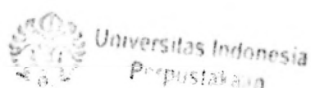


**ASSESSING INDONESIAN FOOTWEAR EXPORTS'
PERFORMANCE: CASE STUDY THE US, GERMANY,
BELGIUM, UK, NETHERLANDS AND ITALIAN MARKETS**

THESIS

**Yonatan Kriswidiyanto Sitohang
0706180836**



**UNIVERSITY OF INDONESIA
FACULTY OF ECONOMICS
MASTER OF PLANNING AND PUBLIC POLICY
DEPOK
DECEMBER, 2008**

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THESIS

**Submitted in partial fulfillment of the requirements for the Degree of
Master of Economics**

**Yonatan Kriswidiyanto Sitohang
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**UNIVERSITY OF INDONESIA
FACULTY OF ECONOMICS
MASTER OF PLANNING AND PUBLIC POLICY
DEPOK
DECEMBER, 2008**

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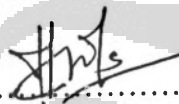
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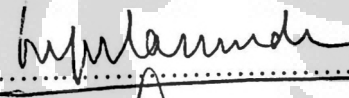
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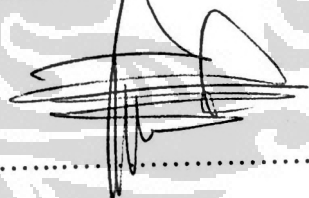
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I would like to say Praise the Lord, because of His blessing, I can complete this research that be entitled of: "Assessing Indonesian Footwear Exports' Performance: Case Study the US, Germany, Belgium, UK, Netherlands, and Italian Markets."

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Last but not least, I believe that this research is still imperfect. Therefore, critics and suggestions are welcome to enhance this research.

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ABSTRACT

Name : Yonatan Kriswidiyanto Sitohang
Study Program : Master of Planning and Public Policy
Title : Assessing Indonesian Footwear Exports' Performance:
Case Study the US, Germany, Belgium, UK, Netherlands,
and Italian market

The footwear industry is very important because this industry is labor intensive and it can attract some foreign direct investment. In addition, Indonesia is well-known as a footwear producer in the global market and its networking or market distribution is also spread across several countries. In the world market, export performance of Indonesia's fluctuated during 2000 – 2007. Although, exports of footwear declined in 2002, the exports of footwear have been increasing recently.

The objective of this research is to assess the performance of Indonesian footwear exports to partner countries. Therefore, this research will assess competitiveness of Indonesia's footwear to partner countries, and also assess the impact of real GDP of partner country, relative price, and nominal exchange rate on demand for Indonesia's footwear exports. In this research, the markets that will be analyzed are the US, Germany, Belgium, UK, Netherlands, and Italian markets.

The methods of competitiveness analysis that will be used in this research are Revealed Comparative Advantage (RCA), Export Specialization Index (ESI), and Constant Market Share Analysis (CMSA). Meanwhile, the econometric model will be used to analyze the impact of real GDP of partner country, relative price, and nominal exchange rate on demand for Indonesia's footwear exports.

The RCA index shows that Indonesia had comparative advantage in the world market during 2003-2006. In addition, the ES index also shows that Indonesia had comparative advantage in the sixth markets during 2003-2006. Trend in ES index of Indonesia's footwear was increasing in the sixth markets, except in the US market.

During 2003-2006, export growth of Indonesia's footwear was positive in the sixth markets, except in the US market. The competitiveness effect of Indonesia's footwear (HS 64) was positive in the Germany, UK, Netherlands, and Italy except in the US and Belgium. The market distribution effect of Indonesia's footwear (HS 64) was positive in the Belgium, and Netherlands except in the US, Germany, UK and Italian markets. The commodity composition effect of Indonesia footwear was negative. This means that the composition of Indonesia for this product was lesser than other products.

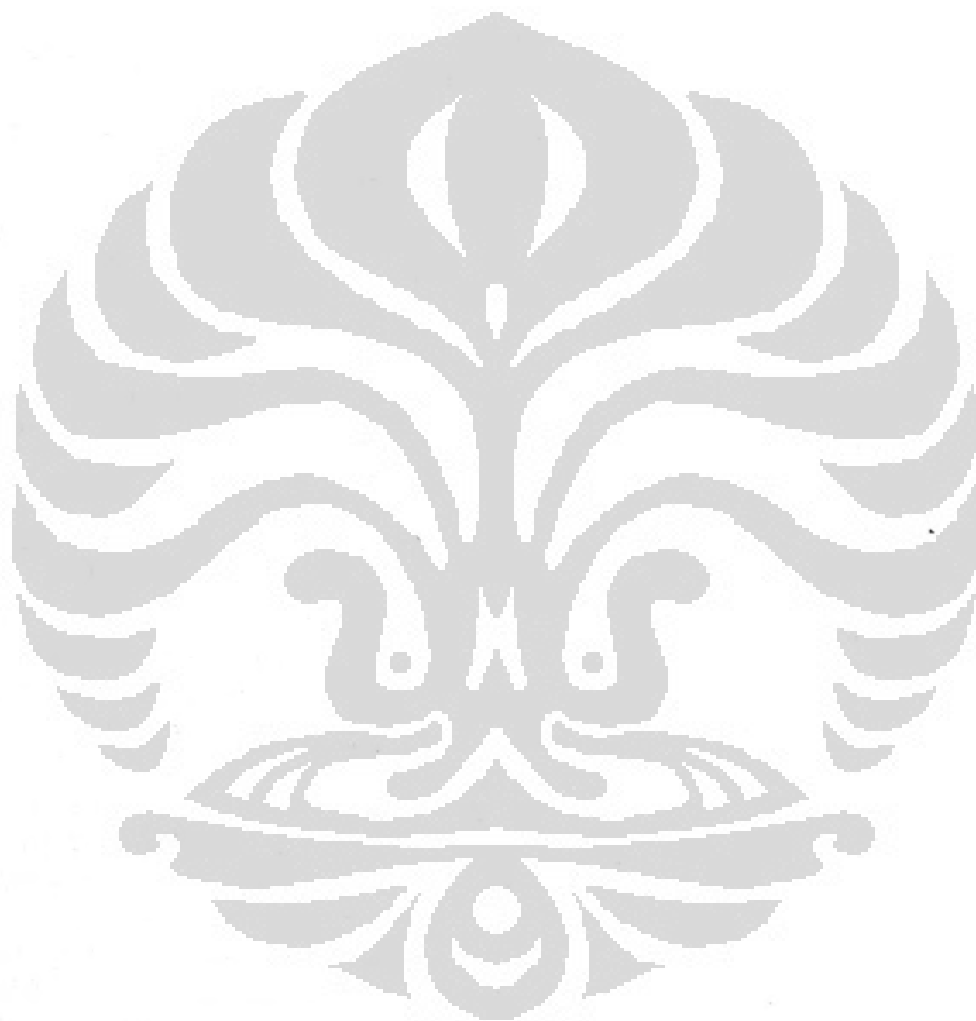
Exports demand for the whole of the footwear category is significantly influenced by variable of real GDP of partner country, variable of nominal exchange rate and variable of relative price. Meanwhile, variable of nominal exchange rate is categorized as elastic. This means that exports demands for Indonesia's footwear is sensitive on fluctuation of exchange rate.

Exports demand for Indonesia's sport shoes category is significantly influenced by variable of real GDP of partner country and variable of nominal

exchange rate. Both variables are categorized as inelastic. This means that exports demand is not sensitive on increasing / decreasing the variables.

Exports demand for Indonesia's non sport shoes category is significantly influenced by variable of nominal exchange rate and variable of relative price. The variable of nominal exchange rate is categorized as elastic. This means that exports demand is sensitive on fluctuation of exchange rate.

Key words : Footwear, Competitiveness, Exports Demand



ABSTRAK

Nama : Yonatan Kriswidiyanto Sitohang
Program Studi : Magister Perencanaan dan Kebijakan Publik
Judul : Penilaian Kinerja Ekspor Alas Kaki Indonesia: Studi Kasus di pasar Amerika Serikat, Jerman, Belgia, Inggris, Belanda dan Italia

Industri alas kaki sangat penting karena bersifat *labor intensive* dan mampu menarik investasi luar negeri. Selain itu, Indonesia juga dikenal secara baik sebagai negara produsen alas kaki di pasar global, selain itu jaringan pemasarannya atau distribusi pasarnya juga tersebar di beberapa negara. Di pasar dunia, kinerja ekspor alas kaki Indonesia berfluktuatif sepanjang tahun 2003 sampai 2007. Walaupun, ekspor alas kaki pernah turun di tahun 2002, tetapi trend dari ekspor alas kaki Indonesia tersebut menunjukkan peningkatan untuk beberapa tahun belakangan ini.

Tujuan dari penelitian ini adalah untuk menilai kinerja ekspor alas kaki Indonesia. Oleh karena itu, penelitian ini akan menilai daya saing ekspor alas kaki Indonesia di negara-negara mitra serta menilai dampak dari GDP riil dari negara mitra, harga relatif dan nilai tukar nominal terhadap permintaan ekspor alas kaki Indonesia. Di dalam penelitian ini, studi kasus pasar yang akan diteliti adalah pasar Amerika Serikat, Jerman, Belgia, Inggris, Belanda dan Italia.

Metode analisa daya saing yang akan digunakan adalah *Revealed Comparative Advantage* (RCA), *Export Specialization Index* (ESI), dan *Constant Market Share Analysis* (CMSA). Sementara itu, model ekonometrika digunakan untuk menganalisa dampak dari GDP riil dari negara mitra, harga relatif dan nilai tukar nominal terhadap permintaan ekspor alas kaki Indonesia.

Indeks RCA menunjukkan bahwa Indonesia mempunyai keunggulan komparatif di pasar dunia selama periode 2003-2006. Demikian halnya dengan metode ESI yang juga menunjukkan bahwa Indonesia mempunyai keunggulan komparatif di enam pasar selama periode 2003-2006. Selain itu, trend dari nilai indeks ES menunjukkan trend kenaikan nilai keunggulan komparatif di pasar Jerman, Belgia, Inggris, Belanda, dan Italia, kecuali di pasar Amerika Serikat.

Selama periode 2003-2006, pertumbuhan ekspor alas kaki Indonesia positif di enam pasar tersebut, kecuali di pasar Amerika Serikat. Efek daya saing dari produk alas kaki Indonesia untuk kategori HS 64 adalah positif di negara Jerman, Inggris, Belanda, dan Italia, kecuali di Amerika dan Belgia. Efek distribusi pasar dari alas kaki Indonesia untuk HS 64 menunjukkan angka positif di negara Belgia dan Belanda, kecuali untuk pasar Amerika Serikat, Jerman, Inggris, dan Italia. Efek komposisi komoditas dari alas kaki Indonesia menunjukkan angka negatif. Hal ini berarti komposisi dari produk Indonesia yang diekspor untuk produk ini lebih kecil daripada produk ekspor yang lain.

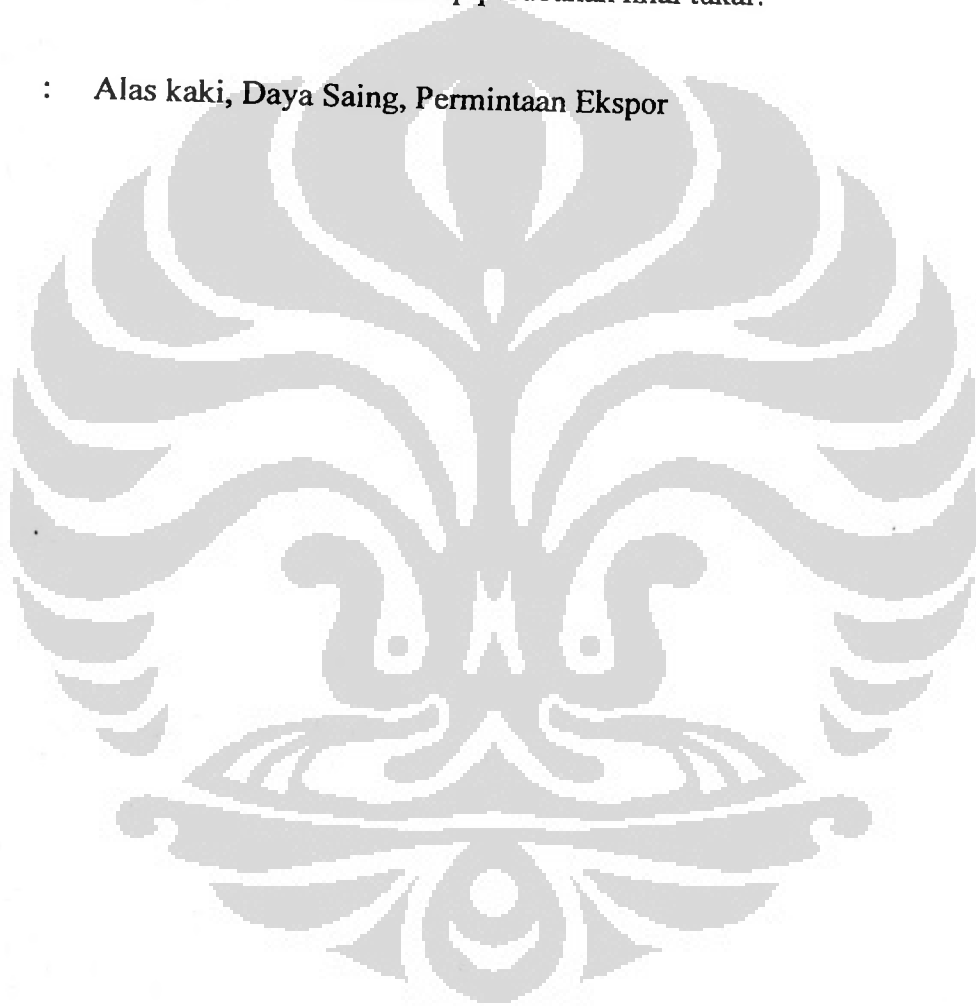
Permintaan ekspor untuk keseluruhan kategori alas kaki secara signifikan dipengaruhi oleh variabel GDP riil dari negara mitra, variabel nilai tukar nominal, dan variabel harga relatif. Sementara itu, variabel nilai tukar dikategorikan

sebagai elastis. Hal ini berarti bahwa permintaan ekspor untuk kategori ini sensitif terhadap perubahan nilai tukar.

Permintaan ekspor Indonesia untuk kategori sepatu olah raga secara signifikan dipengaruhi oleh variabel GDP riil dari negara mitra dan variabel nilai tukar nominal. Kedua variabel tersebut dikategorikan tidak elastis. Hal ini berarti bahwa permintaan ekspor tidak sensitif terhadap naik atau turunnya kedua variabel tersebut.

Permintaan ekspor alas kaki Indonesia untuk kategori sepatu non olahraga secara signifikan dipengaruhi oleh variabel nilai tukar nominal dan variabel harga relatif. Sementara itu, variabel nilai tukar nominal dikategorikan elastis. Hal ini berarti bahwa permintaan ekspor sensitif terhadap perubahan nilai tukar.

Kata kunci : Alas kaki, Daya Saing, Permintaan Ekspor



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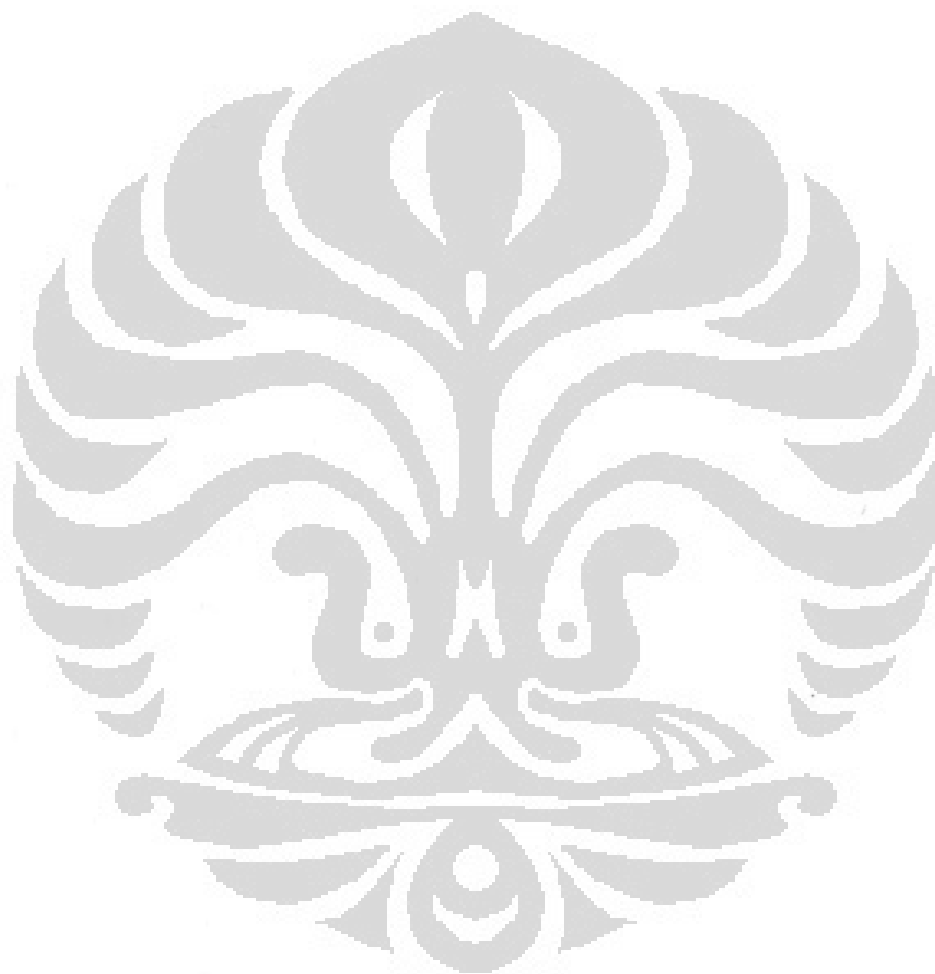
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CHAPTER I

INTRODUCTION

1.1. Research Background

Since 1980, Indonesia has been implementing its development strategy based on export. This means that Indonesia is applying an export lead development strategy (Djiwandono, 1997:469). Exports play significant role in increasing economic growth. According to Pangestu (1988), the roles of exports are important because:

1. Exports can be used to enhance new markets. If there are some new markets, then it can increase production capacity, economic scale, efficiency, competitiveness, labor and economic growth.
2. Exports can increase a country's reserve. This reserve can be used for investment, import consumption, paying obligations, and increasing reserve assets.

In early years of exports lead strategy, exports of commodities depended on oil and gas products, but the production of this is both decreasing and limited. As a result, the export of commodities has been shifting to agricultural products, and also industry and products of industry.

In 2007, exports of natural resource based products and manufactured products reached US\$ 74 billion, with 83% of total the non oil and gas exports¹. Growth of commodity exports which are not classified into the non oil and gas was 15.5%. Moreover, exports of natural resources based manufacture and industrial manufacturing increase 16.8%.

Recently, the export growth of non oil and gas commodities has been dominated by the ten main commodities. Their role in exports growth is very significant, for instance: their export share was 48.6% in 2007. Therefore, the Ministry of Trade has classified them as the ten main commodities. The ten main

¹ Statistical Center Agency, 2007

commodities are textiles and textile products, forestry products, rubber and rubber products, electronics, CPO and derivatives, automotives, footwear, shrimps, cocoa, and coffee. In 2007, footwear was in the seventh position of the ten main commodities for the non oil and gas category. The realization of the ten main commodities is shown in figure 1.1.as follows:

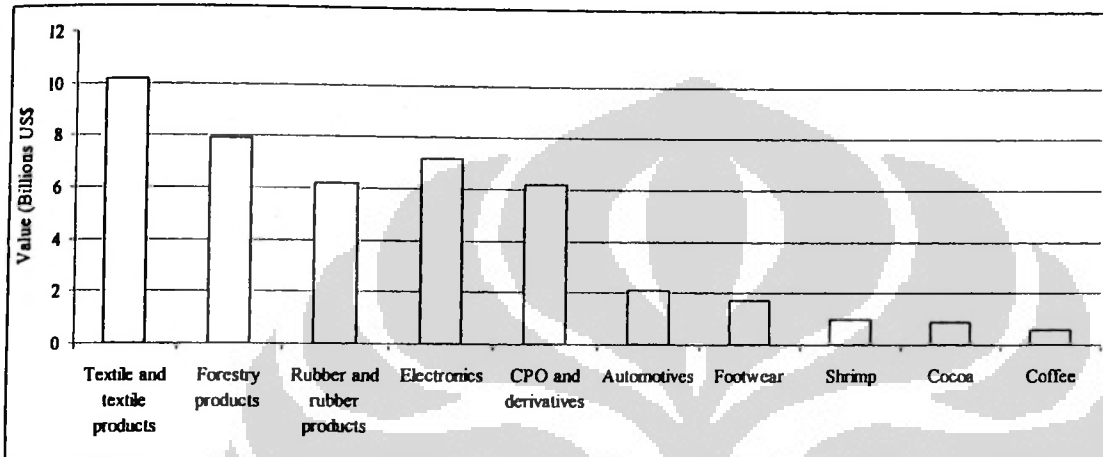


Figure.1.1. Realization of ten main commodities, 2007 (Billions US\$)

Source: Export Road-Map, Ministry of Trade

In the world market, export performance of Indonesia's footwear fluctuated during 2000 – 2007. Although, exports of footwear declined in 2002, recently footwear export has been increasing. The export performance of Indonesia's footwear is shown in figure 1.2.as follows:

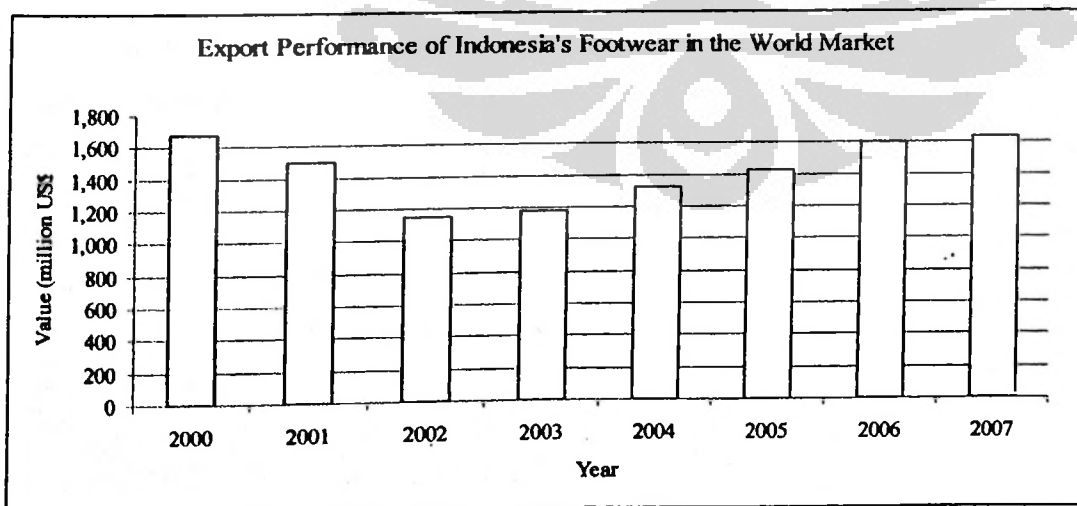


Figure 1.2. Performance of Indonesia's footwear exports

Source: UN Comtrade (processed)

Meanwhile, the growth of Indonesia's footwear export in the world market is shown in table 1.1.as follows:

Table.1.1. Export growth of Indonesia's footwear to the World Market

| Year | Trade Value (Millions, US\$) | Growth |
|------|---------------------------------|--------|
| 2000 | 1.672 | - |
| 2001 | 1.505 | -0.099 |
| 2002 | 1.148 | -0.237 |
| 2003 | 1.182 | 0.0297 |
| 2004 | 1.320 | 0.1169 |
| 2005 | 1.428 | 0.0818 |
| 2006 | 1.599 | 0.1198 |
| 2007 | 1.637 | 0.0238 |

Source: UN Comtrade (processed)

According to the table, exports of Indonesia's footwear were declining from 2000-2002, and export growth of Indonesia was negative. The worst export growth was in 2002 which achieved -0.237. The export growth increased in 2003 to 0.0297. During 2003-2007, export growth has been increasing.

