification from oil to non oil gas since 1985. The second is a fundamental change of Indonesia's export destination market for the last 25 years, which 25 years ago two-thirds of Indonesian exports to Japan (43%), USA (17%), Germany (3%) and Netherlands (3%). Currently the market share of the four main markets into a third and a traditional market share increased.

The World Bank report stated that until the 2nd quarter of 2010, Indonesia is one of three world economy that is able to improve export performance exceeded the level before the crisis the world. Trade performance up to September 2010 show achievement of the trade balance surplus of U.S. $ 13.5 billion far exceeded the surplus in the same period in 2008 which was only U.S. $ 6 billion. Trade balance surplus until September 2010 increased by 14.2% from the surplus of the same period in 2009 and increased by 124.7% from the surplus in 2008 in the same period. The trade surplus during 2010 contributed by non-oil sector trade surplus that reached U.S. $ 14 billion, while oil and gas sector trade deficit of U.S. $ 0.5 billion.

The average value of monthly exports to September 2010 amounted to U.S. $ 12.3 billion per month, it also shows the value that exceeds the average monthly export value in 2008 of only U.S. $ 12 billion per month. Total exports in September 2010 reached U.S. $ 12.1 billion, slightly above the average monthly exports in 2008 amounted to U.S. $ 12 billion. The performance of

exports during September 2010 increased by 22.7% over the same period in 2009. With export performance during September 2010, then export the cumulative period January-September 2010 increased 38.3% over the same period in 2009. In the meantime, if seen movement, Indonesia's export performance in 2010 continued to strengthen.

4.1.1 Oil Export of Indonesia

Gas is the belle of national exports in the mid 80s and earlier, so the role of oil and gas is very prominent in Indonesia's foreign trade. Overall oil and gas export value always exceeds the value of non-oil exports as well as the value of oil imports in Indonesia's foreign trade development.

By the time goes by, Indonesia's dependence on oil and gas exports from year to year is small.This can be seen from the development of oil and gas exports are declining. When broken down further, significant reduction of the export value of oil and gas occur in each of its main commodity. So with fall in oil prices after the Gulf War or exactly towards the end of 1993 is no longer such an impact on the national economy.

The development of oil and gas exports lately showed a decrease in 1998, then the next year show an increase until 2000. In 1999, an increase of 24.39% over the previous year, the same as in 2000 which increased sharply to reach U.S. $ 14.4 billion, an increase of 46.71%. This is caused by increased crude oil exports by 34.82%, 79.92% of oil and gas amounted to 52.05%. Export value of crude oil and petroleum products respectively to reach U.S. $ 4517.3

and U.S. $ 918.0 million in 1999, while gas export value of U.S. $ 4,357.0 million. In 2001, the value of re-exports of oil and natural gas decreased by 12,04% over the previous year to $ 12.6 billion. Similarly, in 2002 again fell by 4.14% to $ 12.1 billion. But in 2003 the value of oil and gas exports increased to U.S. $ 13.6 billion, a rise of 12.70%. While in 2004 the value of oil and gas exports increased again to U.S. $ 15.6 billion, a rise of 14.61%. Although the volume of oil exports declined but because the trend of rising world oil prices caused the value of oil and gas exports increased.

Table 4.1
Trend of Indonesian Oil Export (1990 – 2004)

Year	Netto Thousand Ton	FOB value Million US$	% value change
1990	69.514,8	11.071,1	112,98
1991	72.845,4	10.894,9	127,57
1992	75.193,2	10.670,9	98,41
1993	71.085,6	9.745,8	97,94
1994	81.865,8	9.693,6	91,33
1995	80.026,6	10.464,4	99,47
1996	78.287,7	11.721,8	107,95
1997	78.212,9	11.622,6	99,15
1998	74.303,4	7.872,2	67,73
1999	73.794,2	9.792,3	124,39
2000	65.627,7	14.366,6	146,71
2001	65.100,5	12.636,3	87,96
2002	64.246,0	12.112,7	95,86
2003	61.556,2	13.651,4	112,70
2004	56.862,5	115.645,3	114,61

Source : Central Bureau of Statistic

In 2001 a decline in the value of substantial oil and gas exports, which is 12.04%, but from the volume is only a relatively small decrease of 0.8%. Decline in value of oil exports due to the fluctuating price of crude oil in

the world market in 2001. The changes in each of these commodities was down 6.16% for crude oil, down 27.98% for the oil and fell 13.48% for natural gas.

In 2002, oil and gas exports also dropped back due to declining exports of crude oil and natural gas amounted to 8.52% and 2.70%. As for oil products increased by 9.92%. Rise and fall of commodity is not only due to the volume and value of oil and gas but also due to oil and gas prices in the world market in 2002.

In 2003, oil and gas exports increased by 12,70% in value of its exports, but from the volume, it decline to 4,19%. The decline in export volume due to lower crude oil exports, oil and natural gas respectively decreased by 9.57%, 1.97% and 0.01%. In 2004 the oil and gas exports increased by 12.74% in export value, while in volume terms declined by 8.25%. The decline occurred due to lower export volumes of crude oil export volume, the result of oil and natural gas respectively 12.99%, 9.18% and 3.83%.

4.1.2 Non Oil Export of Indonesia

Highlighting the role of exports, then the discussion will not be separated from non-oil export which is the backbone of Indonesia's exports. In the export structure, non-oil commodities have consistently accounted for more than 75% of Indonesia's total exports in recent years. The development of non-oil exports from 2000 to 2004, showed an increase by an average of 8.14%. The increase was due to the increased value of exports from the industrial sector 8.63%,

18.03%, the mining sector, and of other sectors amounted to 57.40%. In contrast the agricultural sector declined 2.82%.

The role of non-oil exports to the Indonesian economy looks more and more important since 2005. This is indicated by the increasing contribution of non-oil exports to total exports in each year. In 2005 the role of non-oil exports to total exports amounted to 77.7%, increasing to 80.6% in 2007. In the period from January to May of 2008, the role has been to 82%. Export commodity that contributes the largest export value of manufactured products with a contribution in 2008 amounted to 67.5%. This figure is higher than in 2007 which amounted to 67.0%.

Policy development is absolutely non-oil exports imposed in order to reduce the negative growth in exports of oil and gas commodities. This has long been proclaimed by the government in an effort to obtain foreign exchange and to support economic productivity and employment. Efforts to reduce Indonesia's foreign trade dependence of oil and gas exports to non-oil exports can be seen in increased exports for industrial commodities through quality and diversification of production, so it can compete in international markets.