The major destinations for Indonesia footwear exports are the Europe Union and the US. According to the Directorate for Industrial and Mining Products Exports, the market share of exports to the EU market was approximately 43.6% and it was 28.1% to the US market.

The main competitors of Indonesia's footwear to EU market are China, Vietnam, Rumania, India, and Brazil. Meanwhile, the main competitors of Indonesia's footwear to US market are China, Italy, Vietnam, Brazil, and Thailand.

In addition, the main importers of Indonesia's footwear by country are United States, Germany, Belgium, United Kingdom, Italy and Netherlands. The list of countries importing Indonesia's footwear is shown in table.1.2.as follows:

Table.1.2. The Importer Countries of Indonesia's footwear

| Destination Country | Value (millions US\$) | | | | | | |
|---------------------|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| USA | 611 | 475 | 462 | 468 | 472 | 450 | 383 |
| Germany | 79 | 68 | 73 | 77 | 97 | 131 | 156 |
| Belgium | 117 | 90 | 91 | 90 | 131 | 121 | 146 |
| UK | 124 | 103 | 90 | 118 | 104 | 129 | 126 |
| Italy | 40 | 26 | 38 | 46 | 83 | 97 | 119 |
| Netherlands | 62 | 32 | 54 | 78 | 59 | 112 | 99 |
| Japan | 64 | 67 | 69 | 73 | 88 | 96 | 83 |
| Singapore | 12 | 8 | 8 | 14 | 35 | 50 | 45 |
| Spain | 25 | 16 | 24 | 22 | 21 | 31 | 28 |
| Slovakia | 0.051 | 0.021 | 0.045 | 16 | 24 | 30 | 25 |
| France | 59 | 38 | 41 | 38 | 25 | 29 | 43 |
| South Korea | 11 | 11 | 17 | 18 | 18 | 26 | 28 |
| Mexico | 16 | 18 | 16 | 23 | 21 | 23 | 34 |
| Australia | 17 | 15 | 14 | 16 | 20 | 21 | 24 |
| China | 2.6 | 2.8 | 4 | 9 | 15 | 18 | 37 |
| Canada | 26 | 21 | 20 | 19 | 19 | 17 | 15 |
| Others | 232 | 148 | 156 | 188 | 188 | 210 | 237 |
| Total | 1505 | 1148 | 1182 | 1320 | 1428 | 1599 | 1637 |

Source: Statistical Centre Agency (processed)

According to Roadmap of footwear exports, the world's demand for footwear has been increasing recently. In 2006, world's demand for footwear was US\$ 76.8 million, while the market share of Indonesia's footwear exports in the world market was only 2.41%. This means that there is a chance for Indonesia to increase its exports. In addition, trend in Indonesia's footwear exports has been increasing in the world market.

1.2. Research Objectives

In order to increase exports of Indonesia's footwear, it is important to assess the performance of Indonesia's footwear exports to partner countries. Therefore, this research will assess competitiveness of Indonesia's footwear exports and also assess the impact of real GDP of partner country, relative price and nominal exchange on demand for Indonesia's footwear exports

1.3. Research Coverage

In this research, the markets that will be analyzed are US, Germany, Belgium, UK, Netherlands, and Italy. This is because these markets are the bigger importers of Indonesia's footwear. The category of footwear that will be analyzed in this research are the whole of the footwear category, the sports shoes category which consists of items which have 6-digit codes, non sports shoes category which consists of items which have 6-digit codes. This is because of the availability of data, so the period that will be used to analyze the competitiveness of Indonesia's footwear is from 2003 to 2006. Meanwhile, the data that will be used to analyze the impact of real GDP of partner country, relative price and nominal exchange rate on demand for Indonesia's footwear export is quarterly data from 2003 quarter 1 until 2007 quarter 3.

1.4. Research Methods

The competitiveness analysis is used to assess the competitiveness of Indonesia's footwear export. The methods of competitiveness analysis that will be used in this research are Revealed Comparative Advantage (RCA), Export Specialization Index (ESI), and Constant Market Share Analysis (CMSA). Meanwhile, the econometric model is used to assess the impact of real GDP of partner countries, relative price, and nominal exchange rate on demand for Indonesian footwear exports. In this research, panel data will be used to estimate the econometric model.

CHAPTER II

INTERNATIONAL TRADE THEORY, EXPLANATION OF EXPORTS, AND PREVIOUS RESEARCH

2.1. International Trade Theory

There are some theories which explain about international trade. The theories of international trade which are commonly known are absolute advantage theory from Adam Smith, comparative advantage theory from David Ricardo and factor endowment theory from Heckscher and Ohlin (H-O Theory).

2.1.1. Absolute Advantage Theory

The theory of absolute advantage was developed by Adam Smith. The basic idea of this theory is that a country will specialize and export a specific product which has absolute advantage or its production is more efficient. On the other hand, they should import products for which they have absolute disadvantage or its production is inefficient. This theory emphasizes efficiency in production factor or input, for instance: labor. In the production process, labor is an important factor as a competitiveness factor in production. In this process, the competitiveness level is measured by value of labor.

2.1.2. Comparative Advantage Theory

The problem in absolute advantage theory is that trade between countries will be implemented if they have gains from trade, and it can be organized if they have different absolute advantage.

Comparative advantage theory is a theory which expands or improves the weakness of absolute theory. David Ricardo developed a theory which is usually known as comparative theory. This theory explained that trade between countries still can be organized although a country is less efficient than another in production. There is an important requirement for trade to be implemented between countries which is each country should specialize in commodities for which it has less absolute disadvantage and import commodities for which it has

more absolute disadvantage. In addition, it is better if a country produces and exports products which have more comparative advantage than another. In the comparative theory, there are some assumptions in its analysis, such as: (1) only two countries and two commodities, (2) free trade, (3) perfectly mobility of labor, (4) constant in cost of production, (5) no transportation cost, and (6) no change in technology.

2.1.3. Endowment Factor Theory

This theory was developed by Heckscher – Ohlin. Due to this theory, international trading can be happen because of different opportunity cost level between two countries. These different levels are because of different factors which exist in production, i.e. labor, capital and raw material. For instance: Country A has plenty of capital and labors particularly in high level of education more than country B. On the other hand, Country B has plenty of raw materials and labor particularly in low levels of education more than Country A. The main concept of Heckscher – Ohlin theory is explained as follows:

- a) International trade is an extension of regional trading where its difference is distance. This theory is refuting classical theory which does not explain the difference factor.
- b) International trade is not only based on the benefit motive, but it is also based on the proportion and factor production intensity in producing goods. This theory also explains that difference price for the same product among countries caused by proportion and difference production in the factor intensity. The production factors consist of land, labor and capital. The production factor intensity can be explained in Figure 2.1.as follows:

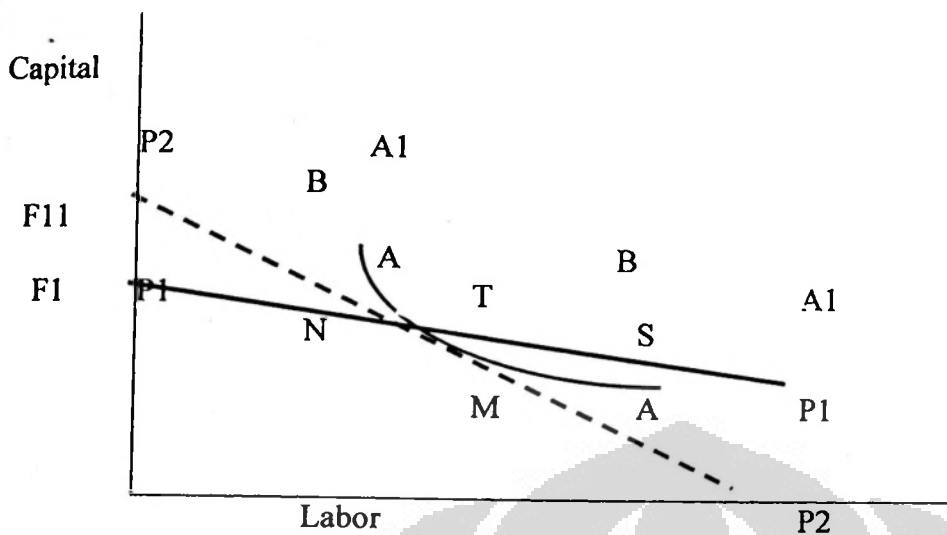


Figure 2.1. Production Factor Intensity

Where :

AA = isoquan of goods A in country I and II

BB = isoquan of goods B in country I and II

PP = ratio of production factor price

It is assumed that PL_1 and PC_1 are wages and capital price in Country I, PL_2 and PC_2 are wages and capital price in Country II. For instance: $PL_1/PC_2 < PL_2/PC_2$ or $PL_1/PL_2 < PC_1/PC_2$. This means that price proportion of labor compare to capital in Country I is smaller than Country II or wages in Country I is relatively cheaper than Country II. In this situation, Country I will export its goods which are labor intensive and Country II will export its goods which has capital intensive. The production factor price in Country I is PL_1/PC_1 or P_1P_1 and production factor price in Country II is PL_2/PC_2 or P_2P_2 . For each limitation of production factor in Country II, there will be goods B produced (quantity N) or goods A (quantity M). On the other hand, for each limitation of production factor in Country I, It will be produced goods B (quantity N) or goods A (quantity S) where $S > A$. As a result, country I will produce or export goods A, meanwhile country II will produce and export goods B.

In addition, Edgeworth-Bowley also published a theory which supports H-O theory. The theory explains natural resources (factor endowment) and it showed

Edgeworth-Bowley diagram. In its diagram optimally shows some combinations of production factors in a country. The diagram is showed as follows:

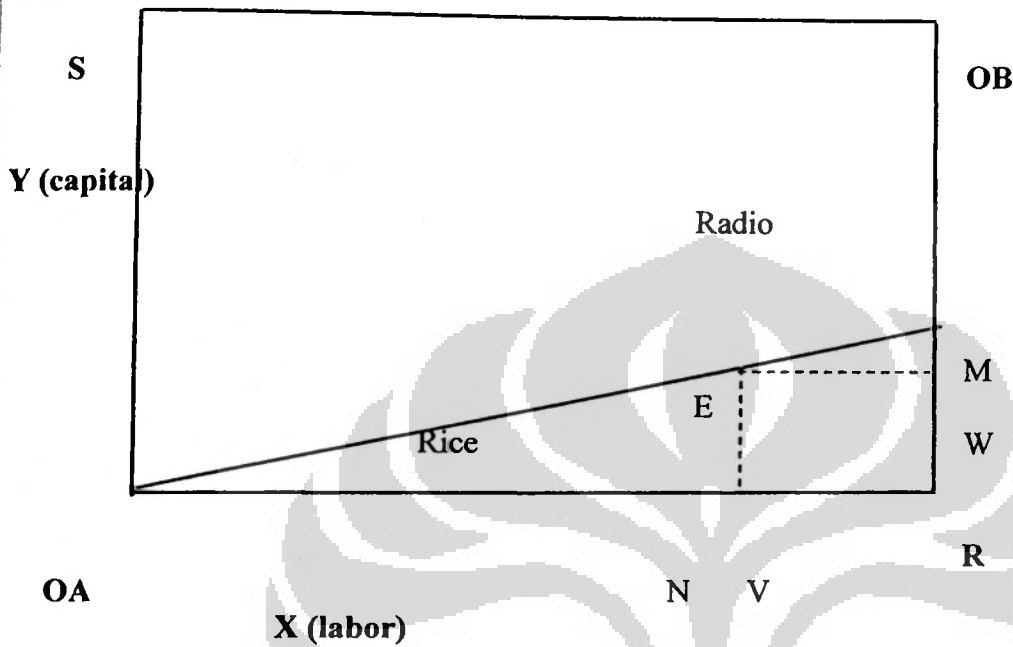


Figure 2.2. Diagram of Edgeworth-Bowley **

Where:

OA M = expansion line of rice production

OB N = expansion line of radio production

Note : ** assumed that price of production factor is constant

In the diagram, OR is the aggregate of all production factors X and OS is the aggregate of all production factors Y which are owned by a country. Both production factors can produce goods A and B. The country can search for an optimum point which produces a combination of production for goods A and B.

2.2. Explanation of Exports

Theoretically, the export of goods is determined by supply and demand. In the international trade theory, factors which determine export could be analyzed

from supply side and demand side (Krugman and Obstfeld, 2000; Salvatore, 1996). In the demand side, export is determined by export price, world price, exchange rate and income of partner country. In the supply side, export is determined by export price, domestic price, exchange rate, production capacity and import of raw material.

According to Dornbursh (1988), there are two significant factors which determine demand of export. The first factor is income of the partner country which shows economic activity and income effect of the partner country. The second factor is relative price or variable terms of trade (price effect).

Mathematically, it can be formulated as follows:

$$M^* = M^*(q, Y^*) \dots\dots\dots (1)$$

$$q = P_F / P_D \dots\dots\dots (2)$$

where M^* is demand for the foreign country, q is relative price of foreign goods compare to domestic price (P_F/P_D) and Y^* is the foreign country's real income. If the foreign relative price increases then foreign people tend to buy domestic goods. This means that relative price has a positive relation with demand for domestic goods but it has a negative relation with demand for foreign goods. Income of the foreign country has a positive relation with demand for the foreign goods. If income of the foreign country increases then foreign people tend to buy domestic goods and also buy foreign goods.

On the import side, domestic import (M) is the total of foreign goods which are demanded by domestic people. Import of goods is usually based on relative price of foreign goods and real income of domestic people. This means that import depends on relative price of imported goods and real income of domestic people in a country. It can be explained in mathematic as below:

$$M = M(q, Y) \dots\dots\dots(3)$$

If the relative price of foreign goods increases then people tend to buy domestic goods. This will make M decrease. On the other hand, increasing of domestic income will be followed by increasing import. This is because some people tend to use their income to buy imported goods.

2.3. Previous Research

Research on supply of export and demand of export has conducted by some researchers. Previous researches are listed as follows:

2.3.1. Gold Stein and Khan

Gold Stein and Khan (1978) published a model which is usually used by researchers. The objective of this study is to analyze response of supply of exports and demand for exports to price fluctuation. In order to avoid bias of two relations between quantity and export price, this study used a simultaneous model.

The model of Gold Stein and Khan which explain supply and demand function for equilibrium and disequilibrium model is described as follows:

1) Equilibrium Model

$$\log X_t^d = a_0 + a_1 \log(PX / PXW)_t + a_2 \log YW_t$$

$$\log PX_t = b_0 + b_1 \log X_t^s + b_2 \log Y_t^* + b_3 \log P_t$$

Expected that $a_1 < 0$, $a_2 > 0$, $b_1 > 0$, $b_2 < 0$, $b_3 > 0$

Where:

X_t^d : quantity of export demand

X_t^s : quantity of export supply

PX_t : export price

PXW_t : weighted average of partner countries' export price

YW_t : weighted average of partner countries' real income

P_t : index of domestic price

Y^* : index of production capacity in domestic

2) Disequilibrium Model

$$\log X_t^d = c_0 + c_1 \log(PX / PXW)_t + c_2 \log YW_t + c_3 \log X_{t-1}$$

$$\log PX_t = d_0 + d_1 \log X_t^s + d_2 \log P_t + d_3 \log Y_t^* + d_4 \log PX_{t-1}$$

Expected that $c_1 < 0$, $c_2 > 0$, $c_3 > 0$, $d_1 > 0$, $d_2 > 0$, $d_3 < 0$, $d_4 > 0$

Morris Gold Stein and Khan have researched export of eight industrialized countries, i.e. Belgium, France, Germany, Italy, Japan, Netherlands, UK, and US during 1955 – 1970. Gold Stein and Khan made two models, i.e. the equilibrium and disequilibrium models. The first model assumed that there is no lag in the system. This means that an adjustment of export and price compare to equilibrium point occurs in every period. The first model is the disequilibrium model which considers lag, it also consider adjustment of export and price compared to equilibrium point. The equilibrium points do not occur in every period. Finally, excess of demand and supply can occur and will influence to quantity of export and price.

The estimating method which is used in the equilibrium model is *Full-Information Maximum Likelihood (FIML)* linier except for Japan which uses the *Two-State-Least-Square (TSLS)*. Meanwhile, the disequilibrium model used non linier FIML for every country.

According to the equilibrium model, the variable of price significantly influences demand for exports and the sign is negative (except Japan). Generally, the result shows that price elasticity is bigger than 1. This means that if price increases then demand for export decrease.

The variable of income significantly influences demand for exports and the sign is positive. Supply of export significantly influences export prices and the coefficient is positive. Capacity of industry significantly influences and the sign is negative. This means that if capacity of domestic industry increases then the price is cheaper. Domestic price also significantly influences demand for foreign goods and the sign is positive.

In the disequilibrium, the variable of export price significantly influence demand for export and the sign is negative. The variable of real income significantly influence demand for export and the sign is positive. This means that if real income increases then demand for export will increase. When exports are lagging, it significantly influence demand for export. This means that if previous demand for exports increases then the current demand for exports will also increase.

In the supply function, the domestic price significantly influences and the sign is positive. Capacity of industry significantly influences price export. In the research of Gold Stein and Khan (1978) , the result of price elasticity is a significant influence in the 5% significance level and the sign is negative (except Japan). This is as one would have expected. Price elasticity on demand of export is bigger than 1 for 6 countries, i.e. Belgium, France, Italy, UK and US. This means that there is a big response in exports if there is a fluctuation in relative prices. The result of income elasticity significantly influences the 1% significant level and the sign is positive.

Based on the results of the two models above, this can be not considered an appropriate model. This is because goodness of fit and R^2 of both models are

almost the same. Both the models have their strength and weakness. The disequilibrium model is a good model because there is a time lag, as a result there is adjustment for excess of demand and excess of supply in the previous period. On the other hand, the equilibrium model is also a good model because the model has the value of price elasticity as more significant rather than disequilibrium model.

2.3.2. Luis Catao and Elisabetta Falcetti

Luis Catao and Elisabetta Falcetti researched export of Argentina to Brazil during 1980 -1997. In the model of its supply and demand, there are some variables which are complex, i.e. the variable of labor cost (ULC) and the variable of exchange rate fluctuation. The long term model of Catao and Falcetti is described as follows:

$$X_t^d = \gamma_0 - \gamma_1(1+t^*)PX_t^*/P_t^* + \gamma_3Y_t^* + \mu_t$$

$$X_t^s = \rho_0 + \rho_1PX_t^* - \rho_2ULC_t + \rho_3k_t - \rho_4\sigma_{RERt} + v_t$$

Where:

- X_t^d : quantity of export demand
- X_t^s : quantity of export supply
- PX_t : export price of Argentina
- P_t : index of foreign export price
- Y^* : real income of partner country
- ULC_t : labor cost / unit
- k : stock of aggregate net capital

σ_{RERI} : volatility of real exchange rate between Argentine and other MERCUSOR countries.

In the short term model of Catao and Falcetti, the model uses Vector Error Correction Model (VECM) as follows:

$$\Delta X_t = \mu + \Phi_t + \Pi X_{t-1} + \Gamma \Delta X_{t-1} + \sum_2^n T_n \Delta X_{t-n} + w_t$$

Where:

- X_t : vector of all variables in the model
- μ : constant vector
- Φ : vector of exogenous variable I(0)
- w : vector which is not dependent in the serial but it is related to random error in contemporary.

The result shows that all of the signs are appropriate with the theory in the short term and the long term. The variable of fluctuation of exchange rate is not significant. This means that fluctuation of exchange rate does not influence significantly demand for exports. In the short term, the variable of capital is also not significant. Probably, increasing capital needs a long term adjustment in order to influence exports of manufactured goods.

2.3.3. Khumar and Dhawan

The objective of Khumar and Dhawan's research is to analyze impact of exchange rate fluctuation on Pakistan's trade to its main partner countries, i.e.

UK, West Germany, Japan, and US. Khumar and Dhawan (1991) researched empirical study which use data from 1974-1985.

The model specifications of Khumar and Dhawan is described as follows:

$$X_i(t) = \alpha_{i0} + \alpha_{i1}Y_i(t) + \alpha_{i2}[(PX_i(t) / PD_i(t))] + \alpha_{i3}E_i(t) + \alpha_{i4}R_i(t) + \mu_{it}(t)$$

Where:

- $X_i(t)$: export volume to partner countries
- $Y_i(t)$: real income of partner countries
- $PX_i(t)$: export price (in exporter's exchange rate)
- $PD_i(t)$: domestic price in the partner countries
- $E_i(t)$: nominal Exchange rate (exporter exchange rate / each partner countries' exchange rate)
- $R_i(t)$: risk of exchange rate value
- $\mu(t)$: error term

The summary of Khumar and Dhawan's research (1991) is as follows:

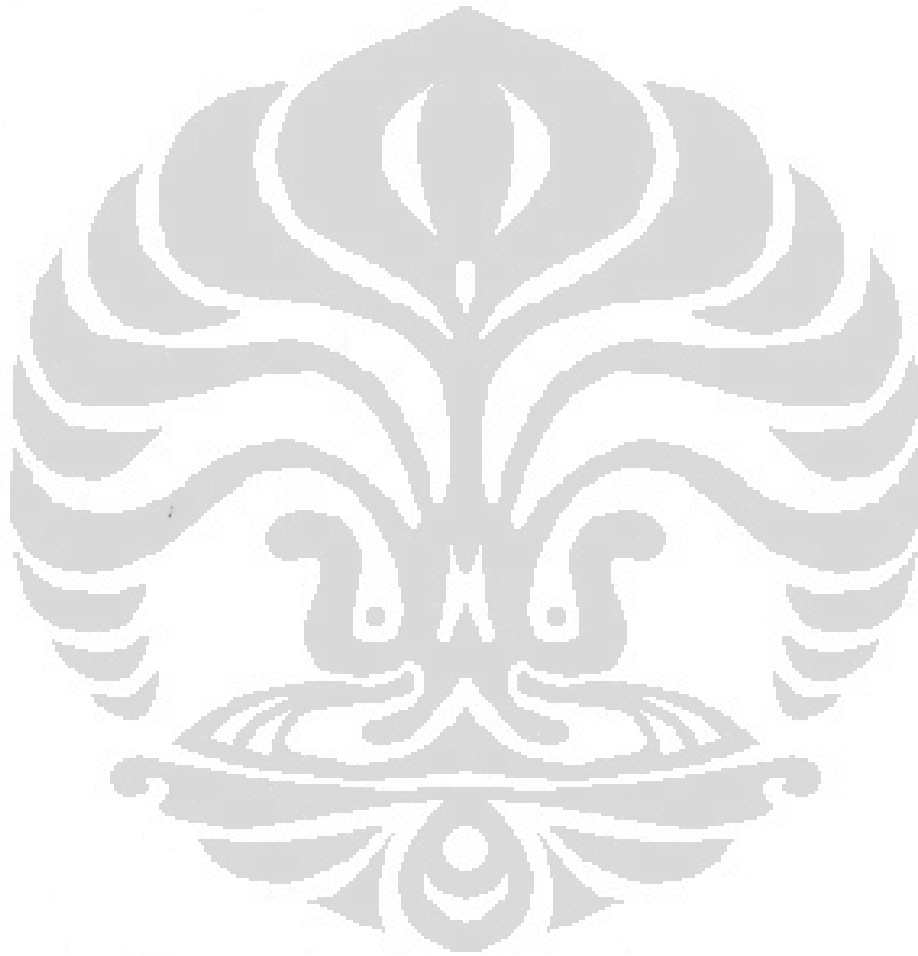
- (i) Model specifications which uses log-linier give a better result than linier model.
- (ii) Fluctuation of partner countries' exchange rate influences significantly export volume of Pakistan to its partner countries, except the UK.
- (iii) Fluctuation of the real exchange rate variable is more significant than the nominal exchange rate variable.

According to the previous researches above, there is review of previous studies which analyze factors which influence demand for exports

Table.2.1.Review of previous studies which analyze factors which influenced demand for exports

| Study | Researcher | Variables | Result |
|--|---|---|---|
| <p>The Supply and Demand for Exports: A Simultaneous Approach. The object of this research was exports of eight industrialized countries, i.e. Belgium, France, Germany, Italy, Japan, Netherlands, UK, and US during 1955 – 1970.</p> | <p>Gold Stein and Khan (1978)</p> | <p>Exports Volume, Exports Price of partner country, real GDP of partner country, domestic price</p> | <ul style="list-style-type: none"> - Variable of price significantly influence supply and demand for exports - Variable of real GDP significantly influence demand for exports - Domestic price significantly influence price exports |
| <p>Determinants of Argentine's External Trade. This research analyzes exports of Argentina to Brazil during 1980 -1997.</p> | <p>Luis Catao and Elisabetta Falcetti</p> | <p>Exports Volume, Exports Price, index of foreign price, real GDP of partner country, labor cost, real exchange rate, capital stock.</p> | <ul style="list-style-type: none"> - Variable of exchange rate significantly influence supply for exports - Variable of exports price and variable of real GDP significantly influence supply for exports - Capital stock as proxy for production significantly influence supply exports |
| <p>Analyzing impact of exchange rate fluctuation on Pakistan's trade to its main partner countries, i.e. UK, West Germany, Japan, and US. The period of data which was used from 1974-1985.</p> | <p>Khumar and Dhawan (1991)</p> | <p>Exports volume, real income of partner country, relative price, nominal exchange rate, risk of exchange rate.</p> | <p>Model which used log-linear gives a better result than linier model. Fluctuation of partner countries' exchange rate significantly influences export volume of Pakistan to its partner countries, except the UK.</p> |

According to the previous researches, demand for exports goods is commonly influenced by relative price and income of partner countries. Meanwhile, this research will estimate and analyze the impact of real GDP of partner country, relative price and nominal exchange rate on demand for Indonesia's footwear exports. The partner countries which will be analyzed are the US, Germany, Belgium, UK, Netherlands, and Italy. In addition, Panel data is used to estimate the econometric model.



CHAPTER III

INDONESIAN FOOTWEAR INDUSTRY

3.1. Potency of Indonesian Footwear Industry

In the Midterm Developing Planning or RPJM 2005-2009, the Footwear Industry is classified as a one of non oil and gas commodities which has priority to enhance its export². This is because industry of footwear has some potential aspect, such as:

- There are big companies of footwear in Indonesia which have capability to produce millions pairs of shoes for a year and also there are many SME's which produce some kinds of shoes.
- The Indonesian footwear industry can absorb many labors. There are some labors which have skill to produce quality shoes. The wages of Indonesia's labor is also competitive. Therefore, this industry is labor intensive and also attractive.
- The growth of supporting industry and components for footwear industry is also increasing. There are many companies which produce goods such as: synthetic (imitation leather), leather, glue, sol, shoestring, etc for raw materials of shoes industry.
- Indonesia is well known as a producer of footwear which has capability to produce high quality standard in global market.

3.2. Classification of footwear

According to the harmonized system, the heading code of footwear product is 64 (two digits). Generally, classification of footwear can be categorized in three categories, such as: sport shoes, non sport shoes, and sandal.

Meanwhile, the classification of footwear can be also categorized by the utility and the user.

3.2.1. Category of footwear by utility

- a) Athletic shoes or sport shoes

² Roadmap of Footwear Export Commodity, Directorate General of Foreign Trade, MOT

- b) Dress shoes (non-sport shoes): formal shoes, casual shoes, and sandal

3.2.2.. Category of footwear by user

- a) lady shoes
- b) man shoes
- c) children or kid shoes
- d) safety, bath, etc

The Statistical Center Agency classified footwear industry into some categories. The classification of footwear industry is described as follows:

- a) Shoes for daily need
- b) Sport shoes
- c) Shoes for technical work or shoes for industry need
- d) Other footwear

The International Trade Centre (ITC) / UNSD also classified footwear product in SITC 4, the list of SITC classification for footwear is described as follows:

- a) SITC 8511: Footwear, with metal toe-cap
- b) SITC 8512: Sport footwear
- c) SITC 8513: Footwear, nes, rubber, plst
- d) SITC 8514: Other footwear, leather, upper
- e) SITC 8515: Other footwear, textile, upper
- f) 8517:Footwear,nes
- g) 8519: Parts footwear, etc

According to the Indonesian book of tariff 2007 which published by the Directorate of Customs Ministry of Finance, the heading code of footwear products is 64 and it also categorized in 6 subheading, such as: HS.6401, HS.6402, HS.6403, HS.6404, HS.6405, and HS.6406.

In addition, the Directorate for Industrial and Mining Products Exports have made classification of footwear. It can be categorized into two categories, i.e. shoes, and sandal. In addition, shoes are also categorized into two groups, i.e. sport shoes and non-sport shoes. Meanwhile, non-sport shoes category is also divided into two groups, i.e. non-sport shoes which its raw materials is from leather and non-sport shoes which its materials is from non-leather. The list of HS code which categorized non-sport shoes is described in the table.3.1.as follows:

Table.3.1. The list of HS code which categorized non-sport shoes

| category | HS | Description |
|-----------------|--------|--|
| Non sport shoes | 640320 | Footwear with outer soles of leather and uppers which consist of leather straps across the instep and around the big toe |
| | 640351 | Footwear with outer soles and uppers of leather nesol, covering the ankle |
| | 640359 | Footwear with outer soles and uppers of leather nesol, not covering the ankle |
| | 640420 | Footwear with outer soles of leather or composition leather and uppers of textile materials |
| | 640510 | Footwear nesol with uppers of leather or composition leather |
| | 640110 | Waterproof footwear with bonded or cemented outer soles and uppers of rubber or plastics, incorporating a protective metal toe |
| | 640191 | Waterproof footwear with bonded or cemented outer soles and uppers of rubber or plastics nesol covering the knee |
| | 640192 | Waterproof footwear with bonded or cemented outer soles and uppers of rubber or plastics nesol covering the ankle but not |
| | 640291 | Footwear with outer soles and uppers of rubber or plastics nesol covering the ankle |
| | 640299 | Footwear with outer soles and uppers of rubber or plastics nesol not covering the ankle |
| | 640330 | Footwear, made on a base or platform of wood, not having an inner sole or a protective metal toe-cap |
| | 640340 | Footwear, with outer soles of rubber, plastics, leather or composition leather and uppers of leather, incorporating a |
| | 640391 | Footwear, with outer soles of rubber, plastics, or composition leather and uppers of leather nesol, covering the ankle |
| | 640399 | Footwear, with outer soles of rubber, plastics or composition leather and uppers of leather nesol, covering the ankle |
| | 640520 | Footwear nesol, with uppers of textile materials |
| | 640590 | Footwear nesoi |
| | 640610 | Footwear uppers and upper parts, except stiffeners |
| | 640620 | Footwear outer soles and heels of rubber or plastics |
| | 640691 | Parts of footwear nesol of wood |
| | 640699 | Parts of footwear nesol, including removable insoles, heel cushions and similar articles, gaiters, leggings, and similar |

Source: Directorate for Industrial and Mining Products Exports, MOT

The list of HS code which categorized sport shoes is described in the table.3.2.as follows:

Table.3.2.The list of HS code which categorized sport shoes

| Category | HS | Description |
|-------------|--------|---|
| Sport Shoes | 640212 | Ski-boots, cross country ski footwear and snowboard boots, with outer soles and uppers of rubber or plastics (excl. waterproof footwear of heading no |
| | 640219 | Sports footwear, other than ski-boots and cross-country ski footwear, with outer soles and uppers of rubber or plastics nesoi |
| | 640220 | Footwear, with outer soles and uppers of rubber or plastics nesoi, incorporating a protective metal toe-cap |
| | 640230 | Footwear, with outer soles and uppers of rubber or plastics nesoi, incorporating a protective metal, toe-cap |
| | 640312 | Ski-boots, cross-country ski footwear and snowboard boots, with outer soles of rubber, plastics, leather or composition leather and uppers of leather |
| | 640319 | Sports footwear (other than ski footwear) nesoi with outer soles of rubber, plastics, leather or composition leather and uppers of leather |
| | 640411 | Sports footwear, including tennis shoes, basketball shoes and gym shoes, with outer soles of rubber or plastics and uppers of textile |
| | 640419 | Footwear, with outer soles of rubber or plastics and uppers of textile materials, nesoi |

Source: Directorate for Industrial and Mining Products Exports, MOT

The list of HS code which categorized sandal is described in the table.3.3.as follows:

Table.3.3. The list of HS code which categorized sandal

| Category | HS | Description |
|----------|--------|--|
| Sandal | 640199 | Waterproof footwear with bonded or cemented outer soles and uppers of rubber or plastics nesoi, not covering the ankle |

Source: Directorate for Industrial and Mining Products Exports, MOT

3.3. Level of the technology

According to the roadmap of footwear industry which published by Directorate for Industry and Mining Products Exports, the levels of technology which are used in the footwear industry are very variously. The big industry is using modern technology, and its machine is working automatically. The medium industry is using combination of modern and traditional technology. On the other hand, the small industry is still using traditional technology and its tool is also limited.

3.4. Labor

Total of labor who worked in the footwear industry was 392.354 people in 2005, and it was 398.354 people in 2006³. This means that the growth of labor who worked in this industry increase 1.56%. The list of the labor who worked in this industry is shown in table 3.4.as follows:

Table.3.4. Total of labor who worked in the footwear industry

| Year | Total of labor |
|------|----------------|
| 2002 | 376.717 |
| 2003 | 377.665 |
| 2004 | 377.910 |
| 2005 | 392.354 |
| 2006 | 398.468 |

Source: Ministry of Industry

The footwear company still needs labors which have a high technical skilled, high analytical thinking, communication skill, in order to support process of production and marketing.

3.5. Investment

According to data of the Investment Coordinating Board (BKPM), value of foreign direct investment for footwear and leather sector was US\$ 70,9

³ Source: Directorate General of Metal, Machine, Textile and Other, Ministry of Industry, 2007

million and there was US\$ 423,9 million in 2006. This means that the growth of investment increased 497,88%. Meanwhile, the investment value of footwear industry was US\$ 110.1 million from January 2007 to August 2007. Approximately 22 companies also plan to invest in footwear industry in Indonesia in 2007 and 2008, the value of the investment around 289 million rupiah.

3.6. Production

During 2002 – 2006, the value of Indonesia's footwear production is shown in table as follows:

Table.3.5. The performance of Indonesia's footwear production

| Year | Value of footwear production (billions Rupiah) |
|------|---|
| 2002 | 22.249 |
| 2003 | 26.849 |
| 2004 | 28.190 |
| 2005 | 29.035 |
| 2006 | 29.325 |

Source: Ministry of Industry

The table shows that value of production was increasing during 2003-2006, but the growth of the production is relatively small. According to data from Directorate for Industrial and Mining Products Exports, production capacity of Indonesia footwear industry was 820.57 million pairs in 2006. Meanwhile, 110 million pairs of total production are classified into international branded shoes, such as: Adidas, Fila, Reebok, and Nike. The branded shoes are ordered or contracted by company which has license of the branded name. Production of branded name shoes is not only located in Indonesia but it is also in others countries, such as: Vietnam, China, Thailand, India and Philippine. On the other hand, there are some firms which produce local brand name, i.e. Bata, Eagle, Spec, Komaladi, etc. The price of local brand name is competitive. Moreover, the design and quality of local brand name shoes are qualified. The weakness of local brand name is usually on promotion. The Indonesian producers are still not

aggressive to promote their products in the international market. Therefore, the role of Government is needed to support promotion of Indonesian footwear in the world market.

3.7. Regional Concentration

According to data from Directorate for Industrial and Mining Products Exports, the Indonesia's regions which produce footwear product is located in North Sumatra, Jakarta, Banten, West Java, Central Java, Jogjakarta, East Java, and Bali. In 2006, number of footwear industry in Indonesia was approximately 1.777 companies from small, medium or large industry.

3.8. Intermediate Products

The raw materials of footwear industry consist of leather and other supported materials (accessories). According to data from Ministry of Industry, the number of leather industry was 100 firms which consist of medium and large industry. In 2006, this industry absorbed 6.050 labor and the value of this investment was 1,2 trillion rupiah. Types of footwear's raw materials are described in the table 3.6.as follows:

Table.3.6. Type of imported and local raw materials

| No | HS | Description | Local | Import |
|----|-------------|--------------------------|-------|--------|
| 1 | 5903.10.000 | Imitation leather | √ | √ |
| 2 | 5602.90.100 | Canvas fabric | √ | √ |
| 3 | 4104.21.200 | Leather tannin | √ | √ |
| 4 | 4008.11.000 | E v a | √ | - |
| 5 | 3920.42.900 | P.U Foam | √ | - |
| 6 | 2836.50.900 | Calsium Carbonat | - | - |
| 7 | 3206.20.900 | Master batch | - | √ |
| 8 | 2707.99.100 | Rubber accelerator | - | √ |
| 9 | 3506.91.900 | Glue | √ | √ |
| 10 | 3206.11.100 | Ti O2 (titanium diocide) | - | √ |
| 11 | 2817.00.100 | ZN O2 (zinc oxid) | √ | - |
| 12 | 2832.30.000 | Bonding agent | - | √ |
| 13 | 2839.19.000 | Stabilizer | - | √ |
| 14 | 4001.21.000 | RSS | √ | - |
| 15 | 4002.11.100 | SBR | √ | - |
| 16 | | Insole & Outsole | √ | - |

Source: Directorate for Industrial and Mining Products Exports, MOT

3.9. Tariff Policy on imported raw materials

The import tariff of raw material and supported materials for footwear product is described in the table of imported tariff structure as follows:

Table.3.7. Tax and Import tariff for footwear product and its materials

| No | HS | Description | Imported tariff (%) | | Value Added Tax / PPN (%) |
|----|-------------|--------------------------------------|---------------------|------|---------------------------|
| | | | MFN | CEPT | |
| 1 | 5903.10.000 | Imitation leather | 10 | 5 | 10 |
| 2 | 5602.90.100 | Canvas fabric | 5 | 0 | 10 |
| 3 | 4104.21.200 | Leather tannin | 0 | 0 | 10 |
| 4 | 4008.11.000 | E v a | 10 | 5 | 10 |
| 5 | 3920.42.900 | P.U Foam | 15 | 5 | 10 |
| 6 | 2836.50.900 | Calsium Carbonat | 10 | 5 | 10 |
| 7 | 3206.20.900 | Master batch | 5 | 0 | 10 |
| 8 | 2707.99.100 | Rubber accelerator | 5 | 5 | 10 |
| 9 | 3506.91.900 | Glue | 5 | 5 | 10 |
| 10 | 3206.11.100 | Ti O ₂ (titanium diocide) | 0 | 0 | 10 |
| 11 | 2817.00.100 | ZN O ₂ (zinc oxid) | 10 | 5 | 10 |
| 12 | 2832.30.000 | Bonding agent | 5 | 2.5 | 10 |
| 13 | 2839.19.000 | Stabilizer | 5 | 5 | 10 |
| 14 | 4001.21.000 | RSS | 5 | 5 | 10 |
| 15 | 4002.11.100 | SBR | 5 | 0 | 10 |

Source: Directorate for Industrial and Mining Products Exports, MOT

3.10. Trade Facilitation

3.10.1. Trade Cooperation

The footwear exporter can utilize special facilities from trade cooperation between countries which cover bilateral, regional or multilateral agreement. For examples: bilateral agreement between Indonesia and Japan in Indonesia – Japan Economic Partnership Agreement (IJEPA), regional agreement in Asian Free Trade Area (AFTA), etc. The objective of the facilities is to enhance economic growth and trade among countries which cooperates each other.

3.10.2. Promotion

There are many competitors which offer the same product as Indonesia's product. This means that Indonesia should make diversification and promote their

products to increase exports. In order to enhance their market, Ministry of Trade has been facilitating them, especially for small and medium producer to promote their products by following exhibitions which are located in domestic and abroad.

3.11. Domestic Market

According to Ministry of Industry, demand for footwear from domestic was approximately 16.8 trillion rupiah in 2004. Moreover, the population of Indonesia is also big and approximately more than two hundreds million people, this means that domestic market is very potential market. In the domestic market, there is demand gap between exclusive and middle/low level. In the exclusive level, they tend for imported shoes or branded minded. On the other hand, the consumers which categorized as middle and low level prefer product which has cheaper price than quality. Thus, consumers also tend to buy imported product which its price is cheaper. This condition will harm domestic producer. Therefore, market share of domestic is dominated by imported shoes, especially from China. Meanwhile, the market share of Indonesia's producer is only approximately 25% - 30%. This is because unit price of local shoes can not compete with imported shoes which are from China. Moreover, purchasing power of Indonesia's people is weak because of increasing price of fuel, electricity and telephone.

3.12. Export of Indonesia's Footwear Product

Before Asian economic crisis, Indonesia was known as a footwear producer in the world market, for instance Indonesia was one of two bigger footwear exporters in 1997. According to data from Statistical Centre Agency (2007), Indonesia's footwear export was decline in 2002, but export was increasing during 2003 – 2006. In 2005, export value of this product was US\$ 1,428 millions and it was US\$ 1,599 million in 2006. This means that export increase 11, 99 % from 2005 to 2006. The performance of Indonesia footwear export from 1994 to 2006 is shown in figure3.1. as follows:

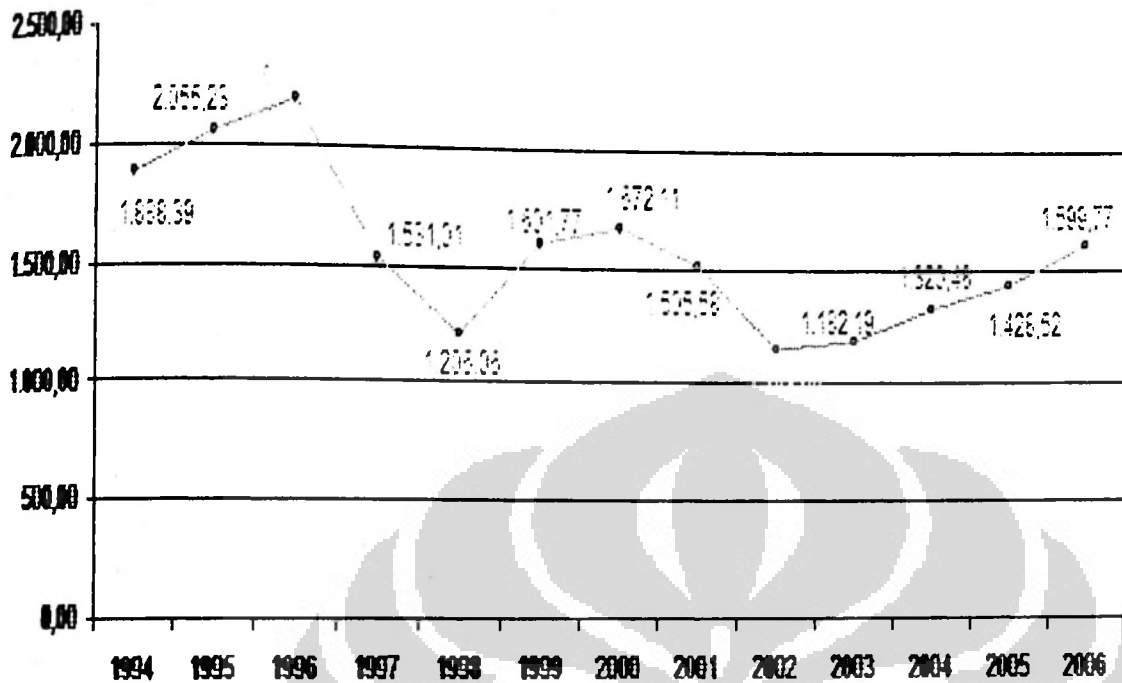


Figure.3.1.The performance of Indonesia footwear export from 1994 to 2006

Source: Statistical Centre Agency (processed)

According to data from Statistical Centre Agency, the market share of Indonesia's footwear export to the world market was 2,2% in 2005 and it was 3,21% in 2006. The major export destination countries of Indonesia footwear are Europe Union which is market share 43,6% and US which is market share 28,1%. Types of footwear which exported are sport shoes (71,35%), non sport shoes (28,48%) and sandals (0,17%).