Indonesian non-oil exports in 2007 amounted to U.S. $ 92,012.3 million, an increase of 15.62% compared to 2006. During the year 1990 to 2007 non-oil exports began to demonstrate its role on the trade balance and the growth of Indonesia's economy than oil and gas exports. The role of non-oil exports in 1993 reached 73.53% and the move to increase the level of 80.64% in 2007,

while oil and gas exports has decreased from 26.47% to 19.36%. Value of non-oil exports in 2007 reached U.S. $ 92.0123 million, much higher than the non-oil exports in 1993 reached a value of U.S. $ 27.077 million or in other words-per-year increase of 10%. Although non-oil exports to be excellent for Indonesia's trade balance, but in 1995 and 1996 was in deficit by US$ 2,764.3 million and US$ 1,240.1 million, while non-oil trade balance surplus occured in 1993 amounted to US$ 920 million and later during the last ten years non-oil trade balance always showed positive values with the lowest surplus in 1998 amounted to US$ 16,293.3 million and the highest surplus experienced in 2007 with a value of US$ 39,471.7 million.

4.2 Overview of Importer Countries of Indonesia Non-oil Exports

Recently, non-oil export in Indonesia became belle of export replaced oil and gas export. Several countries become major destinantion countries for Indonesian non-oil export are Japan, United State, China, India and Singapore.

Table 4.2
Non-Oil Export Value by Country of Destination Indonesia
Year 2005 - 2008
(Million U.S. $)

Country	2005	2006	2007	2008	2009
Japan	9.561,8	12.198,6	13.092,8	13.795,3	11.979,0
US	9.507,9	10.682,5	11.311,3	12.531,1	10.470,1
China	3.959,8	5.466,6	6.664,1	7.787,2	8.920,1
Singapore	7.068,6	7.824,2	8.990,4	10.104,6	7.947,6

Source: Central Bureau of Statistics, Ministry of Commerce processed

1. **Japan**

As has been widely known, the Japan market is a huge market and potential for the development of Indonesia's export commodities. With a population of more than 126 million people and high income per capita more than US$ 37 thousand, as well as the 4 seasons where every season needs a specific product, making Japan market as the target of many exporting countries in the world, including Indonesia.

Japan is Indonesia's main export destination countries besides the USA. Growth of world imports of Japan and Indonesia during the last 5 years can be seen in the table below:

Table 4.3
Total Import of Japan

Description	1998	1999	2000	2001	2002
Import Total					
World	280.678,41	311.793,62	379.544,09	349.234,87	337.567,96
Indonesia	10.847,40	12.649,32	16.370,03	14.873,15	14.192,60
Indonesia market share (%)	3,86	4,06	4,31	4,29	4,20
Total of Non oil import					
World	237.297,63	261.199,01	302.159,63	278.806,72	271.804,23
Indonesia	6.055,25	6.902,26	8.005,13	7.762,01	7.569,93
Indonesia market share (%)	2,55	2,64	2,65	2,78	2,79

Souce : Central Bureau of Statistic

From the above table, it appears that non-oil imports of Japan from Indonesia since 2000 decreased, but the share of Indonesian non-oil commodity markets continued to increase since 1998 until the year 2002.

Basically, all Indonesian products can be exported to Japan market for these products according to required specifications and has a high competitiveness. The Indonesian products that have penetrated the Japan market in 2002 was recorded as many as 110 items (HS 2 digits) and the number of products, which are dominant are: plywood, copper, paper and paper products, natural rubber, fish, including shrimp, nickel, coffee, synthetic yarn, furniture, and others.

Japan is one of developed countries with a value of world imports during the last 5 years an average of US$ 331,944.12 million/year, but to enter the Japan market is not the same relative characteristics compared to exports to developed countries or other developing countries. Japan with a unique market characteristics, often perceived as an obstacle for exporters Indonesian businessmen to enter the market in Japan.

Some of the obstacles in entering the Japan market is as follows:

1. Tariff Barriers

   Japan import tariffs for imports of most commodities is relatively low at an average of 3.6%. The determination of tariff in Japan is based on the Custom Tariff Schedule with the HS 9 digits, but for goods other than raw materials, Japan adopts a tariff escalation.

2. Non Tariff Barriers

As one means to monitor the quality of goods, the government of Japan introduced a series of regulations based on national interest. For that goods exported to Japan must follow a set of rules, among others:

a. The Plant Protection Law which regulates the system quarantine of fruits, vegetables, and plants that are prohibited in Japan.
b. The Consumer Product Safety Law which regulates the procedures for importing and selling consumer goods in Japan.
c. Measurement Law governing the system of packaging products with labels information content, name and address of the importer.
d. Quarantine Law governing import quarantine system.
e. Industrial Standardization Law which regulates the industry product quality standards.

Beside that, Indonesian entrepreneurs also have to face the tight competition with exporting countries in Asia such as China, Taiwan, South Korea, Singapore, Philippines, Malaysia, Thailand, and Vietnam.

2. United State

In 2006, Indonesia's exports to the U.S. reached U.S. $ 10.68 billion, with the trend of increasing 11.74% for the period 2002-2006. Indonesia's main export products to the U.S. are natural rubber, footwear, frozen shrimp, furniture, electronics, apparel, coffee, palm oil, textile products, automotive parts, electronics parts, and jewelry.

Exports to the United States until September 2008 still showed an increase, so do not look the impact of the epicenter of the crisis in the country as its exports until September 2008 is still the delivery contract that has been done previously.

The level of Indonesia's dependence on the U.S. market is only about 10-11% so that the impact of financial crisis that occurred in the United States did not influence directly. Contrary to what happened in Singapore and Malaysia exporting countries that are dominated by exports of electronics products that feel the direct impact of the crisis of America.

Total US trade product from Indonesia in June 2008 reached US$ 1.7 billion, an increase of 5.94% compared to 2007 which was only US$ 1.6 billion. Imports from Indonesia in June 2008 reached U.S. $ 1.2 billion, or slightly increased (2.96%) from last year which only U.S. $ 1.2 billion. While U.S. exports to Indonesia in June 2008 even though only U.S. $ 487 million 14.20% increase compared to June 2007 reached U.S. $ 426%.

The period from January to June 2008, total US-Indonesia trade reached U.S. $ 10.4 billion, an increase of 17% from the same period the previous year was only U.S. $ 8.9 billion. U.S. imports during the first six months of 2008 reached U.S. $ 7.5 billion while in 2007 only U.S. $ 6.9 million or 8.1% increase. Period, while exports in 2008 reached U.S. $ 2.9 billion, an increase of 47.97% over the same period in 2007, which was only U.S. $ 2 billion.

Based on the total exports of the period, non-oil exports reached U.S. $ 2.9 billion, an increase of 47.85% compared to 2007 which was only U.S. $ 2

billion. Period of 2008 non-oil imports reached U.S. $ 7.2 billion, an increase of 9.72% from 2007 to reach U.S. $ 6.5 billion.