The destinations of Indonesia's footwear exports are shown in figure.3.2.as follows:

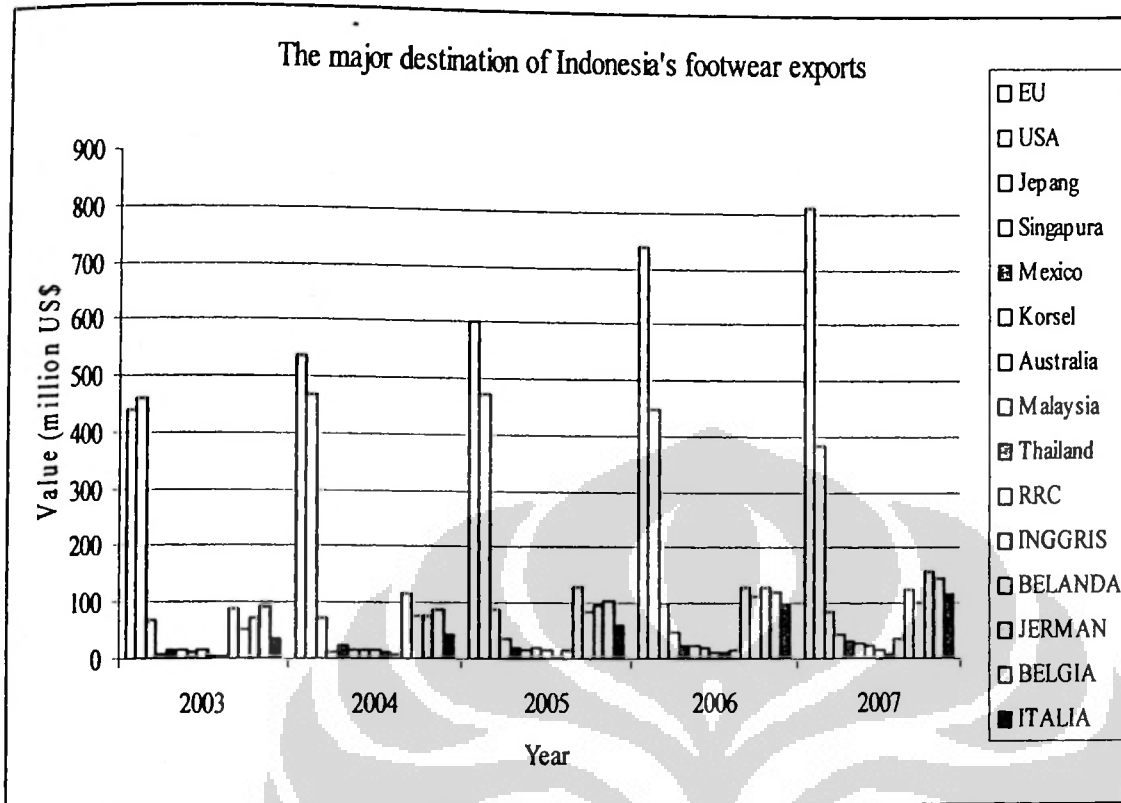


Figure.3.2. The major destination of Indonesia's footwear exports

Source: Statistical Centre Agency (processed)

According to the figure, the export of Indonesia's footwear to the EU and US market is very significant. During 2000 – 2003, the biggest importer of Indonesia's footwear was the US market. On the other hand, during 2003-2007 the biggest importer of Indonesia's footwear was the EU. The exporter country of footwear to the EU market is usually from developing countries. In 2006, the biggest exporting countries to the EU was China which its market share was 43.67%, it was followed by Vietnam (43.67%), Rumania (9.05%), India (5.32%), Indonesia (4.47%) and Brazil (3.13%)⁴.

In addition, the trend in Indonesia's footwear exports to the Europe Union by value is shown in figure.3.3.as follows:

⁴ Roadmap of footwear export, 2007, Directorate General of Foreign Trade

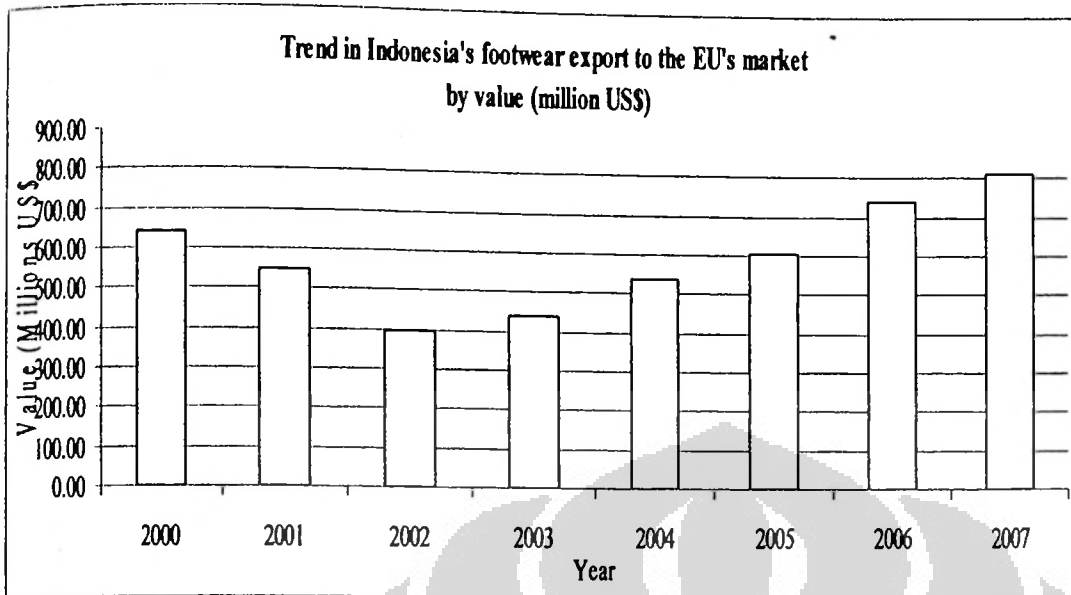


Figure.3.3. Trend in Indonesia's footwear exports to the EU market by value
Source: Statistical Centre Agency (processed)

Meanwhile, the trend in Indonesia's footwear exports to Europe Union by volume is shown in figure 3.4.as follows:

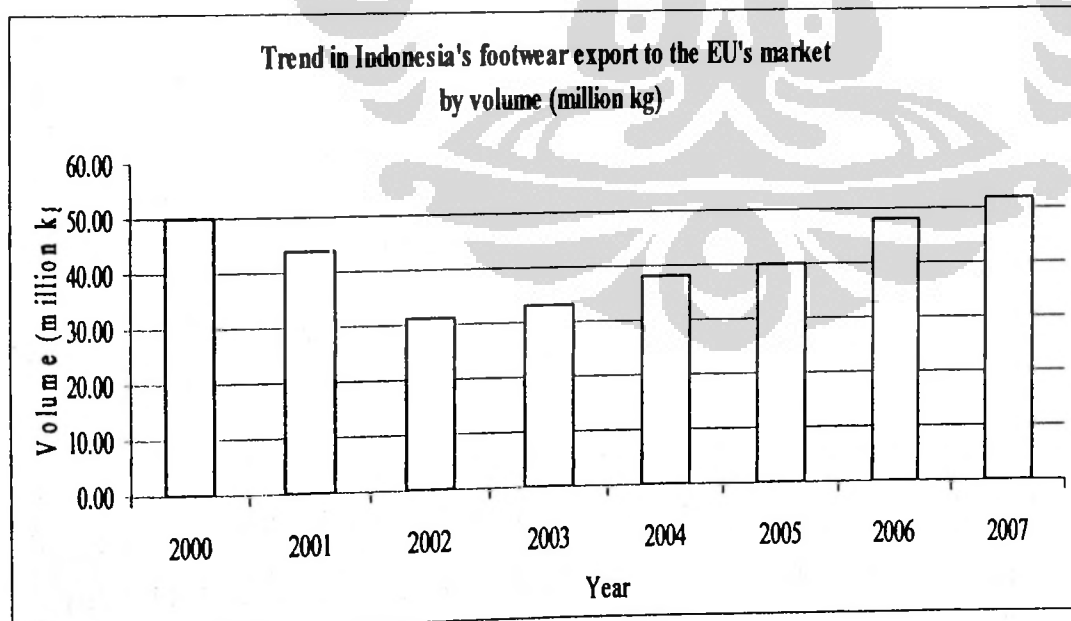


Figure.3.4. Trend in Indonesia's footwear export to the EU's market by volume
Source: Statistical Centre Agency (processed)

According to the figures, the value and volume of Indonesia's footwear exports to the EU market was declining from 2000 to 2002. On the other hand, the exports were increasing from 2003 to 2007.

In the US market, the trend in Indonesia's footwear export by value is shown in figure.3.5.as follows:



Figure.3.5. Trend in Indonesia's footwear export to the US's market by value
Source: Statistical Centre Agency (processed)

While, trend in Indonesia's footwear export to the US market by volume is shown in figure.3.6.as follows:

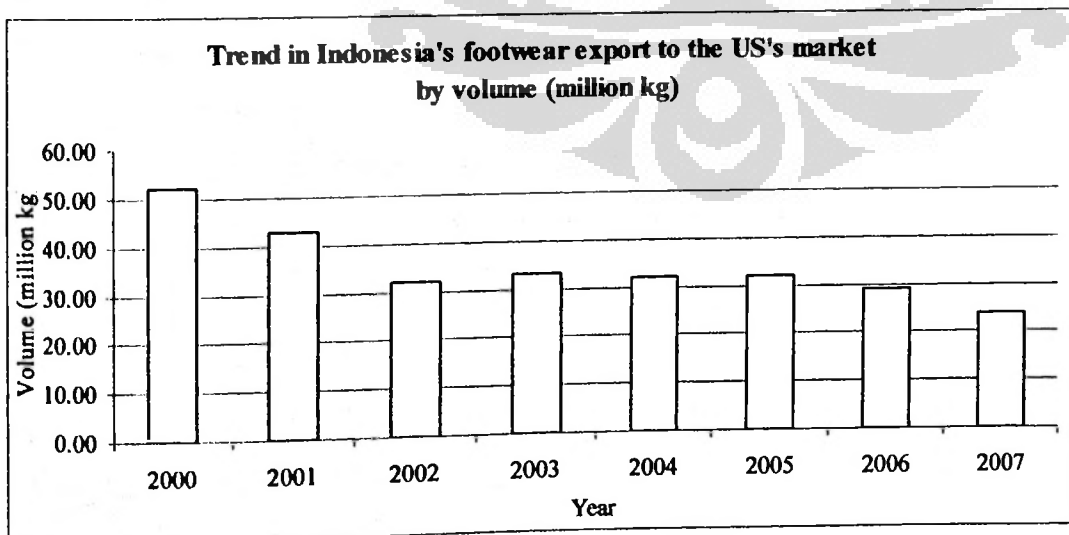


Figure.3.6. Trend in Indonesia's footwear export to the US market by volume
Source: Statistical Centre Agency

According to the figures, the value and volume of Indonesia's footwear exports to the US market decreased sharply from 2000 to 2002, and was stable from 2003 to 2007. This means that the export from Indonesia to the US market still have not recovered after declining in 2002.

3.13. Problems of Indonesia's footwear industry

In order to organized production, Indonesia's footwear industry has some problems and threats. The problems can be categorized in two classifications, i.e. external problem and internal problem.

3.14.1. External Problem

- The competition among footwear producers in the international market is very strict, especially with China, Vietnam, and India
- Protectionism Policy which is from importing countries. The protectionism can be tariff barriers or non tariff barriers.
- High cost of promotion and exhibition in the international market

3.13.2. Internal Problem

- Supply of imported raw material is limited especially raw material which is from leather
- Footwear industry is very depended on imported raw materials, supported materials, and component.
- The quality of Indonesia infrastructure, especially infrastructure of transportation do not fully support to delivery of exports.
- Productivity of Indonesia's labor is still lower than China's labor.
- The utility of research and development is still limited
- Technology which is used by small and medium entrepreneur is still traditional

CHAPTER IV

RESEARCH METHODOLOGY

4.1. Competitiveness Analysis

4.1.1. Revealed Comparative Advantage (RCA)

The RCA method is used to analyze the relative export share of country *j* to the relative share of the world in commodity *i*⁵. In other words, this method is usually used to calculate the comparative advantage in a global market, and it is used to show the performance of commodity export from a country. The formula of RCA is described as follows:

$$RCA = \frac{X_{ij} / X_j}{X_{iw} / X_w}$$

Where:

- X_{ij} : Export value of commodity *i* in country *j*
- X_j : Total export value in country *j*
- X_{iw} : Export value of commodity *i* in the world market
- X_w : Total export value in the world

The formula above is used to get RCA index result. The analysis of the RCA index will be divided into two categories:

- RCA index > 1. This means that country *j* has a revealed comparative advantage in commodity *i*.
- RCA index < 1. This means that country *j* has a revealed comparative disadvantage in commodity *i*.

Although the RCA method is usually used to analyze competitiveness, this method has some weakness:

- This method assumes that all countries export all commodities.

⁵ Panennungi, 2008. Lecturer module of Quantitative Methods of International Trade

- The RCA index can only explain current or previous trade pattern, but this method can not explain the trade pattern optimally.
- It can not detect and predict products which have potential for the future
- The value of comparative advantage from this calculation might not be the real comparative advantage, but might be the result of trade barrier which is applied, such as: quota, dumping, etc.
- The period of time which is used is static

4.1.2. Export Specialization Index (ESI)

The ESI method is also used to analyze the competitiveness of a product which is made by country in another country's market. The ESI method is a slightly modified RCA method. In other words, the ESI method provides the competitiveness of a particular product in a more specific market of partner countries. The formula of ESI method is shown as follows:

$$ESI = \frac{X_{ij} / X_{it}}{M_{ik} / M_{kt}}$$

Where:

- X_{ij} : export value of country i in commodity j
- X_{it} : export value of country i in total
- M_{ik} : import value of market/country in commodity j
- M_{kt} : import value of market/country in total

The formula above is used to get an ES index result. The analysis of the ES index will be divided into two categories, such as:

- ES index > 1. This means that the commodity j has a revealed comparative advantage in the country k.
- ES index < 1. This means that the commodity j has a revealed comparative disadvantage in the country k.

The ESI method also has some weaknesses, and the weaknesses of the ESI method are also the same as the RCA method.

4.1.3. Constant Market Share Analysis (CMSA)

The CMSA method is used to analyze the competitiveness of footwear products by measuring the export performance of commodity i to country j especially by the change in its market share (relative to certain standards),

According to Learner and Stern (1970), export growth of a country can be smaller than export growth of the world, because:

1. The country only concentrates on a commodity whose demand growth is relatively small.
2. The country only focuses on some markets which are stagnant.
3. The country can not compete with other countries.

In the CMSA, determinants of export growth are separated into several factors. There are four terminologies, in the CMSA method. The terminologies are described as follows:

1. standard growth
2. commodity composition effect
3. market distribution effect
4. competitiveness effect

Standard growth is the standard of world export growth. In other words, it is the standard of export growth for each country in the global market. It can be used to see the performance of export growth in the country. If the value of standard growth is less than the value of export growth of a country, then the export performance of the country is better than other countries.

Commodity composition effect can have negative or positive value. If the value of commodity composition effect is positive, then this means that the growth of commodity i is bigger than another commodity.

Market distribution effect can also have negative or positive value. If the value of the market distribution effect is positive, then this means that the destination market is a potential market.

Competitiveness effect measures the competitiveness of the exporting country. The value of competitiveness will be positive if the country's competitiveness is better than other countries.

According to the general formula which was used by Tyers et al (1985), the equations which will be used in this CMSA method are as follows:

$$\frac{E_{(t)..} - E_{(t-1)}}{E_{(t-1)}} = g \quad \dots\dots\dots \text{Standard Growth}$$

$$+ \frac{\sum_i (g_i - g) E_{(t-1)i}}{E_{(t-1)}} \quad \dots\dots\dots \text{Composition Effect}$$

$$+ \frac{\sum_i \sum_j (g_{ij} - g_i) E_{(t-1)ij}}{E_{(t-1)}} \quad \dots\dots\dots \text{Distribution Effect}$$

$$+ \frac{\sum_i \sum_j (E_{(t)ij} - E_{(t-1)ij} - g_{ij} E_{(t-1)ij})}{E_{(t-1)}} \quad \dots\dots\dots \text{Competitive Effect}$$

Where:

$$g = \frac{W_{(t)..} - W_{(t-1)}}{W_{(t-1)}}$$

$$g_i = \frac{W_{(t)i} - W_{(t-1)i}}{W_{(t-1)i}}$$

$$g_{ij} = \frac{W_{(t)ij} - W_{(t-1)ij}}{W_{(t-1)ij}}$$

Where:

- $E_{(t)}$ = Total value of all Indonesia's exports in year t
 $E_{(t-1)}$ = Total value of all Indonesia's exports in year t-1
 $E_{(t)i}$ = Total value of Indonesia's exports for commodity i in year t
 $E_{(t)j}$ = Total value of all Indonesia's exports to country j in year t
 $E_{(t)ij}$ = Total value of Indonesia's export for commodity i to country j in year t
 $W_{(t)i}$ = Total value of World's export for commodity i in year t
 $W_{(t)j}$ = Total value of all World's export to country j in year t
 $W_{(t)ij}$ = Total value of World's export for commodity i to country j in year t
 $W_{(t)..}$ = Total value of all World's export in year t

4.2. The Impact of Real GDP of Partner Country, Relative Price, and Nominal Exchange Rate on Demand for Indonesian Footwear Exports

Specification of the Model

The econometric model is used to assess the impact of real GDP of partner country, relative price, and nominal exchange rate on demand for Indonesian footwear exports. The model refers to previous researches which are explained in the chapter 2. The specification of the model is:

$$\text{Log}X_{it} = \beta_0 + \beta_1 \text{Log}Y_{it} + \beta_2 \text{Log}(PX_{it} / WPI_{it}) + \beta_3 \text{Log}ER_{it} + \epsilon_{it}$$

where:

- X_{it} = Exports quantity of Indonesia footwear to the partner country -i and time -t
 Y_{it} = Real GDP of the partner country -i and time -t
 PX_{it} = Export price from commodity -i and time -t

- WPI_{it} = Wholesales price index (basis year =2000)
 ER_{it} = Nominal exchange rate of partner country -i, and time -t
 ε_{it} = Error term

The equation of the export demand is logarithm, so β_1 is elasticity of real GDP of partner country, β_2 is elasticity of relative price and β_3 is elasticity of nominal exchange rate.

The sign of each coefficient which is expected from the estimation result is described in the table 4.1.as follows:

Table 4.1.The sign of each coefficient which is expected

| Coefficient | Sign of coefficient |
|-------------|---------------------|
| β_1 | + |
| β_2 | - |
| β_3 | + |

According to the table above, the indication which is needed from the estimation result is explained as follows:

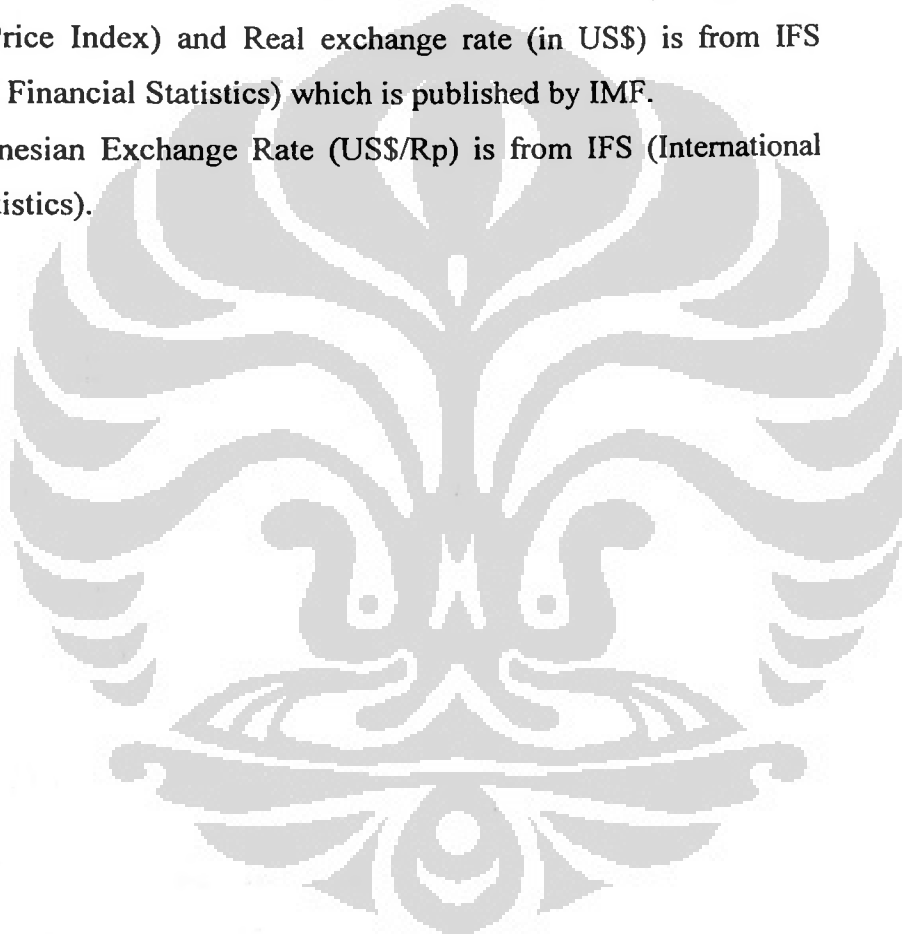
- The coefficient of the variable of partner countries' GDP should be positive (+) because the increase of partner countries' GDP will increase demand for Indonesian footwear exports
- The coefficient of the variable of Exchange rate should be positive (+) because the increase of partner countries' exchange rate will increase demand for Indonesian footwear exports.
- The coefficient of the variable of Relative Price should be negative (-) because the increase of relative price will decrease demand for Indonesian footwear exports.

4.3. Data and Data Source

Data which is used in this research is monthly data and yearly data. Montly data is needed to estimate determinants of Indonesian footwear exports which use econometric model. On the other hand, yearly data is needed to calculate RCA

and CMSA which are used to analysis competitiveness of Indonesian footwear exports. The sources of data are listed as follows:

1. Yearly data of export value and export volume are from UN Comtrade.
2. Monthly data of export value and export volume are from Data Center Ministry of Trade, and also Statistical Center Agency. Meanwhile, monthly data of export price is from value of export divided volume of export.
3. Data of Partner Countries' Gross Domestic Product (GDP), WPI (Wholesale Price Index) and Real exchange rate (in US\$) is from IFS (International Financial Statistics) which is published by IMF.
4. Data of Indonesian Exchange Rate (US\$/Rp) is from IFS (International Financial Statistics).



CHAPTER V

RESULT AND ANALYSIS OF COMPETITIVENESS ANALYSIS AND ECONOMETRIC MODEL

5.1. Result and Analysis of Competitiveness Analysis

In order to increase exports of Indonesia's footwear, it is important to assess the performance of Indonesia's footwear. The competitiveness analysis is used to assess the performance of Indonesia's footwear export, especially how competitive is Indonesia's footwear in the international market. The methods which are used are Revealed Comparative Advantage (RCA), Export Specialization Index (ESI), and Constant Market Share Analysis (CMSA).