Based on the above data, Indonesia's export market opportunities in the U.S. is actually still pretty big. Several factors determine the market opportunity is still open in the U.S. to Indonesia are among others:

a. Still more the amount of U.S. imports from the world than exports (U.S. $ 660.77 million)
b. Still quite large U.S. import trends over the last five years (2003 - 2007) is 11.78%
c. Some of the products imported from other countries got trade barriers such as AD/CVD (such as fishery products from several countries), environment (eg, wood and rattan products from China) and safety
d. There is the tendency of U.S. exports to the world that require raw or raw materials for industry in the U.S. to boost U.S. exports.

3. China

China and Indonesia established diplomatic relations on 13 April 1950 and first signed a bilateral trade agreement in 1953. Afterward, the trade Between Them Had been Increased, the total trade value Between Them Increased from U.S. $ 7.38 million in 1954 to U.S. $ 129 million in 1959. Even in 1965, China once Became the second trade partner of Indonesia Indonesian

the which import and export value from China occupied 11 percent of the total value of Indonesian imports and exports. But Following the '30 September 'incident in 1965, diplomatic relations Between the two countries were the resource persons suspended in 1967. This had a significant negative impact on the economic relations between Indonesia and China.

Until 1980s, Relations Between China and Indonesia began to ease. In July 1985, the Indonesian Chamber of Commerce and the China Council for the Promotion of International Trade (CCPIT) signed a memorandum of understanding (MoU) for the reestablishment of a direct trade link Between the two countries. Five years later, it was on 8 August 1990 while Premier Li Peng was visiting Indonesia, the Chinese and Indonesian Foreign Ministers signed the Memorandum of Understanding on Restoration of Diplomatic Relations on behalf of each of his own government, and declared the Sino-Indonesian diplomatic relations Officially was restored as of that day.

Entering 21st century, the relations between the two countries have been in best time. In May 2000, Foreign Minister Tang Jiaxuan and Indonesian Foreign Minister Alwi Shihab signed in Beijing the Joint statement on the Course for Future Bilateral Cooperation between the People's Republic of China and the Republic of Indonesia, and Memorandum of Understanding on the Joint Committee of Bilateral Cooperation between the People's Republic of China and Republic of Indonesia, which was the guideline of developing the relations between two countries in 21st century.

Indonesia's trade value - in 1999 China experienced rapid growth, which increased by 33.1% compared to the value of trade in 1998. According to data from Central Bureau of Statistics of China's exports to Indonesia in 2000 amounted to US$ 3.06 billion, an increase of 60% over the previous year amounted to US$ 906 million. For the year 2001 to September amounted to 2.12 billion U.S. dollars, down 6.19% compared to same period the previous year of 2.18 billion U.S. dollars. Indonesia's trade balance - China so far has shown a surplus for Indonesia, which in 2000 reached a value of 1.34 billion U.S. dollars. In 2000, Indonesia is the sequence to 14 as an export destination for China and the order to 13 as the country's import sources China (Counsellor of Industry and Trade, 2000).

Further visible trade balance trade between Indonesia and China as follows:

Tabel 4.4

Table Export – Import Indonesia to China 2000 – 2006 (USD 000)

Year	Petroleum & Natural Gas				Non Petroleum & Natural Gas				Total Volume	
	Exports	%	Imports	%	Exports	%	Imports	%	Exports	Imports
2000	14.367	23,13	6.019	17,96	47.757	76,87	27.495	82,04	62.124	33.515
2001	12.636	22,44	5.472	17,67	43.685	77,56	25.490	82,33	56.321	50.962
2002	12.113	21,19	6.526	20,86	45.064	78,81	24.763	79,14	57.159	31.289
2003	13.651	21,83	7.630	23,06	48.876	78,18	25.490	76,94	62.527	33.086
2004	15.645	21,86	11.732	25,22	55.939	78,14	34.792	74,78	71.585	46.525
2005	19.231	22,13	17.457	28,2	66.428	77,87	40.243	71,8	85.660	57.701
2006	21.188	21,04	18.975	31,07	79.502	78,96	42.103	68,93	79.502	61.078

Source : Central Bureau of Statistic

Trading undertaken by Indonesia - China both in oil and non oil and gas industry during the period 2000 - 2006, Indonesia experienced a trade surplus. Largest surplus in 2003 amounted to USD 29,441 thousand, but the

value is steadily declining surplus until 2006. For the development of non-oil exports during the period 2000-2006, only one period of Indonesia's exports to China which decreased in 2001 with a value of USD 43,685 thousand, whereas before the year 2000 valued at USD 47 757 thousand. But for the next period continues to increase until 2006.

Amid the threat of a slowing U.S. economy, the Chinese market as an alternative destination of Indonesian exports are considered. Therefore, the identification of prospective export sector in the Chinese market is very necessary.

Table 4.5
Non Oil Export Commodity Indonesia to China Kuartal IV 2007 – 2009

Commodity	2007		2008		2009	
	Value Million USD	Share %	Value Million USD	Share %	Value Million USD	Share %
Rubber	195	15,6	97	9,4	136	13,4
Coal					1.056	26,5
CPO	348	11,7	332	11,6	458	12,2
Chemistry Product	205	11,9	134	9	277	13,9
Paper					196	15,9

Source : Central Bureau of Statistic

Indonesian exports in the fourth quarter was dominated by 10 major commodities, including rubber (share 4.2%), coal (12.5% share) and CPO (11.6% share)

4. Singapore

Bilateral relations between Indonesia and Singapore both transactions of goods and services, and trade patterns between the two are very different. Import export commodities are also distinguished by its trading partners. Where each country has the advantage of commodity exports and imports both State. The main export commodities of Indonesia-Singapore are industrial goods, raw materials and raw agriculture commodities, while Indonesia-Singapore's main imports is industrial goods only. The differences in the pattern of trade with trading partners are important, make a difference in trade balance has improved.

Table 4.6
Indonesia-Singapore bilateral trade according to SITC

Product group (SITC)	Year	Export	Import
Agricultural products (0-4)	**1980**	11.005.016.328	544.660.560
	1985	64.674.917.298	1.381.839.884
	1990	11.648.747.021	2.251.714.214
	1995	110.446.783.833	5.180.215.226
	2000	55.359.193.850	7.649.624.554
Product Manufacturing / Industrial (5-8)	**1980**	175.015.846	270.232.568
	1985	729.816.411	342.508.259
	1990	1.441.431.278	477.879.390
	1995	1.598.429.323	682.146.276
	2000	2.548.268.000	1.735.998.603
All products (0-9)	**1980**	11.182.958.256	815.012.573
	1985	65.407.776.435	1.724.436.074
	1990	13.090.188.462	2.729.715.444
	1995	112.045.215.921	5.862.468.289
	2000	57.907.461.850	9.385.623.918

Source : Central Bureau of Statistic

Data can be concluded that Indonesia exported more agricultural products from the commodity manufacturing. This is prove that Indonesia is more specialized towards to agricultural products.

Trade relations between Indonesia and Singapore as outlined above have ups and downs in accordance with the development of economic and political world.

Table 4.7
Export-Import Trade of Indonesia to Singapore
Year 1996 - 2001
(In U.S. $ million)

Year	Export	Import
1996	4.952,79	3.087,00
1997	5.230,85	3.410,90
1998	5.718,28	2.542,82
1999	4.930,51	2.525,95
2000	6.562,38	3.788,69
2001	5.363,83	3.147,05
Segment	**56,42**	**57,61**
Average Growth (%)	**1,61**	**0,39**

Source : Central Bureau of Statistic

In 1996, export from Indonesia to Singapore amounted to US$ 4952,79 million, in 1997 amounted to US$ 5230,85 million, in 1998 amounted to US$ 5718,28 million, in 1999 amounted to US$ 4930,51 million, in 2000 amounted to US$ 6562,38 million and in 2001 amounted to US$ 5363,83 million. Where the average growth (percentage) that is growing by 1.61 and its market share of 56.42%.

Basically, both countries have a high degree of economic complementarity. On the one hand, Singapore has the advantage in the knowledge sector, networking, financial resources and technological advance. While Indonesia has natural resources and minerals are abundant and the availability of a competitive workforce.

As a country that small territory, its domestic market is very limited and scarce natural resources, Singapore's economy is highly dependent on foreign trade. Therefore, Singapore is also very concerned about the international trading system that is open and free under the auspices of the WTO. In order to safeguard its interests, Singapore does not only rely on the multilateral negotiation process, since 1999 Singapore has begun to explore other forms of bilateral trading arrangements. Later with the delays the process of negotiations at the WTO, Singapore more incentive to take the steps that are believed to bilateral and regional trade liberalization can accelerate the process and strengthen the multilateral trading system.

Basically, the Indonesia-Singapore bilateral relations have a very strong foundation as evidenced by the signing of various agreements or agreements between the two countries. In addition, for the foundation of economic cooperation, especially between Singapore and Batam, Riau, both countries have a solid legal framework with the signing of some agreement include:

- Basic Agreement on Economic and Technical Cooperation signed in Singapore, August 29, 1974.

- Economic and Technical Cooperation Agreement Indonesia-Singapore (1977);
- Economic and Technical Cooperation Agreement for the Development of Batam Island (October 31, 1980);
- Tax Avoidance Agreement Berganda/P3B (1990);
- Approval of Economic Cooperation in the framework of development of Riau Province (August 28, 1990);
- Promotion and Protection Agreements Investment (P4M/IGA) signed on February 16, 2005. Indonesia ratified in February 2006;
- Framework Agreement on Economic Cooperation in the Island of Batam, Bintan and Karimun (SEZ's), June 25, 2006.

Empowerment of the private sector has also increased again characterized by the rather high activity among the business actors visit the two countries. As a result, the increasing trade and investment transactions between the two countries. In accordance with data from International Enterprise Singapore Indonesia is the largest trading partner of Singapore-5 with a total value of trade reached S $ 54 billion (2005) that a significant increase compared to 2004 which stood at S $ 30.1 billion. Indonesia's exports to Singapore reached S $ 16.4 billion while its imports reached S $ 13.7 billion.

The bilateral cooperation and relation of Singapore-Indonesia in economic, trade and investment during the first six months of 2006 not as good as the previous year. Exports of Singapore-Indonesia in quarter II/2006, according to IE Singapore, to reach S $ 2.7 million while in Quarter I/2006 reach

S $ 2.9 million after the year 2005 reached 11.95 million. The decline which reached 1.4% of Quarter I/2006 and nearly 18% when compared to 2005, according to IE Singapore is caused by weak exports of electronic products and non-electronic.

Exports of electronic products to Indonesia in Quarter I/2006 grew only 1.4% compared to 2005 which reached 9.3%. Weak exports is a result of declining sales of consumer electronics (- 25%) and parts of PCs (- 14%).While the decline in non-electronics exports grew only 1.3% in Quarter I/2006 from 22% in 2005 was the impact of lower exports of power machinery (- 57%). Meanwhile, Indonesia's exports to Singapore in Connecticut, in 2004 reached S $ 16.4 million, while importnya reach S $ 13.7 million. Three major contributor to this growth products are each machinery & equipment, S $ 5.498 million, minerals Fuels, S $ 3.360 million, and Chemicals, 1.681 million. While imports from Singapore-Indonesia in 2005 reached US$ 12.989 million. Singapore's main imports from Indonesia in 2005 include office equipment and data processing equipment, petroleum refinery products, and machine data processing. Meanwhile, Singapore's main exports to Indonesia in the same year include petroleum products, electrical machinery and office equipment and data processing.

Balance of trade between Indonesia and Singapore over the last 5 years (2001-2005) shows a surplus position for Indonesia in 2001.2002, 2003, while in 2004 and 2005, Indonesia experienced a deficit amounting to U.S. $ 84.87 million and U.S. $ 1 , 63 billion (an increase of 1,826,78%). Deficit caused by

the large oil and gas imports from Singapore to Indonesia in the last two years. In 2004 the oil trade deficit of U.S. $ 2.95 billion and in 2005 stood at U.S. $ 5.77 billion. In non-oil trade (2001-2005) Indonesia remains a surplus. In 2005, Indonesia recorded a surplus of U.S. $ 4.13 billion while in 2004 recorded a surplus of U.S. $ 2.86 billion. In 2006 (January-March) Indonesia's trade deficit amounted to U.S. $ -67.9 million. Deficit in 2005 due to oil and gas trade deficit of U.S. $ -5.7 billion, while non-oil still recorded a surplus of U.S. $ 4.1 billion.

Indonesia's exports to Singapore in 2005 amounted to U.S. $ 7.83 billion, an increase of 30.64% compared with exports in 2004 amounted to U.S. $ 6.0 billion (of non-oil exports in 2005 amounted to U.S. $. 7.07 billion, an increase of 31.13% compared to non-oil exports in 2004 amounted to U.S. $ 5.39 billion). In 2006 (January-March) export value totaled U.S. $ 1.9 billion increased by 9.9% over the same period in 2005 stood at U.S. $ 1.7 billion. Non-oil exports amounted to U.S. $ 5.3 billion and oil and gas exports amounted to U.S. $ 607.2 million.

5. India

India's economic growth for several years after 1984 are shown in the table below. India's economic growth averaging over 8% occurred after 2002. The consistently of high growth is actually closely related to sectoral development and economic reform that have been conducted since 1984.