5.1.1. Result and Analysis of RCA

In order to measure comparative advantage of a product, one of the competitiveness methods that usually use is Revealed Comparative Advantage (RCA). The RCA index of country j for product i is used to measure the product's share in the country's exports in relation to its share in world trade. If RCA index is smaller than 1 ($RCA < 1$), then the product is categorized comparative disadvantage. On the other hand, if RCA index is bigger than 1 ($RCA > 1$), then the product is categorized comparative advantage.

a. RCA index for the Whole of the Footwear Category

The RCA index for the whole of the footwear category is shown in figure 5.1.as follows:

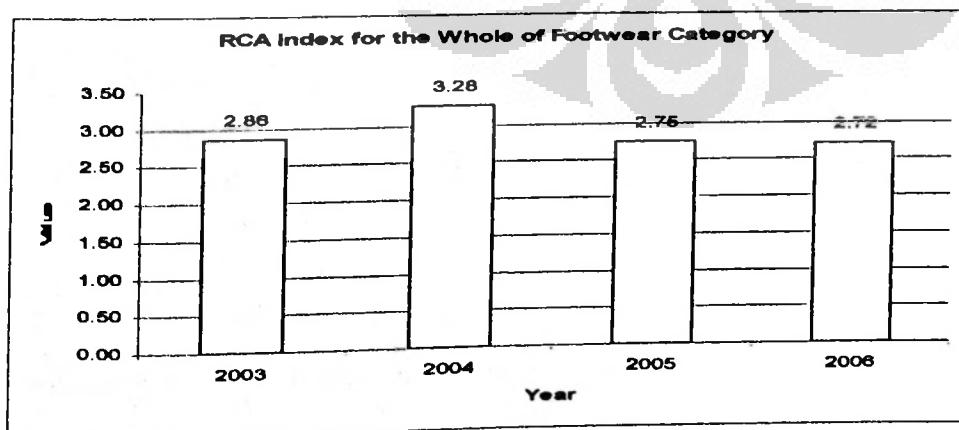


Figure.5.1. The RCA index for the whole of the footwear category

Source: UN Comtrade (processed)

According to the figures, the RCA index of Indonesia's footwear was high (RCA index > 1) during 2003 – 2006. This means that Indonesia had comparative advantage in the world market. In 2004, the RCA index increased compare to previous year, but the RCA index was declining in 2005 and 2006. Although, trend in RCA index of Indonesia's footwear export was declining, but there was still comparative advantage for Indonesia's footwear.

b. RCA index for Sport Shoes Category

In the sport shoes category, Indonesia had five specific products of sport shoes category which had comparative advantage in the world market during 2003 – 2006. Meanwhile, Indonesia also had six specific products of non sport category in the world market. The list of the specific products is shown in table 5.1.as follows:

Table.5.1. The RCA index for the sport shoes and non sport shoes category in the world market

| Category | HS | 2003 | 2004 | 2005 | 2006 |
|-----------------|--------|-------|-------|-------|-------|
| Sport shoes | 640219 | 13.13 | 10.78 | 7.65 | 5.72 |
| | 640230 | 1.01 | 8.15 | 3.08 | 5.71 |
| | 640312 | 0.76 | 2.70 | 2.86 | 2.39 |
| | 640319 | 19.22 | 22.63 | 18.70 | 19.76 |
| | 640411 | 3.43 | 4.69 | 3.91 | 2.66 |
| Non sport shoes | 640320 | 0.36 | 2.12 | 4.50 | 6.61 |
| | 640359 | 0.85 | 1.38 | 1.22 | 1.33 |
| | 640420 | 0.27 | 22.51 | 22.60 | 20.87 |
| | 640340 | 1.29 | 2.60 | 2.86 | 4.19 |
| | 640610 | 1.34 | 3.71 | 3.76 | 3.61 |
| | 640691 | 0.84 | 1.25 | 1.24 | 2.24 |

Source: UN Comtrade (processed)

Meanwhile, trend in RCA index of the products which is categorized sport shoes in the world market is shown in figure 5.2.as follows:

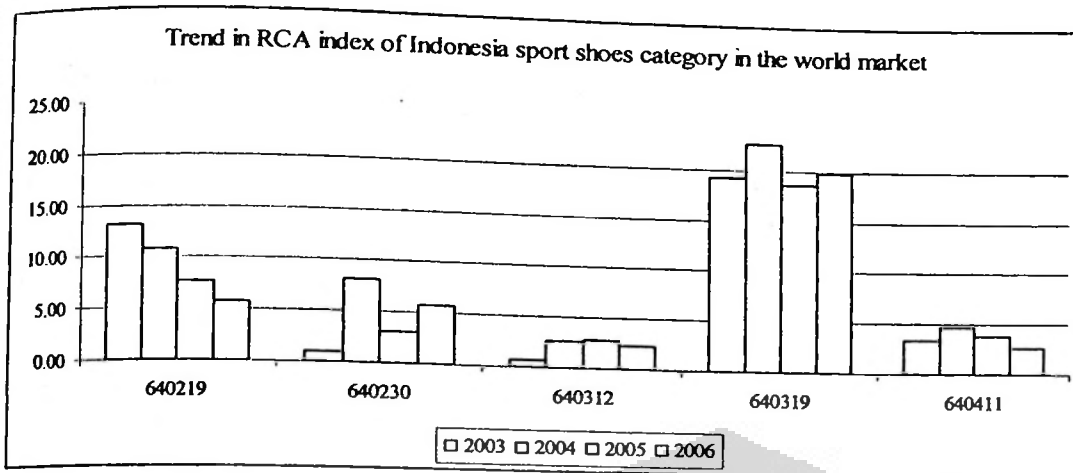


Figure 5.2. Trend in RCA index of Indonesia's sport shoes category in the world market
Source: UN Comtrade (processed)

The figure shows that the product which has highest value of RCA index is HS 640319, and trend in RCA index of this product fluctuated. Trend in RCA index of HS 640219 was declining. Meanwhile trend in RCA index of other products fluctuated.

In addition, trend in RCA index of the products which is categorized non sport shoes in the world market is shown in figure 5.3.as follows:



Figure 5.3. Trend in RCA index of Indonesia's non sport shoes category in the world market
Source: UN Comtrade (processed)

According to the figure, the product which has highest value of RCA index is HS 640420, and trend in RCA index of this product was decreasing

during 2003-2006. Meanwhile, trend in RCA were increasing are for HS 640320, HS 640340, and HS 640691.

5.1.2. Result and Analysis of Export Specialization Index (ESI)

The ES index is to measure the product's share in the country's exports in relation to its share in specific markets or partner. The ESI method is a modification of RCA method, in which the denominator is usually measured by specific markets. In this research, ESI analysis is used to analyze competitiveness for each Indonesia's footwear category to its partner countries, i.e. US, Germany, Belgium, UK, Netherlands, and Italy.

a. The ES index for the whole of the footwear category in the sixth markets

In the whole of the footwear category, Indonesia had comparative advantage ($ESI > 1$) in each market. This means that Indonesia's footwear is still potential in each market. The result of ES index of Indonesia's footwear in the sixth markets is shown in table 5.2.as follows:

Table.5.2. The ES index for the whole of the footwear category in the sixth markets

| Year | Market | | | | | |
|------|--------|---------|---------|-------|-------------|-------|
| | US | Germany | Belgium | UK | Netherlands | Italy |
| 2003 | 7.26 | 6.04 | 15.31 | 9.31 | 5.97 | 3.72 |
| 2004 | 6.46 | 6.17 | 15.83 | 11.30 | 6.99 | 4.34 |
| 2005 | 6.11 | 7.43 | 16.86 | 13.08 | 5.73 | 5.36 |
| 2006 | 5.35 | 9.37 | 17.75 | 11.95 | 7.27 | 7.47 |

Source: UN Comtrade (processed)

According to table, Indonesia had high value of comparative advantage in the sixth markets during 2003-2006. The ES index of Indonesia was bigger than 3 in each market. This means that comparative advantage of Indonesia's footwear was significant and potential in each market.

Meanwhile, trend in ESI of Indonesia's footwear in the sixth market is shown in figure 5.4.as follows:

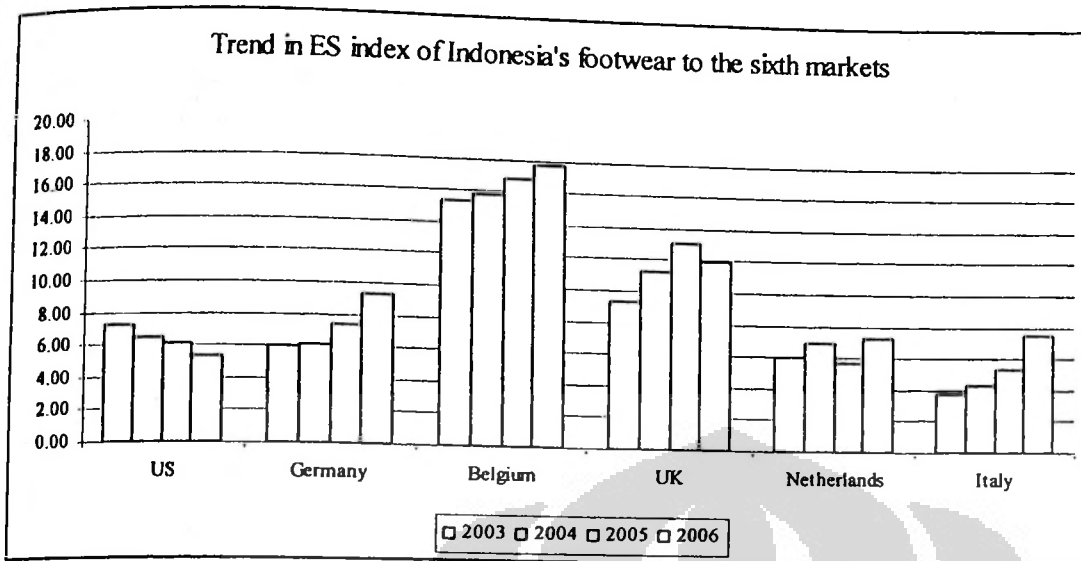


Figure.5.4. Trend in ES index for the whole of the footwear category in the sixth market

Source: UN Comtrade (processed)

According to the figure, Indonesia had comparative advantage for this category in the sixth markets. During 2003–2006, trend in ESI of Indonesia's footwear in the Germany, Belgium, UK, Netherlands and Italy were increasing, except in the US. The market which was very potential was in Belgium, because Indonesia had highest value of ESI in this market during 2003 - 2006.

b. The ES index of Indonesia's sport shoes category in the sixth market

Indonesia had comparative advantage ($ESI > 1$) for several specific products which are categorized sport shoes category in each market. The specific products of sport shoes category which had comparative advantage ($ES \text{ index} > 1$) in the sixth markets is shown in table 5.3.as follows:

Table.5.3. The specific products of sport shoes category which had comparative advantage in the sixth markets

| HS | Specific market |
|-----------|--|
| HS 640219 | US, Germany, Belgium, UK, Netherlands, Italy |
| HS 640220 | Germany |
| HS 640230 | Germany, UK |
| HS 640319 | US, Germany, Belgium, UK, Netherlands, Italy |
| HS 640411 | US, Germany, Belgium, UK, Netherlands, Italy |
| HS 640419 | Italy |

Source: UN Comtrade (processed)

According to the table, there are three specific products of sport shoes which usually appear in the sixth markets, i.e. HS 640219, HS 640319, and HS 640411. Trend in ESI of Indonesia's sports shoes category in the sixth markets is shown in figure 5.5.as follows:

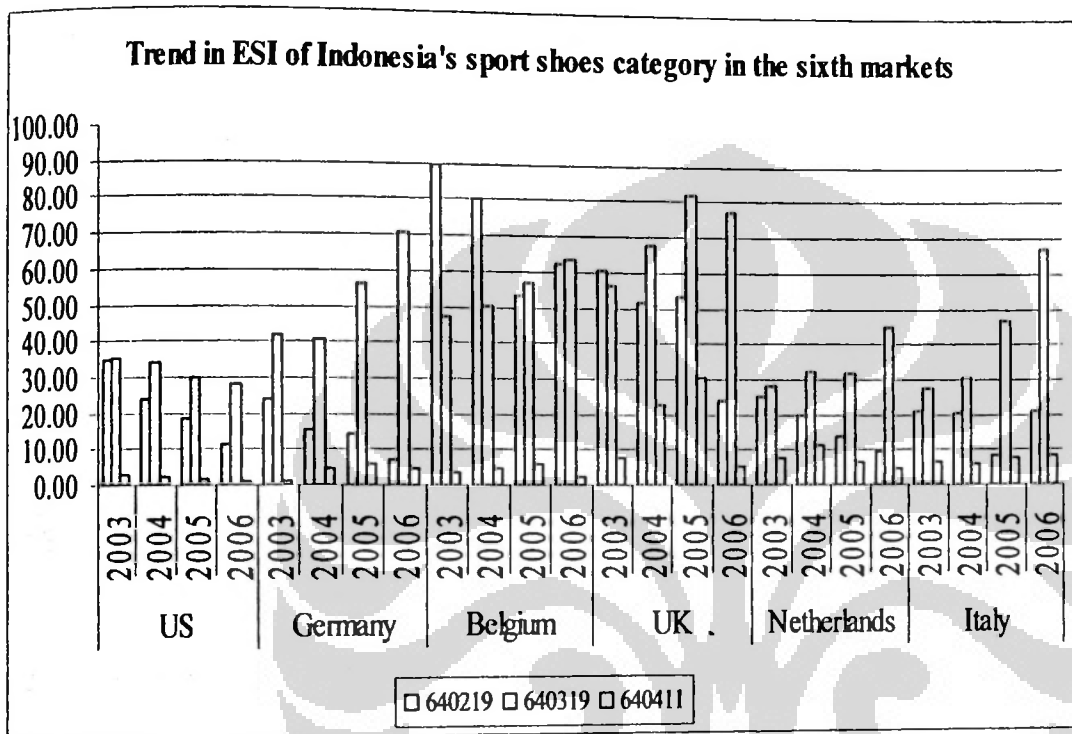


Figure.5.5. Trend in ESI of Indonesia's sport shoes category in the sixth markets

Source: UN Comtrade (processed)

The figure shows that trend in ESI of HS 640219 was declining in the US, Germany, Belgium, UK, and Netherlands. Trend in ESI of HS 640319 was increasing in each market except in the US. Meanwhile, trend in ESI of HS 640411 was fluctuating in each market. The product which is potential is HS 640319, this is because the value of ESI is high and trend in ESI of this product was also increasing during 2003-2006.

c. The ES index of Indonesia's non sport shoes category in the sixth market

Indonesia had comparative advantage (ESI >1) for several specific products which are categorized non sport shoes category in each market. The

specific products of non sport shoes category which had comparative advantage (ES index > 1) is shown in table 5.4.as follows:

Table.5.4. The specific products of non sport shoes category which had comparative advantage

| HS | Specific market |
|-----------|--|
| HS 640110 | US |
| HS 640291 | US |
| HS 640299 | Germany, UK, Netherlands, Italy |
| HS 640320 | US, Germany, Belgium, Netherlands |
| HS 640340 | Germany, UK, Netherlands, Italy |
| HS 640351 | Netherlands |
| HS 640359 | US, Germany, Belgium, UK, Netherlands, Italy |
| HS 640391 | Germany |
| HS 640399 | Germany, Belgium, UK, Italy |
| HS 640420 | US, Germany, UK, Netherlands, Italy |
| HS 640510 | Germany |
| HS 640590 | UK |
| HS 640610 | Germany |
| HS 640691 | US, Italy |
| HS 640699 | Germany |

Source: UN Comtrade (processed)

According to the table, there is only one specific product of non sport shoes which usually appear in each market, i.e. HS 640359. Meanwhile, trend in ESI of the product in the sixth markets is shown in figure 5.6.as follows:

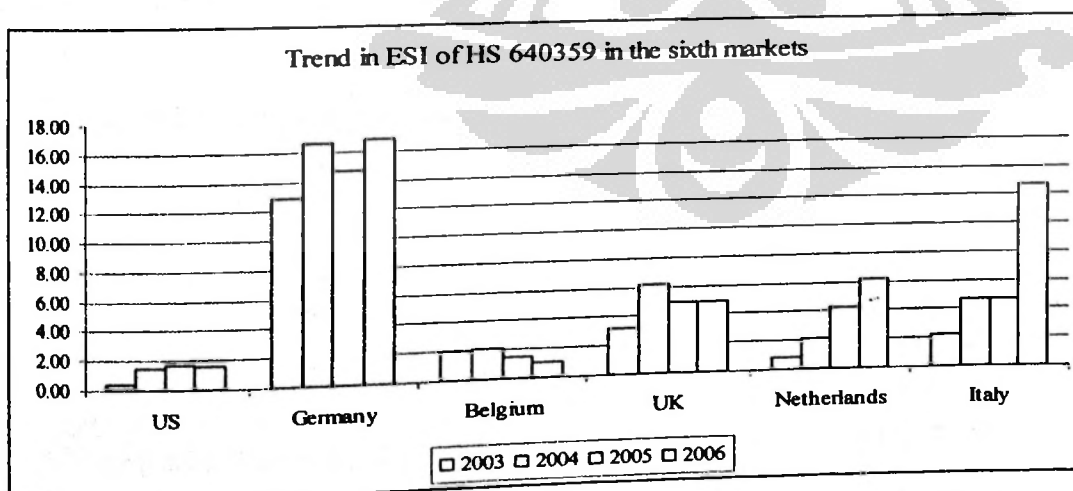


Figure.5.6. Trend in ESI of HS 640359 in the sixth markets

Source: UN Comtrade (processed)

According to the figure, trend in ESI of the product was increasing in Germany, Netherlands, and Italian markets. On the other hand, trend in ESI of the product was decreasing in the Belgium market.

5.1.3. Comparative Advantage in the World and the Sixth Markets

The RCA and ESI are usually used to measure comparative advantage of a product in the country's export. In this research, RCA is used to analyze in the world market, but ESI is used to analyze in the specific market. The result of the method for the whole of the footwear category is shown in figure 5.7.as follows:

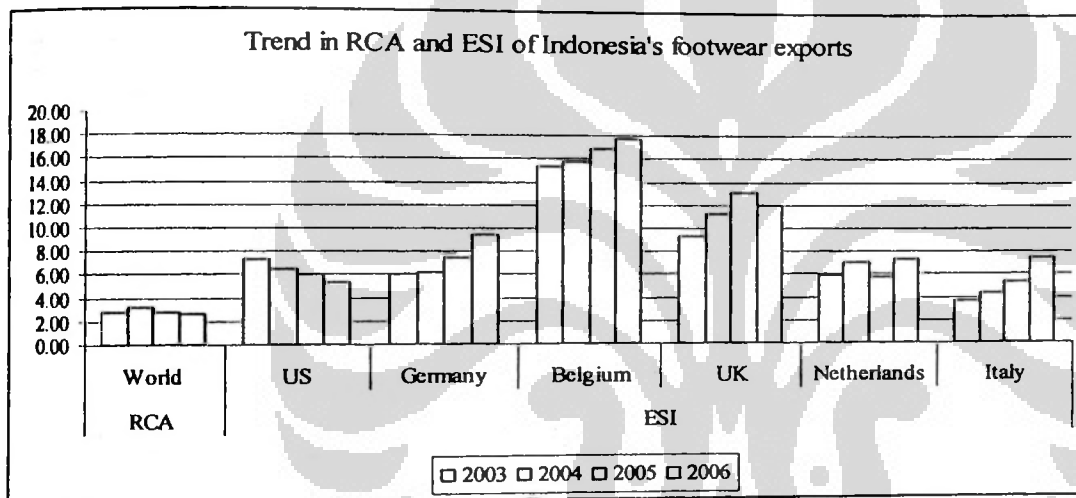


Figure.5.7. Trend in RCA and ESI of Indonesia's footwear exports

Source: UN Comtrade (processed)

According to the figure, Indonesia had comparative advantage in the world and sixth markets. The figure also shows that the sixth market are very potential, it is because the comparative advantage of Indonesia's footwear exports in the sixth markets is higher than comparative advantage of Indonesia's footwear exports in the world market.

5.1.4. Result and Analysis of Constant Market Share Analysis (CMSA)

Constant market share analysis is one of the competitiveness analysis which is used to measure the export performance of commodity *i* to country *j* especially from the changing in its market share.

a. Export growth

During 2003-2006, export growth of Indonesia's footwear was increasing in the sixth countries. Export growth performance of Indonesia in the Sixth Countries is shown in table 5.5.as follows:

Table.5.5. Export growth of Indonesia's footwear in the Sixth Countries (2003 – 2006)

| HS | USA | Germany | Belgium | UK | Netherlands | Italy |
|----|----------|----------|----------|----------|-------------|-----------|
| 64 | -2.6064% | 80.0779% | 33.6373% | 43.6406% | 104.2342% | 152.6356% |

Source: UN Comtrade (processed)

According to the table, export growth of Indonesia was positive growth in the Germany, Belgium, UK, Netherlands and Italy during 2003-2006. The highest growth of Indonesia's footwear was in the Italy, and it was followed by Netherlands, Germany, UK, and Belgium. Meanwhile, export growth of Indonesia's footwear decreased only in the US. Therefore, it is important to know the component which influences decreasing of exports growth of Indonesia's footwear in these markets.

b. Competitiveness and market distribution effect

Competitiveness effect measures the competitiveness of exported country. The value of competitiveness can be positive or negative. If the value of competitiveness effect is positive, then this means that the competitiveness of the exporter country is better than other countries.

Market distribution effect can be defined as the effect of a general increase in demand for import in the given market. The value of market distribution effect can be negative or positive. If the value of the market distribution effect is positive, then this means that the destination market is a potential market for the specific product.

Competitiveness and market distribution effect for the whole of the footwear category

In the whole of the footwear category, the value of the competitiveness and market distribution effect of Indonesia's footwear in the sixth market is shown in table 5.6.as follows:

Table. 5.6. Competitiveness and market distribution effect of Indonesia's footwear in the sixth markets (2003 and 2006)

| Markets | USA | Germany | Belgium | UK | Netherlands | Italy |
|----------------------------|----------|----------|----------|----------|-------------|----------|
| Competitiveness Effect | -0.2072% | 0.0700% | -0.0085% | 0.0312% | 0.0463% | 0.0758% |
| Market distribution effect | -0.0957% | -0.0189% | 0.0029% | -0.0219% | 0.0137% | -0.0030% |

Source: UN Comtrade (processed)

According to the table, the competitiveness effect of Indonesia's footwear was positive in the Germany, UK, and Netherlands market. This means that Indonesia's footwear for this category was competitive in the Germany, UK, Netherlands, and Italian market. On the other hand, the competitiveness effect of Indonesia's footwear was weak in the US market and the Belgium market during 2003-2006.

Meanwhile, Indonesia had positive value of market distribution effect in the Belgium and Netherlands. This means that exports of Indonesia's footwear for the whole of the footwear category was distributed well in these market. On the other hand, Indonesia had negative value of market distribution effect in the US, Germany, UK, and Italy during 2003-2006. This means that exports demand for Indonesia's footwear was weak or decreasing in these countries.

In the US market, Indonesia had negative value of its export growth, competitiveness and market distribution. Meanwhile, in the Belgium market, Indonesia had positive value in export growth and market distribution effect, but Indonesia had negative value in the competitiveness effect. This means that export growth of Indonesia was positive, and market distribution effect was also positive but Indonesia's competitiveness was weak compare to its competitors.

In the Netherlands market, Indonesia had positive value in the export growth, competitiveness, and market distribution effect. This means that export growth is positive, and the competitiveness of Indonesia's footwear was better than its competitors, and demand of Netherlands was also good.

In the Germany, UK, and Italian markets, Indonesia had positive value in the export growth, and competitiveness effect, but its market distribution is negative. This means that export growth is positive and its competitiveness also better compare to its competitors, but demand of these markets was weak.