Table 4.8
Economic Growth of India

Year	Economic Growth (%)
1985	4,5

1986	4,1
1987	3,6
1988	10,1
1989	6,7
2000	4,0
2001	5,9
2002	3,9
2003	8,6
2004	7,6
2005	8,2
2006	9,1

Source : Central Bureau of Statistic

India's economic growth was accompanied by the appropriate sectoral growth occurs in developing countries is the growth of industry and services are relatively high and the growth of the agricultural sector is relatively low. In 2006, the economic growth of 9.1% accompanied by the growth of industrial sector was 10.5%, services sector such as hotels and restaurants 10.7%, 1.7% agriculture and infrastructure sectors by 7.8 %. Although growth is lower than the industrial sector, agricultural sector growth to sustain overall economic growth through increasing food production.

If we follow the economic development of India-Indonesia trade and it seems many have ups and downs. From the first, the development of Indian culture is very dominant and affect various aspects of life in some areas of the country. This also affects the relations and economic development and trade on both sides.

Similarly, in its development well before independence, has established a cooperative relationship. Relations and cooperation have also been recorded in history that Indonesia had donated rice to help famine in their post-independence India. However, India now has a lot of progress. Their economic development

begins with the reform of economic openness and trade in India since the early 90's, which has brought many changes in India. Some of this success include increasing India's GDP, last year 2007 has penetrated the top ten of the world and has surpassed some developed countries.

Similarly, India's economic growth above the average world economic growth. Of course this affects the growing need for raw materials, human resources, infrastructure needs, including food needs for society, amounting to 1.2 billion of this.

Another indicator is the rise of the poor into the middle class and middle class to upper class. These are all potential and also a chance for the Indonesian state to meet their needs are. Opportunities for economic improvement in India or if India's arguably the rise of giants is not widely used by the Indonesian government. The development of Indian investment into Indonesia is still very small.

Indonesia's exports to India is still largely dominated by natural products and agricultural commodities such as coal, crude palm oil (CPO), spices and household equipment (house hold equipment) or handicrafts, including exports of textiles and textile products.

Export opportunities to India is still quite a lot. Various processed products is still much need for this country. Indeed, there are still many obstacles that we are still being felt by exporters such as the imposition of high import duties of certain commodities which applied the Indian government, such as CPO (Crude Palm Oil) as well as several other agricultural products.

Similarly, issues of trade relations are still using an intermediary third country or countries such as Singapore or Malaysia. Of course this is government's duty to create a Memorandum of Understanding (MOU) between the two countries bilateral relations to overcome trade barriers, both tariff and non-tariff barriers.

The MoU will open up opportunities for a little more new products which have higher added vallue such as paper, automotive (parts), and other electronic goods, compared with agricultural products or natural products. Of course this needs the agreement of economic cooperation and bilateral trade between the two countries soon realized that overall, while increasing trade efficiency.

CHAPTER V

EMPIRICAL RESULT AND ANALYSIS

5.1 Method

This study aims to determine the factors that affect the Indonesian non-oil export to major destination countries. The countries referred to China, Japan, United State, India and Singapore. Data that used in this research are combining of time series data and cross section data. Combining of time series and cross section usually called as pooling data.

The authors examine the research data with three types of estimation methods, ie least square pool, fixed effect and random effect. The best results with a few tests to be used by writers in taking the results for the conclusions in this study.

First, the author will use Chow test to choose the pool or least square fixed effect.

The Assumption:

Ho = pool method

Ha = fixed effect

The result is:

Table 5.1 Chow Test

Redundant Fixed Effects Tests Pool: Untitled Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.442953	(4,26)	0.0219

Data processed by Eviews 6

Based on estimates by Chow test, we can see that the F-test and chi-square are significant (p-value Nowhere Less than 5%), it means that Ho is rejected and Ha accepted.

Furthermore, the author estimate the research data using Hausman test to determine whether using random effect and fixed effect.

The Assumption: Ho = random effect

Ha = fixed effect

The result is:

Table 5.2 Hausman Test

Correlated Random Effects - Hausman Test Pool: Untitled Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.158906	4	0.0271

Data processed by Eviews 6

The test results using Hausman test shows that Chi square is significant (where p value less than 5%) it means Ho is rejected and Ha is accepted, so the conclusion stated fixed effect is a correct method.

5.2 Empirical Finding

The regression results obtained from panel data using fixed effect models are:

$$X_{Indit} = -353367{,}7er + 0{,}000437gdp + 28{,}11912pl + 0{,}652694pe$$

*see table 5.3

5.2.1 Determination Coefficient (R^2)

The processed data to estimate non-oil export equation using the fixed effect method shows the results of R^2 equal to 0.969690. It means 97% total non-oil export Indonesia is influenced by exchange rate, population of importer countries, GDP of importer countries and total exports on previous year. And 3% of total non oil export of Indonesia is influenced by other factors.

5.2.2 F-test

The value F statistic can thus be used to test the overall independent variables at once to the dependent variable. When the F-test value obtained is greater than F-table.

F-table:

$\{a\ ; df1 = (k-1); df2 = (n-k-1)$
$\{0{,}05\ ; df1 = (5-1); df2 = (35-5-1)$
$\{0{,}05{,}4{,}29\} = 2{,}701$

From the results can be seen that the F statistic > F tables (103.9741> 2.701). That means the independent variables together significantly affect the dependent variable. So in this case, exchange rate, population, GDP and total exports on previous year are affecting the total value of Indonesian non-oil export to main destination countries.

5.2.3 T-test

This test is to examine the relationship of individual or partial regression of independent variables on the dependent variable.

$$\text{t-table} = \{\alpha; df = (n-k)\}$$
$$= \{0{,}05; 35-5\}$$
$$= \{0{,}05{,}30\}$$
$$= (1{,}697)$$

By looking at the value estimated at 1.697 in the table it will be concluded:

a) T-test for Exchange Rate

By using a confidence interval level α = 5% and the degree of freedom of 30, writer get t-table values obtained at 1,697, while the value of t-statistic 0,632443. The hypothesis are :

Ho = Exchange rate can explain or influence change of dependent variable (total non-oil export of Indonesia) significantly

Ha = Exchange rate cannot explain or influence change of dependent variable (total non-oil export of Indonesia) significantly

The result showed that Ha is received and Ho is rejected (t-table > t-statistics) so that the exchange rate is statistically negative effect on the total non-oil exports of Indonesia to the main destination countries.

b) T-test for population

By using a confidence interval level $\alpha = 5\%$ and the degree of freedom of 30, writer get t-table values obtained at 1,697, while the value of t-statistic of 2,615983. The hypothesis are :

Ho = population of importing countries can explain or influence change of dependent variable (total non-oil exports of Indonesia) significantly

Ha = population of importing countries cannot explain or influence change of dependent variable (total non-oil exports of Indonesia) significantly

The result showed that Ha is rejected and accept Ho (t-table < t-statistics) so the population was statistically positive effect on total non-oil exports of Indonesia to the main destination countries.

c) T-test against parameter Gross Domestic Product

Not much different with the t-test of population parameters. Value of t-statistic is 2.395840. Therefore, the test rejected Ha and received Ho (t-table < t-statistic), its mean there is positive effect on total non-oil exports of Indonesia to the main destination countries.

d) T-test for one-year total export earlier

For these parameter value of t-statistic obtained at 4.611459. Therefore, the test rejected Ha and received Ho (t-table <t-statistics) so that statistically

total export one-year earlier had positive effect on total non-oil exports of Indonesia to the main destination countries.