Competitiveness and market distribution effect for the sport shoes category

In the sixth market, the competitiveness effect of Indonesia's sport shoes was positive only for five specific products. The list of Indonesia's sport shoes which was competitive in the sixth market is shown in table 5.7.as follows:

Table.5.7.The specific product of Indonesia's sport shoes category which was competitive in the sixth market (2003 and 2006)

| HS | Specific market |
|------------------|-----------------------------|
| HS 640230 | US, Germany, UK |
| HS 640312 | Germany, UK |
| HS 640319 | Germany, Belgium, UK. Italy |
| HS 640411 | Germany, Italy |
| HS 640419 | Belgium |

Source: UN Comtrade (processed)

Meanwhile, the market distribution effect of Indonesia's sport shoes was positive only for seven specific products. The list of Indonesia's sport shoes which its market distribution was positive value in the sixth market is shown in table 5.8.as follows:

Table.5.8. The specific products of Indonesia's sport shoes category which their market distribution was positive in the sixth market (2003 and 2006)

| HS | Market |
|-----------|-----------------------------------|
| HS 640212 | Italy |
| HS 640129 | Germany, UK, Netherlands |
| HS 640220 | US, UK |
| HS 640230 | Italy |
| HS 640319 | Germany, Belgium, UK, Netherlands |
| HS 640411 | US, Netherlands |
| HS 640419 | Belgium, Netherlands |

Source: UN Comtrade (processed)

According to identification of the result of competitiveness and market distribution effect, the specific products of sport shoes category which had positive value of competitive and market distribution effect in the same market is shown as follows:

Table.5.9. The specific products of sport shoes category which had positive value in competitiveness and market distribution

| HS | Specific market |
|-----------|-----------------------|
| HS 640319 | Germany, Belgium, UK. |
| HS 640419 | Belgium |

Source: UN Comtrade (processed)

The table shows that only two items which had positive value of competitiveness and market distribution effect in the same market, i.e. HS 640319, and HS 640419. The Belgium had positive value of the competitiveness and market distribution effect for HS 640319 and HS 640419. Meanwhile, Germany and UK had positive value only for HS 640319.

Competitiveness and market distribution effect for the non sport shoes category

In the sixth market, the competitiveness effect of Indonesia's non sport shoes was positive only for sixteen specific products. The list of the specific products of Indonesia's non sport shoes which their competitiveness effect was positive in the sixth market is shown in table 5.10.as follows:

Table.5.10. The specific products of Indonesia's non sport shoes category which were competitive (2003 and 2006)

| HS | Specific market |
|-----------|--|
| HS 640320 | US, Germany, Belgium, UK, Netherlands, Italy |
| HS 640351 | US, Germany, Belgium, Netherlands, Italy |
| HS 640359 | USA, Germany, UK, Netherlands, Italy |
| HS 640420 | US, Germany, Belgium, UK, Netherlands, Italy |
| HS 640510 | Germany, Belgium, Netherlands |
| HS 640291 | US |
| HS 640330 | UK, Netherlands, Italy |
| HS 640340 | Germany, Belgium, UK |
| HS 640391 | UK |
| HS 640399 | Germany, UK, Italy |
| HS 640520 | Germany, Italy |
| HS 640590 | USA, Germany, UK, Netherlands, Italy |
| HS 640610 | USA, Germany, UK |
| HS 640620 | Germany |
| HS 640691 | US, Netherlands, Italy |
| HS 640699 | US, Germany, Belgium |

Source: UN Comtrade (processed)

Meanwhile, the market distribution effect of Indonesia's non sport shoes was positive also only for nineteen specific products. The list of the specific products of Indonesia's non sport shoes which their market distribution effect was positive in the sixth market is shown in table 5.11. as follows:

Table.5.11. The specific product of Indonesia's non sport shoes category which its market distribution was positive in the sixth market (2003 and 2006)

| HS | Market |
|-----------|-----------------------------|
| HS 640320 | US, UK, Netherlands, Italy |
| HS 640359 | Belgium |
| HS 640420 | US, Italy |
| HS 640510 | UK, Italy |
| HS 640110 | Germany, UK |
| HS 640191 | Belgium, Netherlands, Italy |
| HS 640192 | USA, Belgium, UK, Italy |
| HS 640291 | Belgium, Netherlands |
| HS 640299 | Belgium, Netherlands |
| HS 640330 | Belgium |
| HS 640340 | USA, Italy |
| HS 640391 | Belgium, Italy |
| HS 640399 | Netherlands, Italy |
| HS 640520 | US, UK |

Table.5.11.Continued

| HS | Market |
|-----------|----------------------|
| HS 640590 | US |
| HS 640610 | US, Germany, Belgium |
| HS 640620 | Italy |
| HS 640691 | Germany |
| HS 640699 | US, UK |

Source: UN Comtrade (processed)

According to the identification of the result of competitiveness and market distribution effect, the specific products of non sport shoes category which had positive value of competitive and market distribution effect in the same market is describe as follows:

Table.5.12.The specific products of non sport shoes category which had positive value in competitiveness and market distribution

| HS | Specific market |
|-----------|----------------------------|
| HS 640320 | US, UK, Netherlands, Italy |
| HS 640420 | US, Italy |
| HS 640399 | Italy |
| HS 640590 | USA |
| HS 640610 | USA, Germany |
| HS 640699 | US |

Source: UN Comtrade (processed)

c. Commodity composition effect

Composition effect can be defined as increasing of exports which the country would have experienced had each of its products grown at the increase rate of the given market less general increase rate⁶. The value of composition effect can be negative or positive. If the value of composition effect is negative, then this means that the growth of commodity i is less than another commodity.

In the whole of the footwear category, the commodity composition effect of Indonesia's was -0.4111% (negative) during 2003-2006. This means that composition of Indonesia's export for this category is less than other commodities.

⁶ Pannenungi, 2007, Lecture module of Quantitative Method of International Trade Policy

In the sport shoes category, Indonesia had three specific products which had positive value of the composition commodity effect, i.e. HS 640220, HS 640230, and HS 640419.

In the non sport shoes category, Indonesia had three specific products which had positive value of the composition commodity effect, i.e. HS 640420, HS 640291, and HS 640340.

d. Competitiveness, market distribution and commodity composition effect

According to identification of the result of competitiveness, market distribution effect, and commodity composition effect, the relation among decomposition for the whole of the footwear category is shown in table.5.13.as follows:

Table. 5.13. Competitiveness and market distribution effect of Indonesia's footwear in the sixth markets (2003 and 2006)

| HS | USA | Germany | Belgium | UK | Netherlands | Italy |
|----------------------------|------------|----------|----------|----------|-------------|----------|
| Competitiveness Effect | -0.2072% | 0.0700% | -0.0085% | 0.0312% | 0.0463% | 0.0758% |
| Market distribution effect | -0.0957% | -0.0189% | 0.0029% | -0.0219% | 0.0137% | -0.0030% |
| Commodity composition | -0.411169% | | | | | |

Source: UN Comtrade (processed)

The table shows that composition of Indonesia's export for this category was less than other commodities. Meanwhile, Indonesia had better competitiveness effect than other countries in the fourth markets, i.e. Germany, UK, Netherlands, and Italian markets. In addition, the importing countries which had high demand for this category were the Belgium and Netherlands market during 2003-2006.

5.1.5. Comparative Advantage and Competitiveness Effect

In the whole of the footwear category, the relation between comparative advantage and competitiveness effect is shown in table 5.14.as follows:

Table 5.14. Comparative advantage and Competitiveness effect of Indonesia's footwear in the sixth markets

| Year | ESI | | | | | |
|-----------|------------------------|---------|----------|---------|-------------|---------|
| | US | Germany | Belgium | UK | Netherlands | Italy |
| 2003 | 7.26 | 6.04 | 15.31 | 9.31 | 5.97 | 3.72 |
| 2004 | 6.46 | 6.17 | 15.83 | 11.30 | 6.99 | 4.34 |
| 2005 | 6.11 | 7.43 | 16.86 | 13.08 | 5.73 | 5.36 |
| 2006 | 5.35 | 9.37 | 17.75 | 11.95 | 7.27 | 7.47 |
| Year | Competitiveness Effect | | | | | |
| | US | Germany | Belgium | UK | Netherlands | Italy |
| 2003-2006 | -0.2072% | 0.0700% | -0.0085% | 0.0312% | 0.0463% | 0.0758% |

Source: UN Comtrade (processed)

According to the table, during 2003-2006 Indonesia had comparative advantage in the sixth markets, but the competitiveness of Indonesia was positive only in the fourth markets, i.e. Germany, UK, Netherlands, and Italian markets. This means that Indonesia had comparative advantage in the US and Belgium markets, but the competitiveness of Indonesia compare to other countries in these markets is weak. Therefore, Indonesia should increase its competitiveness in the US and Belgium, and also maintains its competitiveness in other markets.

5.2. Result and Analysis of Econometric Model

The econometric model is used to assess the specific factors which influence demand for Indonesia's footwear exports. The specific factors which will be analyzed are variable of real GDP of partner country, variable of nominal exchange rate, and variable of relative price. In this research, panel data is used to estimate the econometric model.

5.2.1. Result of Test for Choosing an Appropriate Model in the Panel Data

a. Result of F-test

The F-test is used to determine whether there is an individual effect in the model. This test will compare value of f-statistic and value of f-table. In order to calculate F-statistic, it will need value of Sum Squared Residual (SSR) from common effect / Pooled Least Square (PLS) and value of sum squared residual from Fixed Effect Model (FEM). The formula of F-statistic calculation has

explained in the chapter 4 (Methodology). The result of F-test is shown in table 5.15.as follows:

Table.5.15. Result of F-test

| Hypothesis H0 (F-stat < F-tab)= no individual effect (PLS) | | | |
|--|--|-------------------------------|-------------------------------|
| If H0 is accepted then PLS is appropriate to use | | | |
| Description | Category of Footwear | | |
| | The whole of the footwear category (HS 64) | Sport shoes | Non sport shoes |
| SSR (PLS) | 21.5844 | 38.8067 | 49.8015 |
| SSR (FEM) | 6.7566 | 9.1910 | 22.2140 |
| F-Stat | 46.0855 | 67.6665 | 26.0797 |
| F-Tab ($\alpha = 5\%$) | 2.3009 | 2.3009 | 2.3009 |
| Result | F-stat > F-tab | F-stat > F-tab | F-stat > F-tab |
| Conclusion | there is an individual effect | there is an individual effect | there is an individual effect |

Source: data processed

According to the calculation result for each category, value of F-statistic is bigger than value of F-table (F-statistic > F-table). This means that there is an individual effect in the model (H0 is rejected), and the model can not use Pooled Least Square (PLS). As a result, the models should be tested by Hausman which will be used to decide an appropriate model between random effect and fixed effect.

b. Result of Hausman test

The further step is Hausman test which is used to decide an appropriate model between random effect and fixed effect model. In order to get result of Hausman test, it can use Eviews 5.1 which provides facility to process Hausman test. In the Hausman test, if value of probability > value of table ($\alpha = 0,5\%$) then H0 is accepted or the appropriate model is random effect. On the other hand, if value of probability < value of table (0,5%) then H0 is rejected or the appropriate model is fixed effect. The result of Hausman test is shown in table 5.16. as follows :

Table.5.16. Result of Hausman test

| Hypothesis H0 = random effect | | | |
|---|--|---------------|-----------------|
| If value of probability > value of table ($\alpha = 0,5\%$) then H0 is accepted | | | |
| Description | Category of Footwear | | |
| | The whole of the footwear category (HS 64) | Sport shoes | Non sport shoes |
| Chi-square d.f | 3 | 3 | 3 |
| Chi-square Stat | 0.4866 | 0.5657 | 3.8624 |
| Probability | 0.9218 | 0.9042 | 0.2767 |
| Conclusion | Random Effect | Random Effect | Random Effect |

Source: data processed

The result of Hausman test shows that model which is appropriate for the whole of the footwear category, sport shoes category, and non sport shoes category is random effect model.

In the random effect, model can be estimated as a GLS (Generalized Least-Square) and it will produce result which has Best Linier Unbiased Estimation (BLUE) characteristic. The model which uses random effect should not be treatment in classical assumption (autocorrelation, multicollinearity, heteroschedasticity), as result of classical error has distributed normally.

5.2.2. Specification of the Model

According to the result of all of test (F-test and Hausman test), the appropriate models for each of footwear category which is analyzed in this research is shown in table 5.17.as follows:

Table.5.17. Specification model for each footwear category

| Category of Footwear | Appropriate Model |
|--|---------------------|
| The whole of the footwear category (HS 64) | Random Effect Model |
| Sport shoes | Random Effect Model |
| Non sport shoes | Random Effect Model |

5.2.3. Analysis and Estimation Result

a. Analysis and estimation result of exports demand for the whole of the footwear category

Estimation Result

The estimation result of random effect model which is used in the model of exports demand for the whole of the footwear category (HS 64) is shown in the table.5.18.as follows:

Table.5.18. Estimation result of export demand for the whole of the footwear category

| Description | Variables | | | | R-squared | Adjust. R-squared |
|----------------------------------|-------------|---------------|-------------|--|-----------|-------------------|
| | LOG(GDP?) | LOG (ExRate?) | LOG(PR?) | | | |
| Coefficient | 0.5240 | 1.1388 | -0.7345 | | 0.8660 | 0.8686 |
| Std. Error | 0.1725 | 0.2975 | 0.2648 | | | |
| t-Stat | 3.0377 | 3.8271 | -2.7738 | | | |
| Probability | 0.0030 | 0.0002 | 0.0065 | | | |
| Significance or not significance | Significant | Significant | Significant | | | |
| α | 5% | 1% | 5% | | | |

Source: data processed

Interpretation

The interpretation of the estimation result for model of exports demand for the whole of footwear category can be explained as follows:

- 1) Value of R^2 is 0.86. This means that independent variables can explain the fraction of the variance of the dependent variable 86 percents.
- 2) Variable of real GDP is significance in the 95% significance level, the sign is positive, and value of coefficient is 0.5240. The elasticity value of real GDP is 0.5240 and it is categorized as inelastic. This means that if real GDP of partner countries increases 1 percent then it will increase exports demand 0.52 percent (*ceteris paribus*). This result is appropriate with hypothesis that the relation between foreign income and exports demand is positive (+).
- 3) Variable of nominal exchange rate is significance in the 99% significance level, the sign is positive, and value of coefficient is 1.1388. Elasticity value of nominal exchange rate is 1.1388 and it is categorized as elastic.

This means that if exchange rate of partner country is appreciated .1 percent then it will increase exports demand 0.94 percent (*ceteris paribus*). This result is appropriate with hypothesis that the relation between exchange rate and exports demand is positive (+).

- 4) Variable of relative price is significance in the 95% significance level, the sign is negative, and value of coefficient is -0.7345. Elasticity value of nominal exchange rate is 0.7345 and it is categorized as inelastic. This means that if value of relative price increases 1 percent then it will decrease exports demand 0.73 percent (*ceteris paribus*). This result is appropriate with hypothesis that the relation between relative price and exports demand is negative (-).

Analysis

According to the estimation result, variable of real GDP significantly influences exports demand for the whole of the footwear category (HS 64) in the 95% significant level (*ceteris paribus*), the sign is positive (appropriate with hypothesis), and the elasticity value of this variable is categorized as inelastic. This means that increasing of partner country' real income will significantly influence to increase exports demand for this product category but exports demand is not sensitive on increasing/decreasing GDP of partner country.

Variable of nominal exchange rate significantly influences exports demand for the whole of the footwear (HS 64) in the 99% significant level (*ceteris paribus*), the sign is positive (appropriate with hypothesis), and the elasticity value of this variable is categorized as elastic. This means that appreciation of partner country's exchange rate will significantly influence to increase exports demand for this product category, and exports demand is sensitive on fluctuation of exchange rate.

Variable of relative price significantly influence exports demand for the whole of the footwear category (*ceteris paribus*) in the 95% significant level (*ceteris paribus*), the sign is negative (appropriate with hypothesis), and the elasticity value of this variable is categorized as inelastic.. This means that increasing of relative price will significantly influence to decrease exports demand

for the whole of this product category but exports demand is not sensitive on increasing/decreasing relative price.

b. Analysis and estimation result of exports demand for sport shoes category

Estimation Result

The estimation result of random effect model which is used to model of exports demand for sport shoes category is shown in the table.5.19.as follows:

Table.5.19. Estimation result of demand export for sport shoes category

| Description | Variables | | | R-squared | Adjust. R-squared |
|----------------------------------|-------------|---------------|-----------------|-----------|-------------------|
| | LOG(GDP?) | LOG (ExRate?) | LOG(PR?) | | |
| Coefficient | 0.5414 | 0.8740 | 0.2144 | 0.8668 | 0.8632 |
| Std. Error | 0.2315 | 0.3663 | 0.1895 | | |
| t-Stat | 2.3381 | 2.3860 | 1.1315 | | |
| Probability | 0.0212 | 0.0187 | 0.2603 | | |
| Significance or not significance | Significant | Significant | Not Significant | | |
| α | 5% | 5% | - | | |

Source: data processed

Interpretation

The interpretation of the estimation result for model of demand export for sport shoes category can be explained as follows:

- 1) Value of R^2 is 0.86. This means that independent variables can explain the fraction of the variance of the dependent variable 86 percents.
- 2) Variable of real GDP is significance in the 95% significance level, the sign is positive, and value of coefficient is 0.5414. The elasticity value of real GDP is 0.5414, and it is categorized as inelastic. This means that if real GDP of partner countries increases 1 percent then it will increase exports demand 0.54 percent (*ceteris paribus*). This result is appropriate with hypothesis that the relation between foreign income and exports demand is positive (+).

- 3). Variable of nominal exchange rate is significance in the 95% significance level, the sign is positive, and value of coefficient is 0.8740. The elasticity value of nominal exchange rate is 0.8740, and it is categorized as inelastic. This means that if exchange rate of partner country is appreciated 1 percent then it will increase exports demand 0.87 percent (*ceteris paribus*). This result is appropriate with hypothesis that the relation between exchange rate and exports demand is positive (+).
- 4) Variable of relative price is not significance. This means that if relative price increase then it will not influence exports demand for this category (*ceteris paribus*).

Analysis

According to the estimation result, variable of real GDP significantly influences exports demand for sport shoes category in the 95% significant level (*ceteris paribus*), the sign is positive (appropriate with hypothesis), and the elasticity value of this variable is categorized as inelastic. This means that increasing of partner country' real income will significantly influence to increase exports demand for this product category. Meanwhile, exports demand is not sensitive on increasing/decreasing GDP of partner country or variable of real GDP has not big effect to increase exports demand for sport shoes. Generally, if consumer's income increases then the consumer tends to increase their demand. Commodity of footwear is categorized normal goods, so the elasticity value of this commodity is not very elastic.

Variable of nominal exchange rate is significantly influence exports demand for sport shoes in the 95% significant level (*ceteris paribus*), the sign is positive (appropriate with hypothesis). This means that appreciation of partner country's exchange rate will significantly influence to increase exports demand for sport shoes (*ceteris paribus*), and the elasticity value of this variable is categorized as inelastic or exports demand is not sensitive on fluctuation of exchange rate. It is appropriate with hypothesis that if local exchange rate is depreciated, then the export price of Indonesia will be cheaper in the partner

country. In addition, importer also will get more profit if local exchange rate depreciated.

Variable of relative price does not significantly influence exports demand for sport shoes. This means that increasing of relative price will not be significantly influence to decrease exports demand for sport shoes. The possibility in this case is that exports of Indonesia's sport shoes are usually dominated by sport shoes which has international branded name, i.e. Nike, Reebok, Adidas, etc. The importer usually has determined fix price for its order and Indonesia's producer does not have bargaining power.

c. Analysis and estimation result of exports demand for non sport shoes category

Estimation Result

The estimation result of random effect model which is used to model of exports demand for non sport shoes category is shown in the table.5.20.as follows:

Table.5.20. Estimation result of exports demand for non sport shoes category

| Description | Variables | | | R-squared | Adjust. R-squared |
|----------------------------------|-----------------|---------------|-------------|-----------|-------------------|
| | LOG(GDP?) | LOG (ExRate?) | LOG(PR?) | | |
| Coefficient | 0.3089 | 2.3948 | -0.8623 | 0.6299 | 0.6198 |
| Std. Error | 0.2426 | 0.5209 | 0.1916 | | |
| t-Stat | 1.2732 | 4.5972 | -4.4989 | | |
| Probability | 0.2056 | 0.0000 | 0.0000 | | |
| Significance or not significance | Not Significant | Significant | Significant | | |
| α | - | 1% | 1% | | |

Source: data processed

Interpretation

The interpretation of the estimation result for model of exports demand for non sport shoes category can be explained as follows:

- 1) Value of R^2 is 0.62. This means that independent variables can explain the fraction of the variance of the dependent variable 62 percents.

- 2) Variable of real GDP is not significance. This means that if real GDP of partner countries increases then it will not influence exports demand for non sport shoes category (*ceteris paribus*).
- 3) Variable of nominal exchange rate is significance in the 99% significance level, the sign is positive, and value of coefficient is 2.394. The elasticity value of nominal exchange rate is 2.394 and it is categorized as elastic. This result is appropriate with hypothesis that the relation between exchange rate and exports demand is positive (+).
- 4) Variable of relative price is not significance in the 99% significance level, the sign is positive, and value of coefficient is -0.8623. The elasticity value of nominal exchange rate is 0.8623 and it is categorized as inelastic. This result is appropriate with hypothesis that the relation between relative price and exports demand is negative (-).

Analysis

According to the estimation result, variable of real GDP does not significantly influence exports demand for non sport shoes. This means that increasing of partner country' real income will not significantly influence exports demand for non sport shoes. This result is not appropriate with hypothesis. The possibility in this case is that Indonesia's shoes which categorized as non sport shoes is not well known in the sixth markets (the brand name of Indonesia's non sport shoes is not well known) and the number of the product which is exported is still limited. According to data from Directorate for Industrial and Mining Products Export, export of footwear which is categorized non sport shoes was only 28.48% in 2006.

Variable of nominal exchange rate significantly influences exports demand for non sport shoes in the 99% significant level (*ceteris paribus*) and the sign is positive (appropriate with hypothesis). This means that appreciation of partner country's exchange rate will significantly influence to increase exports demand for non sport shoes (*ceteris paribus*). Moreover, the elasticity value of nominal exchange rate is categorized as elastic, this means that exports demand for footwear is sensitive on fluctuation of exchange rate. As a result, nominal

exchange rate has a big effect to increase/decrease exports demand for sport shoes. In this condition, if local exchange rate is depreciated then export price will be cheaper in the partner market. This condition makes exports demand increase, a local producer motivates to increase its production, and importer also motivates to get more profit.

Variable of relative price significantly influence to decrease exports demand for non sport shoes. This means that increasing of relative price will significantly influence to decrease exports demand for this category (*ceteris paribus*). Moreover, the elasticity value of relative price is categorized as inelastic, this means that exports demand for footwear is not sensitive on increasing/decreasing of relative price.

d. Analysis and estimation result of exports demand for each category

Estimation Result

The estimation result of random effect model which is used to model of exports demand for each category is shown in the table.5.21.as follows:

Table.5.21. Estimation result of exports demand for each category

| Variable | Category | | |
|----------------|------------------------------------|---------------------|---------------------|
| | The whole of the footwear category | Sport Shoes | Non sport shoes |
| Log (GDP) | 0.5240 (0.0030) | 0.5414 (0.0212) | 0.3089* (0.2056) |
| Log (ER) | 1.1388 (0.0002) | 0.8740 (0.0187) | 2.3948 (0.0000) |
| Log (PR) | -0.7345 (0.0065) | 0.2144* (0.2603) | -0.8623 (0.0000) |
| R ² | 0.8660 | 0.8668 | 0.6299 |
| Adj.R-squared | 0.8686 | 0.8632 | 0.6198 |

Source: data processed

Note:

- () : value of probability
 * : coefficient is not significant

Analysis

According to the estimation result, variable of real GDP significantly influence exports demand for the whole of the footwear category and sport shoes category (*ceteris paribus*). This means that increasing of partner country's exchange rate will significantly influence to increase exports demand for both categories (*ceteris paribus*). In addition, this variable is categorized as inelastic, this means that exports demand for footwear is not sensitive on fluctuation of GDP. On the other hand, this variable does not significantly influence demand for non sport category. This means that increasing of partner country' real income will not significantly influence exports demand for non sport shoes.

Variable of nominal exchange rate significantly influences exports demand for each category (*ceteris paribus*) and the sign is positive (appropriate with hypothesis). This means that appreciation of partner country's exchange rate will significantly influence to increase exports demand for each category (*ceteris paribus*). In addition, the elasticity value of nominal exchange rate is categorized as elastic for the whole of the footwear category and non sport shoes category, this means that exports demand for both category is sensitive on fluctuation of exchange rate.

Variable of relative price significantly influence to exports demand for the whole of the footwear category and non sport shoes category (*ceteris paribus*) and the sign is negative (appropriate with hypothesis). This means that increasing of relative price will significantly influence to decrease exports demand for both category (*ceteris paribus*). In addition, the elasticity value of relative price is categorized as inelastic for both categories, this means that exports demand for both category is not sensitive on increasing/decreasing of relative price.

CHAPTER VI

CONCLUSIONS AND RECOMENDATIONS

6.1. Conclusions

1. The RCA index shows that Indonesia had comparative advantage in the world market during 2003-2006. The ES index also shows that Indonesia had comparative advantage in the sixth markets during 2003-2006. Trend in ES index of Indonesia's footwear was increasing in the Germany, Belgium, UK, Netherlands, and Italian markets. On the other hand, trend in ES index of Indonesia's footwear was decreasing in the US market.
2. Export growth of Indonesia's footwear was positive in the Germany, Belgium, UK, Netherlands, and Italy during 2003 -2006. On the other hand, export growth of Indonesia's footwear was negative in the US market.
3. In the US market, Indonesia had negative value of its export growth, competitiveness and market distribution. Meanwhile, Indonesia had positive value in export growth and market distribution effect in the Belgium market, but Indonesia had negative value in the competitiveness effect. In the Netherlands market, Indonesia had positive value in the export growth, competitiveness, and market distribution effect. In the Germany, UK, and Italian markets, Indonesia had positive value in its export growth and competitiveness effect in these markets, but its value of market distribution effect is negative.
4. Indonesia had comparative advantage in the sixth markets, but the competitiveness of Indonesia was positive only in the Germany, UK, Netherlands, and Italian markets during 2003-2006. This means that Indonesia had comparative advantage in the US and Belgium markets, but the competitiveness of Indonesia's footwear compare to other countries in these markets was weak. Therefore, Indonesia should increase its competitiveness in the US and Belgium, and also maintains its competitiveness in other markets.
5. Exports demand for the whole of the footwear category is significantly influenced by variable of real GDP, variable of nominal exchange rate and

variable of relative price. Meanwhile, variable of nominal exchange rate is categorized as elastic. This means that exports demands for Indonesia's footwear is sensitive on fluctuation of exchange rate.

6. Exports demand for Indonesia's sport shoes category is significantly influenced by variable of real GDP and variable nominal exchange rate. Both variables are categorized as inelastic. This means that exports demand are not sensitive on increasing / decreasing the variables.
7. Exports demand for Indonesia's non sport shoes category is significantly influenced by variable of nominal exchange rate and variable of relative price. The variable which is categorized as elastic is variable of nominal exchange rate. This means that exports demand is sensitive on fluctuation of exchange rate.

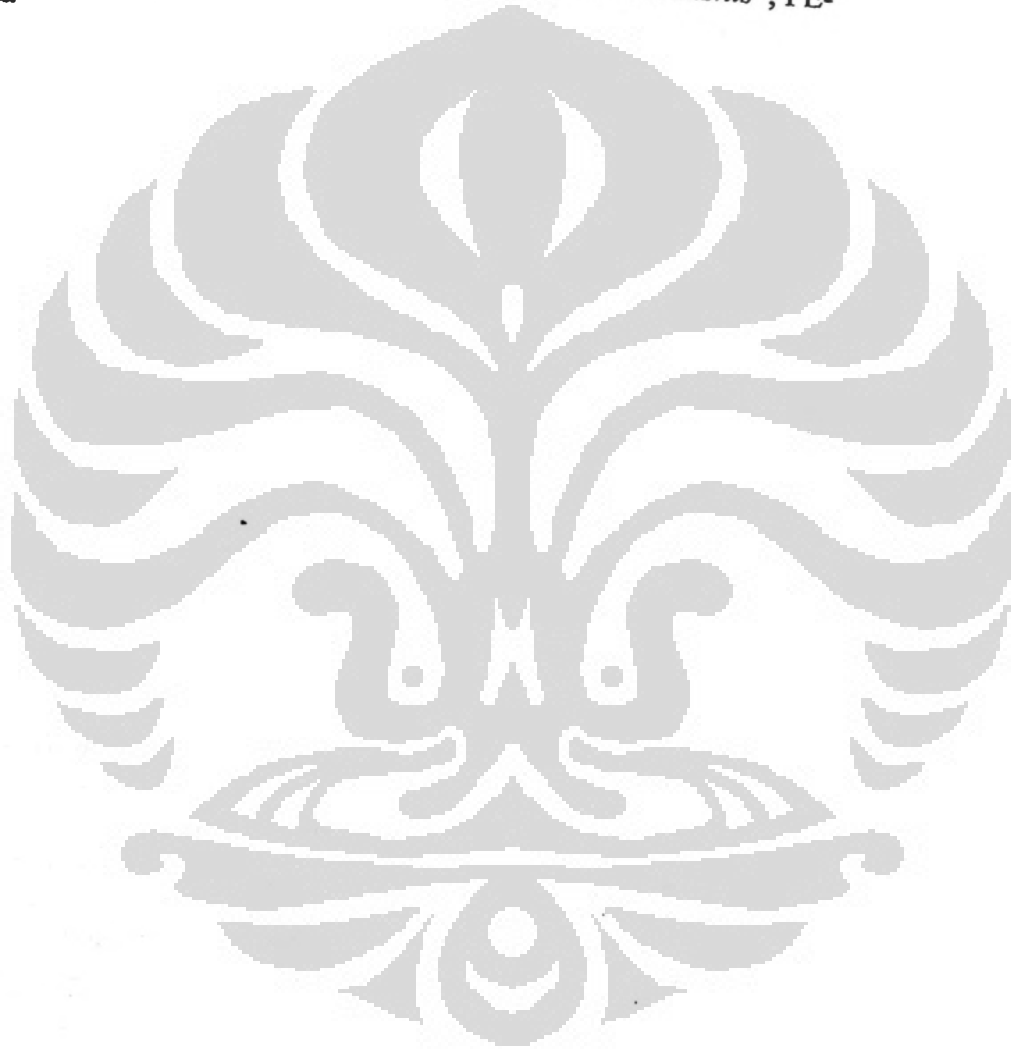
6.2. Recommendations

1. In the footwear commodity, Indonesia should increase its competitiveness in the US and Belgium, this is because the competitiveness effect of Indonesia was weak in these markets during 2003-2006. In addition, Indonesia should also maintain its competitiveness in the Germany, UK, Netherlands and Italian.
2. The Government should make further research about consumer's taste for specific product of footwear in the US, Germany, UK and Italian markets. This is because the value of market distribution in these markets was negative during 2003-2006. In addition, Indonesia's footwear producer should make diversification of its product. This is because the composition effect of Indonesia's footwear was weak during 2003-2006.
3. The result shows that the variable of nominal exchange rate is significant and also elastic to influence demand for Indonesia's footwear for the whole of the footwear category and non sport shoes category. Therefore, the Government and footwear producer should usually monitor the fluctuation of exchange rate.

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APPENDIX

Appendix-1. Result of RCA index

| | | RCA | | | | |
|-------------|--------|-------------------------------------|-------|-------|-------|-------|
| | | 2003 | 2004 | 2005 | 2006 | |
| (All as) | 64 | Footwear | 2.86 | 3.28 | 2.75 | 2.72 |
| | 640320 | Footwear with outer soles of leathe | 0.36 | 2.12 | 4.50 | 6.61 |
| | 640351 | Other footwear with outer soles of | 0.02 | 0.11 | 0.48 | 0.54 |
| | 640359 | Other footwear with outer soles of | 0.85 | 1.38 | 1.22 | 1.33 |
| | 640420 | Footwear with outer soles of leathe | 0.27 | 22.51 | 22.60 | 20.87 |
| | 640510 | With uppers of leather or composite | 0.17 | 0.54 | 0.37 | 0.49 |
| | 640110 | Footwear incorporating a protective | 1.70 | 0.91 | 1.70 | 0.27 |
| | 640191 | Other footwear :- Covering the kne | 1.05 | 0.32 | 0.01 | 1.25 |
| | 640192 | Other footwear :- Covering the ank | 0.15 | 0.11 | 0.01 | 0.00 |
| | 640291 | Other footwear :- Covering the ank | 3.77 | 0.63 | 0.01 | 0.01 |
| sport s | 640299 | Other footwear :- Other | 1.49 | 0.74 | 0.55 | 0.52 |
| | 640330 | Footwear made on a base or platform | 0.14 | 0.23 | 0.10 | 0.27 |
| | 640340 | Other footwear, incorporating a pro | 1.29 | 2.60 | 2.86 | 4.19 |
| | 640391 | Other footwear :- Covering the ank | 0.45 | 0.32 | 0.23 | 0.24 |
| | 640399 | Other footwear :- Other | 0.44 | 0.51 | 0.36 | 0.61 |
| | 640520 | With uppers of textile materials | 0.42 | 0.38 | 0.29 | 0.34 |
| | 640590 | Other | 0.06 | 0.28 | 0.31 | 0.27 |
| | 640610 | Uppers and parts thereof, other tha | 1.34 | 3.71 | 3.76 | 3.61 |
| | 640620 | Outer soles and heels, of rubber or | 0.56 | 0.47 | 0.47 | 0.29 |
| | 640691 | Other :- Of wood | 0.84 | 1.25 | 1.24 | 2.24 |
| | 640699 | Other :- Of other materials | 0.50 | 0.34 | 0.23 | 0.24 |
| | 640212 | Sports footwear :- Ski-boots, cros | 0.31 | 0.39 | 0.21 | 0.12 |
| | 640219 | Sports footwear :- Other | 13.13 | 10.78 | 7.65 | 5.72 |
| | 640220 | Footwear with upper straps or thong | 0.51 | 0.53 | 0.42 | 0.21 |
| | 640230 | Other footwear, incorporating a pro | 1.01 | 8.15 | 3.08 | 5.71 |
| shoes | 640312 | Sports footwear :- Ski-boots, cros | 0.76 | 2.70 | 2.86 | 2.39 |
| | 640319 | Sports footwear :- Other | 19.22 | 22.63 | 18.70 | 19.76 |
| | 640411 | Footwear with outer soles of rubber | 3.43 | 4.69 | 3.91 | 2.66 |
| | 640419 | Footwear with outer soles of rubber | 0.87 | 0.75 | 0.46 | 0.24 |

Appendix-2. Result of ES index in the US market

| Footwear (All categories) | 64 | Footwear | US | | | |
|---------------------------|--------|-------------------------------------|-------|-------|--------|-------|
| | | | 2003 | 2004 | 2005 | 2006 |
| | | | 7.26 | 6.46 | 6.11 | 5.35 |
| sport shoes | 640320 | Footwear with outer soles of leathe | 0.00 | 1.23 | 3.24 | 2.11 |
| | 640351 | Other footwear with outer soles of | 0.00 | 0.00 | 0.00 | 0.00 |
| | 640359 | Other footwear with outer soles of | 0.46 | 1.44 | 1.69 | 1.56 |
| | 640420 | Footwear with outer soles of leathe | 0.05 | 46.29 | 50.71 | 44.43 |
| | 640510 | With uppers of leather or compositi | 0.33 | 0.77 | 0.40 | 0.28 |
| | 640110 | Footwear incorporating a protective | 1.90 | 1.32 | 0.00 | 1.05 |
| | 640191 | Other footwear :- Covering the kne | 0.07 | 0.00 | 0.08 | 0.00 |
| | 640192 | Other footwear :- Covering the ank | 0.54 | 0.00 | 0.00 | 0.00 |
| | 640291 | Other footwear :- Covering the ank | 18.79 | 2.21 | 100.49 | 53.79 |
| | 640299 | Other footwear :- Other | 1.90 | 0.55 | 0.02 | 0.03 |
| | 640330 | Footwear made on a base or platform | 0.26 | 0.06 | 0.14 | 0.08 |
| | 640340 | Other footwear, incorporating a pro | 3.82 | 0.85 | 0.11 | 0.18 |
| | 640391 | Other footwear :- Covering the ank | 0.16 | 0.11 | 0.17 | 0.01 |
| | 640399 | Other footwear :- Other | 0.32 | 0.28 | 0.09 | 0.29 |
| | 640520 | With uppers of textile materials | 1.45 | 0.47 | 0.04 | 0.07 |
| | 640590 | Other | 0.19 | 0.23 | 0.71 | 0.88 |
| | 640610 | Uppers and parts thereof, other tha | 0.32 | 0.29 | 0.03 | 0.34 |
| | 640620 | Outer soles and heels, of rubber or | 0.22 | 0.09 | 0.05 | 0.02 |
| | 640691 | Other :- Of wood | 0.84 | 3.78 | 7.10 | 1.23 |
| | 640699 | Other :- Of other materials | 0.15 | 0.10 | 0.03 | 0.37 |
| Sport shoes | 640212 | Sports footwear :- Ski-boots, cros | 0.92 | 0.36 | 0.28 | 0.15 |
| | 640219 | Sports footwear :- Other | 34.67 | 24.13 | 18.50 | 11.57 |
| | 640220 | Footwear with upper straps or thong | 0.02 | 0.03 | 0.07 | 0.01 |
| | 640230 | Other footwear, incorporating a pro | 0.26 | 0.00 | 6.14 | 55.08 |
| | 640312 | Sports footwear :- Ski-boots, cros | 0.55 | 2.04 | 0.17 | 0.00 |
| | 640319 | Sports footwear :- Other | 35.05 | 33.84 | 30.07 | 28.01 |
| | 640411 | Footwear with outer soles of rubber | 3.13 | 2.36 | 1.59 | 1.01 |
| | 640419 | Footwear with outer soles of rubber | 0.37 | 0.31 | 0.10 | 0.12 |

Appendix-3. Result of ES index in the Germany market

| | | Germany | | | |
|--------|-------------------------------------|---------|-------|-------|-------|
| | | 2003 | 2004 | 2005 | 2006 |
| 64 | Footwear | 6.04 | 6.17 | 7.43 | 9.37 |
| 640320 | Footwear with outer soles of leathe | 0.85 | 12.01 | 26.55 | 65.28 |
| 640351 | Other footwear with outer soles of | 0.00 | 0.07 | 0.09 | 0.84 |
| 640359 | Other footwear with outer soles of | 12.90 | 16.60 | 14.70 | 16.79 |
| 640420 | Footwear with outer soles of leathe | 0.82 | 4.50 | 3.22 | 13.25 |
| 640510 | With uppers of leather or compositi | 0.09 | 2.91 | 3.28 | 12.62 |
| 640110 | Footwear incorporating a protective | 0.07 | 1.15 | 0.00 | 0.08 |
| 640191 | Other footwear :- Covering the kne | 0.01 | 0.98 | 0.00 | 0.00 |
| 640192 | Other footwear :- Covering the ank | 0.09 | 0.00 | 0.00 | 0.00 |
| 640291 | Other footwear :- Covering the ank | 3.41 | 0.60 | 0.10 | 0.04 |
| 640299 | Other footwear :- Other | 2.80 | 1.50 | 4.68 | 1.65 |
| 640330 | Footwear made on a base or platform | 0.09 | 0.00 | 0.00 | 0.07 |
| 640340 | Other footwear, incorporating a pro | 0.01 | 8.90 | 12.53 | 14.26 |
| 640391 | Other footwear :- Covering the ank | 3.45 | 1.65 | 1.61 | 3.40 |
| 640399 | Other footwear :- Other | 2.78 | 2.68 | 2.85 | 3.67 |
| 640520 | With uppers of textile materials | 0.02 | 0.32 | 0.47 | 0.98 |
| 640590 | Other | 0.01 | 0.38 | 0.80 | 0.48 |
| 640610 | Uppers and parts thereof, other tha | 20.67 | 15.91 | 19.82 | 30.15 |
| 640620 | Outer soles and heels, of rubber or | 0.04 | 0.30 | 0.08 | 0.49 |
| 640691 | Other :- Of wood | 1.40 | 0.00 | 0.00 | 0.00 |
| 640699 | Other :- Of other materials | 0.80 | 1.15 | 1.83 | 1.14 |
| 640212 | Sports footwear :- Ski-boots, cros | 0.06 | 0.09 | 0.24 | 0.00 |
| 640219 | Sports footwear :- Other | 24.13 | 15.81 | 14.39 | 6.89 |
| 640220 | Footwear with upper straps or thong | 9.02 | 5.99 | 7.68 | 8.25 |
| 640230 | Other footwear, incorporating a pro | 0.00 | 84.01 | 46.29 | 46.61 |
| 640312 | Sports footwear :- Ski-boots, cros | 0.00 | 0.00 | 34.56 | 79.62 |
| 640319 | Sports footwear :- Other | 41.70 | 40.81 | 56.55 | 70.74 |
| 640411 | Footwear with outer soles of rubber | 1.34 | 4.87 | 6.04 | 4.97 |
| 640419 | Footwear with outer soles of rubber | 2.45 | 1.17 | 0.66 | 0.48 |
| 640199 | Other footwear :- Other | 1.35 | 2.25 | 0.05 | 0.04 |

Appendix-4. Result of ES index in the Belgium market

| | | Belgium | | | |
|--------|-------------------------------------|---------|-------|-------|--------|
| | | 2003 | 2004 | 2005 | 2006 |
| 64 | Footwear | 15.31 | 15.83 | 16.86 | 17.75 |
| 640320 | Footwear with outer soles of leathe | 0.00 | 1.81 | 24.00 | 11.83 |
| 640351 | Other footwear with outer soles of | 0.00 | 0.17 | 6.73 | 16.32 |
| 640359 | Other footwear with outer soles of | 1.97 | 2.14 | 1.49 | 1.07 |
| 640420 | Footwear with outer soles of leathe | 0.00 | 0.00 | 0.00 | 191.02 |
| 640510 | With uppers of leather or compositi | 0.00 | 0.00 | 0.00 | 0.14 |
| 640110 | Footwear incorporating a protective | 0.00 | 0.00 | 0.00 | 0.00 |
| 640191 | Other footwear :- Covering the kne | 0.28 | 0.00 | 0.00 | 0.00 |
| 640192 | Other footwear :- Covering the ank | 0.71 | 0.02 | 0.30 | 0.00 |
| 640291 | Other footwear :- Covering the ank | 2.92 | 0.73 | 0.00 | 0.00 |
| 640299 | Other footwear :- Other | 5.18 | 1.09 | 0.65 | 0.59 |
| 640330 | Footwear made on a base or platform | 0.27 | 0.00 | 0.00 | 0.00 |
| 640340 | Other footwear, incorporating a pro | 0.05 | 0.53 | 0.13 | 0.65 |
| 640391 | Other footwear :- Covering the ank | 2.73 | 0.64 | 0.16 | 0.31 |
| 640399 | Other footwear :- Other | 1.43 | 1.21 | 0.92 | 1.03 |
| 640520 | With uppers of textile materials | 0.00 | 0.00 | 0.00 | 0.00 |
| 640590 | Other | 0.00 | 0.60 | 0.00 | 0.00 |
| 640610 | Uppers and parts thereof, other tha | 1.10 | 0.08 | 0.11 | 0.00 |
| 640620 | Outer soles and heels, of rubber or | 0.00 | 0.00 | 0.00 | 0.00 |
| 640691 | Other :- Of wood | 0.00 | 0.00 | 0.65 | 0.00 |
| 640699 | Other :- Of other materials | 0.00 | 0.00 | 0.01 | 0.27 |
| 640212 | Sports footwear :- Ski-boots, cros | 14.45 | 10.07 | 0.00 | 0.00 |
| 640219 | Sports footwear :- Other | 89.11 | 80.14 | 53.48 | 62.03 |
| 640220 | Footwear with upper straps or thong | 0.30 | 0.43 | 0.01 | 0.00 |
| 640230 | Other footwear, incorporating a pro | 0.00 | 0.00 | 0.00 | 0.00 |
| 640312 | Sports footwear :- Ski-boots, cros | 0.00 | 16.64 | 36.32 | 0.00 |
| 640319 | Sports footwear :- Other | 47.27 | 50.29 | 57.13 | 63.34 |
| 640411 | Footwear with outer soles of rubber | 3.59 | 4.85 | 6.04 | 2.42 |
| 640419 | Footwear with outer soles of rubber | 0.28 | 1.24 | 0.63 | 0.97 |
| 640199 | Other footwear :- Other | 0.30 | 0.00 | 4.07 | 9.97 |

Appendix-5. Result of ES index in the UK market

| 64 | Footwear | UK | | | |
|--------|-------------------------------------|-------|-------|-------|-------|
| | | 2003 | 2004 | 2005 | 2006 |
| | | 9.31 | 11.30 | 13.08 | 11.95 |
| 640320 | Footwear with outer soles of leathe | 0.20 | 2.05 | 0.00 | 7.22 |
| 640351 | Other footwear with outer soles of | 0.02 | 0.06 | 0.00 | 0.00 |
| 640359 | Other footwear with outer soles of | 3.16 | 6.13 | 4.92 | 4.86 |
| 640420 | Footwear with outer soles of leathe | 0.27 | 26.42 | 46.70 | 18.72 |
| 640510 | With uppers of leather or compositi | 0.63 | 0.39 | 0.01 | 0.51 |
| 640110 | Footwear incorporating a protective | 0.21 | 5.03 | 0.01 | 0.01 |
| 640191 | Other footwear :- Covering the kne | 19.55 | 9.75 | 0.00 | 0.02 |
| 640192 | Other footwear :- Covering the ank | 1.00 | 0.00 | 0.15 | 0.00 |
| 640291 | Other footwear :- Covering the ank | 3.71 | 0.65 | 0.01 | 0.32 |
| 640299 | Other footwear :- Other | 13.61 | 4.99 | 3.29 | 1.58 |
| 640330 | Footwear made on a base or platform | 0.00 | 0.03 | 0.00 | 0.04 |
| 640340 | Other footwear, incorporating a pro | 0.73 | 3.43 | 6.45 | 16.48 |
| 640391 | Other footwear :- Covering the ank | 0.39 | 0.51 | 0.59 | 1.22 |
| 640399 | Other footwear :- Other | 1.81 | 1.86 | 1.04 | 4.16 |
| 640520 | With uppers of textile materials | 1.21 | 1.32 | 0.37 | 0.13 |
| 640590 | Other | 0.00 | 1.43 | 3.27 | 1.71 |
| 640610 | Uppers and parts thereof, other tha | 0.00 | 0.00 | 0.00 | 0.40 |
| 640620 | Outer soles and heels, of rubber or | 0.00 | 1.22 | 0.00 | 0.00 |
| 640691 | Other :- Of wood | 0.49 | 0.00 | 1.38 | 0.00 |
| 640699 | Other :- Of other materials | 0.02 | 0.17 | 0.00 | 0.00 |
| 640212 | Sports footwear :- Ski-boots, cros | 1.42 | 1.73 | 0.00 | 0.10 |
| 640219 | Sports footwear :- Other | 60.58 | 51.71 | 53.38 | 24.12 |
| 640220 | Footwear with upper straps or thong | 0.47 | 0.34 | 3.77 | 0.05 |
| 640230 | Other footwear, incorporating a pro | 0.00 | 39.03 | 21.56 | 56.28 |
| 640312 | Sports footwear :- Ski-boots, cros | 0.00 | 8.62 | 1.83 | 0.72 |
| 640319 | Sports footwear :- Other | 56.08 | 67.57 | 82.15 | 77.52 |
| 640411 | Footwear with outer soles of rubber | 7.51 | 22.72 | 30.65 | 5.56 |
| 640419 | Footwear with outer soles of rubber | 3.80 | 1.64 | 0.43 | 0.26 |
| 640199 | Other footwear :- Other | 2.08 | 0.11 | 0.21 | 0.16 |