5.3 Classical Assumption

From the data processing, estimation results are obtained as follows:

Table 5.3
Fixed Effect Model

Dependent Variable: TEXPORT?
Method: Pooled EGLS (Cross-section weights)
Date: 01/03/11 Time: 20:43
Sample: 2003 2009
Included observations: 7
Cross-sections included: 5
Total pool (balanced) observations: 35
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.36E+10	6.38E+09	-2.140739	0.0418
ER?	-353367.7	558734.2	-0.632443	0.5326
POP?	28.11912	10.74897	2.615983	0.0146
GDP?	0.000437	0.000182	2.395840	0.0241
PREVIOUS?	0.652694	0.141537	4.611459	0.0001
Fixed Effects (Cross)				
_CHINA—C	-2.15E+10			
_JAPAN—C	1.23E+10			
_USA—C	6.63E+09			
_INDIA—C	-1.59E+10			
_SPORE—C	1.85E+10			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.969690	Mean dependent var	9.90E+09
Adjusted R-squared	0.960363	S.D. dependent var	6.48E+09
S.E. of regression	9.73E+08	Sum squared resid	2.46E+19
F-statistic	103.9741	Durbin-Watson stat	1.925650
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.929667	Mean dependent var	7.55E+09
Sum squared resid	2.64E+19	Durbin-Watson stat	1.533568

Data processed by Eviews 6

According to Santoso (1999), in making a multiple regression equation testing the assumptions needed to see whether the regression model that was created could be used.

5.3.1 Autocorrelation

Autocorrelation is the relationship between residual one observation with another observation residuals. To test this assumption used Durbin-Watson Test. DW test is one test that is widely used to determine whether there is autocorrelation. For these purposes, DW already has a table that is used as a comparison test conducted DW, so it can be concluded with a right, whether or not autocorrelation.

Figure 5.1
Regional Acceptance & Rejection Hypothesis Ho, autocorrelation test

Reject Ho, meaning there is positive autocorrelation	Can not be decided	Do not reject Ho, means no autocorrelation	Can not be decided	Reject Ho, there is a negative autocorrelation

0 d_L d_u 2 $4-d_u$ $4-d_L$ 4

1,10 1,54 2,46 2,90

When d is between 1.54 and 2.46, then there is no autocorrelation, and if the value of d is between 0 to 1.10 can be concluded that the data contains positive autocorrelation. And if values are above 2.90 d can be concluded that the data contain negative autocorrelation.

Fixed Effect Of Test that has been done, the result that the value of Durbin Watson (DW) of 1.925650. That means the data used do not contain autocorrelation.

5.3.2 Heteroscedasticity Test

Heteroscedasticity appears if the error or residual of the observed model does not have a constant variance of one observation to another observation. Heteroscedasticity situation occurred because of several reasons, among others:

a. The nature of the variables included into the model
b. The nature of the data used in the analysis, cross section data more often creating heteroscedasticity compared with time series data.

Heteroskedastic models are usually fitted with estimated or feasible generalized least squares (EGLS or FGLS). Random sampling and maximum likelihood iterated by generalized least squares have also been used (Greene, 2002). In this thesis writer already used EGLS as method so, writer can ignore this problem.

5.4 Estimation Result

1. Exchange Rate of Indonesia currency against currencies of importer countries

From the output obtained when processing the data using a fixed effect model shows that the value of exchange rate by -353,367.7. This means that if there is a change of 1% on the exchange rate of Indonesian currency against importers currencies, there will be a change in total non-oil exports of Indonesia to the main destination countries amounted to 353,367.7%. From these results,

can be seen that the effect of exchange rates against total non-oil exports is inelastic. From this result also shows that the role of the Central Bank, Bank Indonecsia, in this case in maintaining the exchange rate effect is very important for the development of Indonesian non-oil exports to major destination countries.

2. Population of Importer Countries

Regression coefficient values for the population of importer countries amounted to 28.11912. This means that if there is a change in the population in each importing country at 1%, there will be a change in the total non-oil exports of Indonesia at 28.12%.

Probability of these results also showed significant regression. This is because the large of importer population will increase the potential market for Indonesian. Demand of importer countries will increase if the populations of importer countries increase also.

3. GDP of Importer Countries

Regression coefficient values for Gross Domestic Product of importer countries amounted to 0,000437. This means that if there is a change in the GDP of importing countries by 1%, there will be a change in the total non-oil exports of Indonesia amounted to 0.000437%. Probability results from this regression also indicates significant at 0.0241 level.

The purchasing power to import product will increase if the income level of importer country increases (Salim and Kabir, 2009). This means that if the

GDP of main importing countries increased, there will be an increase in total non-oil exports of Indonesia.

4. Total Value of Non-Oil Export on the Previous Year

The variable of total non-oil exports from Indonesia to the destination country one year earlier will influence the country to re-import or not in the following year.

Regression coefficient values for total exports on previous year amounted to 0.65269. This means that if there is a change in the total exports on previous year to main destination countries by 1%, there will be a change in the total non-oil exports of Indonesia amounted to 0.65269%. Probability results from this regression also indicates significant at 0.0001.

The variable of total Indonesian non-oil export to main destination countries one year before will influence the importing country, which means that the variable will be one of the factors that determine to re-import in the next year.

CHAPTER VI

CONCLUSION AND SUGGESTIONS

6.1 Conclusion

Based on the description of the results of research and discussion from the previous chapter, this study intended to examine the analysis of the factors that influence the Indonesian non-oil exports to countries where the primary goal in this case for specific countries are China, Japan, United State, India and Singapore in the period 2003 to 2009. From the analysis of data that has been done can be concluded as follows:

1. Statistically Indonesian currency exchange rates against currencies importer countries do not have a significant influence on the total value of Indonesian non-oil export. In this case the exchange rate has no effect on total non-oil exports of Indonesia.
2. Variable population importer countries have a significant effect on total non-oil exports of Indonesia. This could mean that if there is a change in importer countries, the population will affect the total non-oil exports of Indonesia.
3. Statistically, the variable GDP of importing countries have a significant influence on the total value of Indonesian non-oil export. This could mean that if there is a change in the GDP of importer countries will affect the total non-oil exports of Indonesia.

4. Variable total export one year before having a significant impact on the total value of Indonesian non-oil export. This could mean that the total non-oil export to main destination countries influence one year before those countries to re-import on the next year.

6.2 Suggestion

Based on the above conclusion it is suggested,

It can be seen that the non-oil exports of Indonesia to the United States has decreased due to the crisis. Therefore it is necessary to diversify the market. One effort that can be done is to find a country that imports from Indonesia of high growth such as Korea, Thailand, Spain, Australia and Middle East countries.

To increase the total non-oil exports Indonesia needs an effort of the government's improvement. Whether it's short-term improvement plan and long term. It is also necessary that adequate facilities and infrastructure to support export activities. It aims to facilitate the activities of Indonesia's exports, especially non-oil exports which recently became a prima donna who can help export of Indonesia's economic recovery.

In this study a population of importing countries have a significant effect on total non-oil exports of Indonesia. Therefore should be known to the public taste of the importing countries. Export the final good needs to be improved so that it can absorb labor.

REFERENCES

Adisti, Adila.2010. *Pengaruh Pertumbuhan Ekonomi dan Ekspor Terhadap Kemiskinan di Indonesia.* Skripsi Ilmu Ekonomi Unand. Padang.

Andini, Trie. 2010. *Does AFTA Create or Divert Trade for Indonesia?.*Skripsi Ilmu Ekonomi Unand. Padang.

Bank Indonesia. 2010. *Laporan Kebijakan Moneter.* Online. Available HTTP: http://www.bi.go.id (accessed 14 November 2010).

Budi Santosa. 2007. *Kinerja Ekspor Non Migas 2007.* Economic Review.

Freund Caroline. 2010. Trade Watch March 2010. Online. Available HTTP: http://www.worldbank.org/research/trade/ (accessed 14 November 2010).

H. Nurul & Zulihar. 2010. *Perdagangan Bilateral Indonesia-China Periode 2000 – 2009.* Available HTTP. http://www.scribd.com/doc/32854899/Perdagangan-Bilateral-Indonesia-China-2000-2009/ (accessed December 21, 2010).

Hutabarat, Budiman. 2007. *Analisis Kesepakatan Perdagangan Bebas Indonesia – China dan Kerjasama AFTA serta Dampaknya Terhadap Perdagangan Komoditas Pertanian Indonesia.* Laporan Akhir Penelitian Departemen Pertanian.

Jadun, Anugrahita. 2005. *Analisis Perdagangan Bilateral Antara Indonesia dengan Singapura Periode Tahun 1980-2003.* Skripsi Fakultas Ekonomi UII, Yogyakarta.

Kuncoro, Mudjarad._____. *Di Balik Perdagangan RI-Singapura.*

Lestari, Adisty Dwi. 2009. *Analisis Permintaan Ekspor Non Migas Indonesia ke Amerika Serikat Periode 1999-2007.* Skripsi UI. Jakarta

Lu, Weiguo. 1995. *Reform of China's Foreign Trade Policy.* Department of Parliamentary Library, Australia.

Mei, Lin. _____. *The Economic Relation between China and Indonesia and Mainland China's Investments in Indonesia.*

Mouchart, Michel. 2004. *The Econometrics of Panel Data.* Institut de statistique Universite chatolique de Louvain.

Mutakin, Firman. 2008. *Faktor Yang Menunjang Kinerja Ekspor Non Migas Indonesia Tahun 2008.* Economic Review.

Mutakin Firman & A.R. Salam. 2009. *The Impact of ASEAN-CHINA Free Trade Agreement on Indonesian Trade.* Trading Department of Indonesia, Jakarta.

Nachrowi, D. and Usman, Hardius. 2006. *Pendekatan Populer dan Praktis Ekonometrika Untuk Analisis Ekonomi dan Keuangan.* FEUI, Jakarta.

Pudjiatmoko. 2007. Ekspor Non Migas ke Jepang Januari 2007 mencapai angka terbesar. Available HTTP. http://atanitokyo.blogspot.com/2007/05/ekspor-nonmigas-ke-jepang-januari-2007-2008.html. (accessed Dec 31th, 2010)

Samanhudi, Thorny. 2009. *Analisis Faktor-Faktor Yang Mempengaruhi Ekspor Produk Pertanian Indonesia ke Amerika Serikat.* Tesis Pascasarjana USU, Medan.

Setiyadi, Wirgantoro. _____. *Di Balik Sukses Ekonomi China dan India.* Pasca Sarjana Ekonomi UI. Jakarta.

Trotignon, Jerome. 2009. *Are the New Trading Blocs Building or Stumbling Blocks? A Gravity Model Using Panel Data.* GATE. France

William, E. James. 1998. Indonesia : *Non Oil/Gas Export Performance in 1997 and Outlook for 1998.* International Centre for the Study of East Asian Development. Japan

Winarno, Wahyu. 2009. *Analisis Ekonometrika dan Statistika dengan Eviews Edisi Kedua.* UPP STIM YKPN. Yogyakarta.

Wulandari, Ajeng. 2006. *Analisis Faktor-Faktor Yang Mempengaruhi Ekspor Karet Dari Indonesia ke Amerika (Kurun Waktu 1980 – 2003).* Skripsi Studi Pembangunan UII, Yogyakarta.

Yolanda, Yessy. 2008. *Analisis Faktor-Faktor Yang Mempengaruhi Aliran Perdagangan Biji Pala Indonesia.* Skripsi Fakultas Pertanian IPB, Bogor.

_____. 2009. *Peningkatan Investasi dan Ekspor Non Migas.*

Appendix 1

Table Chow Test

Redundant Fixed Effects Tests
Pool: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.442953	(4,26)	0.0219

Cross-section fixed effects test equation:
Dependent Variable: TEXPORT?
Method: Panel EGLS (Cross-section weights)
Date: 01/03/11 Time: 15:44
Sample: 2003 2009
Included observations: 7
Cross-sections included: 5
Total pool (balanced) observations: 35
Use pre-specified GLS weights

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.52E+08	6.52E+08	0.999287	0.3256
ER?	-99832.96	95303.96	-1.047522	0.3032
POP?	0.152053	0.423856	0.358738	0.7223
GDP?	5.29E-05	7.36E-05	0.719041	0.4777
PREVIOUS?	1.015030	0.062578	16.22028	0.0000

Weighted Statistics

R-squared	0.953635	Mean dependent var	9.90E+09
Adjusted R-squared	0.947453	S.D. dependent var	6.48E+09
S.E. of regression	1.12E+09	Sum squared resid	3.77E+19
F-statistic	154.2590	Durbin-Watson stat	1.667020
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.904647	Mean dependent var	7.55E+09
Sum squared resid	3.58E+19	Durbin-Watson stat	1.422674

Appendix 2

Table Hausman Test

Correlated Random Effects - Hausman Test
Pool: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.158906	4	0.0271

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
ER?	-300118.594709	-105322.665676	24332455280 7.57588	0.6929
POP?	23.304842	-0.471092	204.345987	0.0963
GDP?	0.000287	0.000079	0.000000	0.4795
PREVIOUS?	0.734110	0.856737	0.008622	0.1866

Cross-section random effects test equation:
Dependent Variable: TEXPORT?
Method: Panel Least Squares
Date: 01/03/11 Time: 20:44
Sample: 2003 2009
Included observations: 7
Cross-sections included: 5
Total pool (balanced) observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.10E+10	8.03E+09	-1.368700	0.1828
ER?	-300118.6	498004.7	-0.602642	0.5520
POP?	23.30484	14.30283	1.629386	0.1153
GDP?	0.000287	0.000300	0.956754	0.3475
PREVIOUS?	0.734110	0.120348	6.099910	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.931563	Mean dependent var	7.55E+09
Adjusted R-squared	0.910506	S.D. dependent var	3.32E+09
S.E. of regression	9.94E+08	Akaike info criterion	44.48968
Sum squared resid	2.57E+19	Schwarz criterion	44.88962
Log likelihood	-769.5693	Hannan-Quinn criter.	44.62774
F-statistic	44.23907	Durbin-Watson stat	1.642478
Prob(F-statistic)	0.000000		

Appendix 3

Table Fixed Effect

Dependent Variable: TEXPORT?
Method: Pooled EGLS (Cross-section weights)
Date: 01/03/11 Time: 20:43
Sample: 2003 2009
Included observations: 7
Cross-sections included: 5
Total pool (balanced) observations: 35
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.36E+10	6.38E+09	-2.140739	0.0418
ER?	-353367.7	558734.2	-0.632443	0.5326
POP?	28.11912	10.74897	2.615983	0.0146
GDP?	0.000437	0.000182	2.395840	0.0241
PREVIOUS?	0.652694	0.141537	4.611459	0.0001
Fixed Effects (Cross)				
_CHINA--C	-2.15E+10			
_JAPAN--C	1.23E+10			
_USA--C	6.63E+09			
_INDIA--C	-1.59E+10			
_SPORE--C	1.85E+10			

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.969690	Mean dependent var	9.90E+09
Adjusted R-squared	0.960363	S.D. dependent var	6.48E+09
S.E. of regression	9.73E+08	Sum squared resid	2.46E+19
F-statistic	103.9741	Durbin-Watson stat	1.925650
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.929667	Mean dependent var	7.55E+09
Sum squared resid	2.64E+19	Durbin-Watson stat	1.533568

APPENDIX 4

INDONESIAN NON OIL EXPORTS DATA

Id		Texport	ER	POP	GDP	PREVIOUS
_china	2003	2.816.700.000	1039,39104	1.288.400.000	1.640.970.000.000	2.191.900.000
	2004	3.437.400.000	1082,1971	1.296.075.000	1.931.640.000.000	2.816.700.000
	2005	3.959.800.000	1188,47085	1.303.720.000	2.257.070.000.000	3.437.400.000
	2006	5.466.600.000	1.153,11	1.311.020.000	2.716.870.000.000	3.959.800.000
	2007	6.664.100.000	1.203,42	1.317.885.000	3.505.530.000.000	5.466.600.000
	2008	7.787.200.000	1.396,95	1.324.655.000	4.532.790.000.000	6.664.100.000
	2009	8.920.100.000	1.528,85	1.331.460.000	4.984.730.000.000	7.787.200.000
_japan	2003	6.338.299.321	74,20658	127718000	4.229.100.000.000	5.980.432.514
	2004	7.680.202.767	82,76319	127761000	4.605.920.000.000	6.338.299.321
	2005	9.561.800.000	88,38311	127773000	4.552.200.000.000	7.680.202.767
	2006	12.198.600.000	78,99303	127.756.000	4.362.590.000.000	9.561.800.000
	2007	13.092.800.000	77,70473	127.770.750	4.377.940.000.000	12.198.600.000
	2008	13.795.300.000	94,2808	127.704.000	4.886.970.000.000	13.092.800.000
	2009	11.979.000.000	111,4455	127.560.000	5.069.000.000.000	13.795.300.000
_usa	2003	6.896.222.192	8.592,80	290326000	11.089.200.000.000	7.124.745.958
	2004	8.222.343.678	8.945,82	293046000	11.812.300.000.000	6.896.222.192
	2005	9.507.900.000	9.721,65	295753000	12.579.700.000.000	8.222.343.678
	2006	10.682.500.000	9.183,77	298.593.000	13.336.200.000.000	9.507.900.000
	2007	11.311.300.000	9.138,50	301.580.000	14.061.800.000.000	10.682.500.000
	2008	12.531.100.000	9.684,88	304.375.000	14.369.100.000.000	11.311.300.000
	2009	10.470.100.000	10.428,88	307.007.000	14.119.000.000.000	12.531.100.000
_india	2003	1.484.697.627	184,79253	1064398612	599.461.000.000	1.079.197.398
	2004	1.889.830.608	197,93058	1079721194	720.909.000.000	1.484.697.627
	2005	2.865.400.000	221,06449	1094583000	837.195.000.000	1.889.830.608
	2006	3.326.500.000	203,35706	1.109.811.147	949.192.000.000	2.865.400.000
	2007	4.885.000.000	221,48177	1.124.786.997	1.232.820.000.000	3.326.500.000
	2008	7.060.900.000	222,36623	1.139.964.932	1.214.210.000.000	4.885.000.000
	2009	7.351.400.000	215,10467	1.155.347.678	1.310.170.000.000	7.060.900.000
_spore	2003	4.740.264.864	4932,63153	4114800	93.206.034.573	4.636.212.570
	2004	5.368.920.343	5294,56445	4166700	109.664.000.000	4.740.264.864
	2005	7.068.600.000	5841,79923	4265800	125.418.000.000	5.368.920.343
	2006	7.824.200.000	5.781,21	4.401.400	145.072.000.000	7.068.600.000
	2007	8.990.400.000	6.069,54	4.588.600	176.766.000.000	7.824.200.000
	2008	10.104.600.000	6.836,32	4.839.400	193.332.000.000	8.990.400.000
	2009	7.947.600.000	7.162,79	4.987.600	182.232.000.000	10.104.600.000