Appendix-6. Result of ES index in the Netherlands market

| | | Netherlands | | | |
|--------|-------------------------------------|-------------|-------|-------|-------|
| | | 2003 | 2004 | 2005 | 2006 |
| 64 | Footwear | 5.97 | 6.99 | 5.73 | 7.27 |
| 640320 | Footwear with outer soles of leathe | 0.43 | 10.42 | 29.71 | 43.51 |
| 640351 | Other footwear with outer soles of | 0.59 | 1.81 | 8.49 | 7.26 |
| 640359 | Other footwear with outer soles of | 0.84 | 2.18 | 4.29 | 6.18 |
| 640420 | Footwear with outer soles of leathe | 1.17 | 29.74 | 28.31 | 17.89 |
| 640510 | With uppers of leather or compositi | 0.15 | 0.64 | 0.09 | 0.18 |
| 640110 | Footwear incorporating a protective | 5.48 | 5.93 | 0.00 | 0.00 |
| 640191 | Other footwear :-- Covering the kne | 0.84 | 0.50 | 0.00 | 0.00 |
| 640192 | Other footwear :-- Covering the ank | 0.00 | 0.07 | 0.00 | 0.00 |
| 640291 | Other footwear :-- Covering the ank | 0.51 | 1.05 | 0.00 | 0.00 |
| 640299 | Other footwear :-- Other | 1.97 | 2.38 | 1.08 | 1.01 |
| 640330 | Footwear made on a base or platform | 0.23 | 0.00 | 0.15 | 1.53 |
| 640340 | Other footwear, incorporating a pro | 6.30 | 5.86 | 1.97 | 2.40 |
| 640391 | Other footwear :-- Covering the ank | 1.64 | 1.79 | 0.70 | 0.66 |
| 640399 | Other footwear :-- Other | 1.08 | 0.49 | 0.60 | 0.95 |
| 640520 | With uppers of textile materials | 0.00 | 0.00 | 0.09 | 0.00 |
| 640590 | Other | 0.00 | 0.27 | 0.95 | 0.56 |
| 640610 | Uppers and parts thereof, other tha | 0.03 | 0.02 | 0.00 | 0.00 |
| 640620 | Outer soles and heels, of rubber or | 38.39 | 0.05 | 0.01 | 0.00 |
| 640691 | Other :-- Of wood | 0.00 | 0.00 | 0.24 | 0.06 |
| 640699 | Other :-- Of other materials | 0.05 | 0.01 | 2.28 | 0.00 |
| 640212 | Sports footwear :-- Ski-boots, cros | 0.20 | 1.33 | 0.00 | 0.00 |
| 640219 | Sports footwear :-- Other | 25.01 | 19.92 | 13.63 | 9.37 |
| 640220 | Footwear with upper straps or thong | 0.02 | 0.22 | 0.09 | 0.00 |
| 640230 | Other footwear, incorporating a pro | 0.00 | 58.90 | 0.00 | 0.00 |
| 640312 | Sports footwear :-- Ski-boots, cros | 19.19 | 84.37 | 0.00 | 0.00 |
| 640319 | Sports footwear :-- Other | 28.15 | 32.14 | 31.87 | 44.77 |
| 640411 | Footwear with outer soles of rubber | 7.81 | 11.51 | 6.55 | 5.07 |
| 640419 | Footwear with outer soles of rubber | 1.49 | 0.63 | 0.06 | 0.28 |
| 640199 | Other footwear :-- Other | 7.45 | 0.43 | 1.04 | 0.10 |

Appendix-7. Result of ES index in the Italian market

| Footwear (series) | 64 | Footwear | Italy | | | |
|-------------------|----|-------------------------------------|-------|-------|-------|-------|
| | | | 2003 | 2004 | 2005 | 2006 |
| | | | 3.72 | 4.34 | 5.36 | 7.47 |
| 640320 | | Footwear with outer soles of leathe | 0.37 | 0.89 | 4.16 | 4.99 |
| 640351 | | Other footwear with outer soles of | 0.11 | 0.34 | 1.71 | 0.59 |
| 640359 | | Other footwear with outer soles of | 2.27 | 4.64 | 4.71 | 12.63 |
| 640420 | | Footwear with outer soles of leathe | 3.80 | 24.44 | 23.32 | 28.20 |
| 640510 | | With uppers of leather or compositi | 0.18 | 0.40 | 0.18 | 0.04 |
| 640110 | | Footwear incorporating a protective | 3.06 | 0.61 | 0.04 | 0.11 |
| 640191 | | Other footwear :- Covering the kne | 15.37 | 6.01 | 0.00 | 0.00 |
| 640192 | | Other footwear :- Covering the ank | 0.07 | 0.00 | 0.28 | 0.00 |
| 640291 | | Other footwear :- Covering the ank | 0.41 | 0.50 | 0.59 | 0.37 |
| 640299 | | Other footwear :- Other | 3.75 | 3.36 | 0.90 | 2.80 |
| 640330 | | Footwear made on a base or platform | 0.22 | 0.00 | 0.49 | 9.48 |
| 640340 | | Other footwear, incorporating a pro | 2.05 | 2.97 | 1.80 | 0.54 |
| 640391 | | Other footwear :- Covering the ank | 0.77 | 0.39 | 0.27 | 0.14 |
| 640399 | | Other footwear :- Other | 0.59 | 2.30 | 3.26 | 4.55 |
| 640520 | | With uppers of textile materials | 0.29 | 1.62 | 0.49 | 1.39 |
| 640590 | | Other | 0.29 | 0.80 | 4.60 | 2.32 |
| 640610 | | Uppers and parts thereof, other tha | 0.03 | 0.02 | 0.00 | 0.01 |
| 640620 | | Outer soles and heels, of rubber or | 1.08 | 0.70 | 0.01 | 0.06 |
| 640691 | | Other :- Of wood | 1.15 | 3.82 | 8.65 | 4.47 |
| 640699 | | Other :- Of other materials | 0.54 | 0.11 | 0.14 | 0.37 |
| 640212 | | Sports footwear :- Ski-boots, cros | 1.43 | 0.14 | 0.00 | 0.00 |
| 640219 | | Sports footwear :- Other | 20.68 | 20.23 | 8.10 | 21.01 |
| 640220 | | Footwear with upper straps or thong | 9.97 | 2.14 | 0.41 | 0.60 |
| 640230 | | Other footwear, incorporating a pro | 15.79 | 12.58 | 0.00 | 0.00 |
| 640312 | | Sports footwear :- Ski-boots, cros | 0.22 | 0.23 | 0.00 | 0.15 |
| 640319 | | Sports footwear :- Other | 27.69 | 30.38 | 46.49 | 67.07 |
| 640411 | | Footwear with outer soles of rubber | 6.63 | 6.22 | 7.77 | 8.52 |
| 640419 | | Footwear with outer soles of rubber | 8.03 | 6.92 | 6.89 | 3.21 |
| 640199 | | Other footwear :- Other | 13.63 | 39.08 | 7.75 | 7.04 |

Appendix-8. Result of Competitiveness effect (CMSA)

| | Competitiveness Effect | | | | | |
|--------|------------------------|-----------|------------|------------|-------------|------------|
| | USA | Germany | Belgium | UK | Netherlands | Italy |
| 64 | -0.207253% | 0.070001% | -0.008537% | 0.031246% | 0.046328% | 0.075841% |
| 640320 | 0.000533% | 0.007919% | 0.000564% | 0.000975% | 0.006868% | 0.000821% |
| 640351 | 0.000007% | 0.000621% | 0.004722% | -0.000016% | 0.005299% | 0.000256% |
| 640359 | 0.010103% | 0.004571% | -0.000860% | 0.001787% | 0.006826% | 0.005528% |
| 640420 | 0.074248% | 0.001857% | 0.035656% | 0.002884% | 0.001509% | 0.003751% |
| 640510 | -0.000020% | 0.002031% | 0.000035% | -0.000072% | 0.000010% | -0.000086% |
| 640110 | -0.000099% | 0.000000% | 0.000000% | -0.000017% | -0.000180% | -0.000080% |
| 640191 | -0.000004% | 0.000000% | -0.000002% | -0.000090% | -0.000005% | -0.000081% |
| 640192 | -0.000239% | 0.000017% | -0.000047% | -0.000159% | 0.000000% | -0.000004% |
| 640291 | 0.044363% | 0.001332% | -0.000524% | -0.000438% | -0.000140% | -0.000005% |
| 640299 | -0.026636% | 0.002329% | -0.004724% | -0.016347% | -0.001683% | -0.001385% |
| 640330 | -0.000012% | 0.000001% | -0.000004% | 0.000001% | 0.000018% | 0.000061% |
| 640340 | -0.004674% | 0.011508% | 0.000203% | 0.006490% | -0.001554% | -0.000408% |
| 640391 | -0.000796% | 0.000595% | -0.002896% | 0.001302% | -0.002443% | -0.001683% |
| 640399 | -0.000442% | 0.006086% | -0.001895% | 0.013202% | -0.000263% | 0.023521% |
| 640520 | -0.002073% | 0.000211% | 0.000000% | -0.000292% | 0.000000% | 0.000286% |
| 640590 | 0.000634% | 0.000096% | 0.000000% | 0.000377% | 0.000168% | 0.000567% |
| 640610 | 0.000030% | 0.007788% | -0.000035% | 0.000038% | -0.000003% | -0.000083% |
| 640620 | -0.000077% | 0.000100% | 0.000000% | 0.000000% | -0.003520% | -0.000182% |
| 640691 | 0.000002% | 0.000007% | 0.000000% | 0.000000% | 0.000001% | 0.000019% |
| 640699 | 0.000160% | 0.000115% | 0.000016% | -0.000002% | -0.000007% | -0.000089% |
| 640212 | -0.000517% | 0.000021% | -0.000508% | -0.000070% | -0.000017% | -0.000814% |
| 640219 | -0.120998% | 0.007746% | -0.028634% | -0.027410% | -0.010595% | -0.000444% |
| 640220 | -0.000021% | 0.000077% | -0.000020% | -0.000039% | -0.000002% | -0.000855% |
| 640230 | 0.001931% | 0.000483% | 0.000000% | 0.000531% | 0.000000% | -0.000383% |
| 640312 | -0.000087% | 0.001565% | 0.000000% | 0.000017% | -0.000097% | -0.000001% |
| 640319 | -0.100061% | 0.033643% | 0.010836% | 0.030126% | 0.055386% | 0.050431% |
| 640411 | -0.017506% | 0.002475% | -0.002217% | -0.002288% | -0.004425% | 0.001915% |
| 640419 | -0.002156% | 0.002967% | 0.000456% | -0.003716% | -0.001506% | -0.004460% |

Appendix-9. Result of Market distribution effect (CMSA)

| | Market Distribution Effect | | | | | |
|--------|----------------------------|------------|------------|------------|-------------|------------|
| | USA | Germany | Belgium | UK | Netherlands | Italy |
| 64 | -0.095727% | -0.018900% | 0.002927% | -0.021995% | 0.013752% | -0.003054% |
| 640320 | 0.000000% | -0.000048% | 0.000000% | 0.000001% | 0.000023% | 0.000009% |
| 640351 | 0.000000% | 0.000000% | 0.000000% | -0.000002% | -0.000002% | 0.000000% |
| 640359 | -0.000210% | -0.000398% | 0.000113% | -0.000779% | -0.000027% | -0.000027% |
| 640420 | 0.000020% | -0.000012% | 0.000000% | -0.000028% | -0.000012% | 0.000029% |
| 640510 | -0.000103% | -0.000015% | 0.000000% | 0.000010% | -0.000007% | 0.000024% |
| 640110 | -0.000010% | 0.000001% | 0.000000% | 0.000006% | -0.000036% | -0.000002% |
| 640191 | -0.000001% | 0.000000% | 0.000001% | -0.000039% | 0.000002% | 0.000001% |
| 640192 | 0.000006% | -0.000005% | 0.000003% | 0.000048% | 0.000000% | 0.000001% |
| 640291 | -0.009694% | -0.000249% | 0.000073% | -0.000136% | 0.000035% | -0.000025% |
| 640299 | -0.004863% | -0.000993% | 0.001009% | -0.004207% | 0.000676% | -0.001223% |
| 640330 | -0.000010% | -0.000001% | 0.000002% | 0.000000% | -0.000001% | 0.000000% |
| 640340 | 0.000155% | -0.000002% | -0.000003% | -0.000074% | -0.000673% | 0.000112% |
| 640391 | -0.000286% | -0.000888% | 0.000378% | -0.000210% | -0.000054% | 0.000559% |
| 640399 | -0.003506% | -0.003848% | -0.000030% | -0.000759% | 0.001815% | 0.000631% |
| 640520 | 0.000360% | -0.000001% | 0.000000% | 0.000029% | 0.000000% | -0.000013% |
| 640590 | 0.000017% | -0.000004% | 0.000000% | 0.000000% | 0.000000% | 0.000000% |
| 640610 | 0.000004% | 0.002208% | 0.000024% | 0.000000% | -0.000001% | -0.000027% |
| 640620 | -0.000010% | -0.000001% | 0.000000% | 0.000000% | -0.000847% | 0.000005% |
| 640691 | -0.000002% | 0.000003% | 0.000000% | -0.000001% | 0.000000% | 0.000000% |
| 640699 | 0.000028% | -0.000017% | 0.000000% | 0.000001% | -0.000002% | -0.000020% |
| | | | | | | |
| 640212 | -0.000335% | -0.000002% | -0.000040% | -0.000038% | -0.000010% | 0.000309% |
| 640219 | -0.013389% | 0.000104% | -0.022578% | 0.008949% | 0.000048% | -0.000334% |
| 640220 | 0.000006% | -0.000345% | -0.000024% | 0.000001% | 0.000000% | -0.000440% |
| 640230 | -0.000015% | 0.000000% | 0.000000% | 0.000000% | 0.000000% | 0.000319% |
| 640312 | -0.000044% | 0.000000% | 0.000000% | 0.000000% | -0.000077% | 0.000000% |
| 640319 | -0.055225% | 0.000416% | 0.017126% | 0.005106% | 0.011622% | -0.002527% |
| 640411 | 0.008250% | -0.000299% | -0.001040% | -0.002703% | 0.000432% | -0.000837% |
| 640419 | -0.000157% | -0.000292% | 0.000044% | -0.000903% | 0.000479% | -0.000283% |

Appendix-10. Result of Commodity Composition effect (CMSA)

| | | Commodity composition effect |
|---------------------------|--------|------------------------------|
| Footwear (All categories) | 64 | -0.411169% |
| Non sport shoes | 640320 | -0.000199% |
| | 640351 | -0.000073% |
| | 640359 | -0.026230% |
| | 640420 | 0.000267% |
| | 640510 | -0.001541% |
| | 640110 | -0.000244% |
| | 640191 | -0.000265% |
| | 640192 | -0.000010% |
| | 640291 | 0.001922% |
| | 640299 | -0.000903% |
| | 640330 | -0.000114% |
| | 640340 | 0.000849% |
| | 640391 | -0.004986% |
| | 640399 | -0.012173% |
| | 640520 | -0.001424% |
| | 640590 | -0.000175% |
| | 640610 | -0.021979% |
| | 640620 | -0.003148% |
| | 640691 | -0.000051% |
| | 640699 | -0.005249% |
| Sport shoes | 640212 | -0.000436% |
| | 640219 | -0.142575% |
| | 640220 | 0.000429% |
| | 640230 | 0.000047% |
| | 640312 | -0.000194% |
| | 640319 | -0.210425% |
| | 640411 | -0.034509% |
| | 640419 | 0.006332% |

Appendix-11. Estimation result of Exports Demand for the whole of the footwear category. (Common, No Weighting)

Dependent Variable: LOG(VOLUME?)
 Method: Pooled Least Squares
 Date: 09/08/08 Time: 13:43
 Sample: 2003:1 2007:3
 Included observations: 19
 Number of cross-sections used: 6
 Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|--------|
| C | -0.717790 | 2.768114 | -0.259307 | 0.7959 |
| LOG(GDP?) | 0.489788 | 0.042059 | 11.64539 | 0.0000 |
| LOG(EXRATE?) | 0.804883 | 0.256185 | 3.141802 | 0.0022 |
| LOG(PR?) | -1.502191 | 0.329522 | -4.558700 | 0.0000 |
| R-squared | 0.581902 | Mean dependent var | 14.55033 | |
| Adjusted R-squared | 0.570499 | S.D. dependent var | 0.675915 | |
| S.E. of regression | 0.442970 | Sum squared resid | 21.58442 | |
| Log likelihood | -66.89808 | F-statistic | 51.03210 | |
| Durbin-Watson stat | 0.419992 | Prob(F-statistic) | 0.000000 | |

Appendix-12. Estimation result of Exports Demand for the whole of the footwear category. (Fixed Effect, No Weighting)

Dependent Variable: LOG(VOLUME?)
 Method: Pooled Least Squares
 Date: 09/08/08 Time: 13:43
 Sample: 2003:1 2007:3
 Included observations: 19
 Number of cross-sections used: 6
 Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|--------|
| LOG(GDP?) | 0.650677 | 0.483927 | 1.344576 | 0.1817 |
| LOG(EXRATE?) | 1.036757 | 0.506817 | 2.045625 | 0.0433 |
| LOG(PR?) | -0.715766 | 0.289553 | -2.655380 | 0.0092 |
| Fixed Effects | | | | |
| _US—C | -2.631829 | | | |
| _JERMAN--C | -2.974328 | | | |
| _BELGIA—C | -3.519605 | | | |
| _INGGRIS--C | -2.476946 | | | |
| _BELANDA--C | -2.195318 | | | |
| _ITALIA—C | -2.983960 | | | |
| R-squared | 0.869121 | Mean dependent var | 14.55033 | |
| Adjusted R-squared | 0.859150 | S.D. dependent var | 0.675915 | |
| S.E. of regression | 0.253671 | Sum squared resid | 6.756644 | |
| Log likelihood | -0.695679 | F-statistic | 87.15880 | |
| Durbin-Watson stat | 1.354663 | Prob(F-statistic) | 0.000000 | |

Appendix-13. Estimation result of Exports Demand for the whole of the footwear category. (Random Effect, No Weighting)

Dependent Variable: LOG(VOLUME?)

Method: GLS (Variance Components)

Date: 09/08/08 Time: 13:44

Sample: 2003:1 2007:3

Included observations: 19

Number of cross-sections used: 6

Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--|-------------|--------------------|-------------|--------|
| C | -2.588667 | 2.734463 | -0.946682 | 0.3459 |
| LOG(GDP?) | 0.524031 | 0.172505 | 3.037765 | 0.0030 |
| LOG(EXRATE?) | 1.138844 | 0.297568 | 3.827175 | 0.0002 |
| LOG(PR?) | -0.734598 | 0.264828 | -2.773867 | 0.0065 |
| Random Effects | | | | |
| _US—C | 0.452189 | | | |
| _JERMAN—C | -0.173702 | | | |
| _BELGIA—C | -0.590720 | | | |
| _INGGRIS—C | 0.156196 | | | |
| _BELANDA—C | 0.413689 | | | |
| _ITALIA—C | -0.257651 | | | |
| GLS Transformed Regression | | | | |
| R-squared | 0.866022 | Mean dependent var | 14.55033 | |
| Adjusted R-squared | 0.862368 | S.D. dependent var | 0.675915 | |
| S.E. of regression | 0.250756 | Sum squared resid | 6.916654 | |
| Durbin-Watson stat | 1.325346 | | | |
| Unweighted Statistics including Random Effects | | | | |
| R-squared | 0.869002 | Mean dependent var | 14.55033 | |
| Adjusted R-squared | 0.865429 | S.D. dependent var | 0.675915 | |
| S.E. of regression | 0.247952 | Sum squared resid | 6.762812 | |
| Durbin-Watson stat | 1.355496 | | | |

Appendix-14. Result of F-test for the Whole of the Footwear Category

| | SSR2 | N | T | K | F-stat |
|--|----------|---|----|---|---------|
| | 6.756644 | 6 | 19 | 3 | 46.0855 |

$df_1 = N - 1 = 5$
 $df_2 = NT - N - k = 105$
F-tabel = 2.3009 $\alpha = 0.05$
 3.1966
 1.9029

*:
 label --> there is individual effect in the model (Fixed Effect or Random Effect)
 label --> there is no individual effect in the model

Appendix-15. Result of Hausman test of exports demand for the whole of the footwear category

Correlated Random Effects - Hausman Test

Pool: VOL_FW

Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|----------------------|-------------------|--------------|--------|
| Cross-section random | 0.486607 | 3 | 0.9218 |

Cross-section random effects test comparisons:

Appendix-16. Result of Multicollinearity test of exports demand for the whole of the footwear category

| | GDP | ER | PR |
|-----|-----------|-----------|-----------|
| GDP | 1.000000 | -0.526980 | 0.044236 |
| ER | -0.526980 | 1.000000 | -0.136816 |
| PR | 0.044236 | -0.136816 | 1.000000 |

Appendix-17. Estimation result of Exports Demand for sport shoes category
(Common, No Weighting)

Dependent Variable: LOG(VOLUME?)

Method: Pooled Least Squares

Date: 09/25/08 Time: 21:26

Sample: 2003:1 2007:3

Included observations: 19

Number of cross-sections used: 6

Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|----------|
| C | 0.747115 | 3.825061 | 0.195321 | 0.8455 |
| LOG(GDP?) | 0.505775 | 0.057319 | 8.823792 | 0.0000 |
| LOG(ER?) | 0.849545 | 0.349514 | 2.430649 | 0.0167 |
| LOG(PR?) | -0.355911 | 0.341032 | -1.043631 | 0.2989 |
| R-squared | 0.451351 | Mean dependent var | | 14.23340 |
| Adjusted R-squared | 0.436388 | S.D. dependent var | | 0.791165 |
| S.E. of regression | 0.593960 | Sum squared resid | | 38.80676 |
| Log likelihood | -100.3356 | F-statistic | | 30.16419 |
| Durbin-Watson stat | 0.402133 | Prob(F-statistic) | | 0.000000 |

Appendix-18. Estimation result of Exports Demand for sport shoes category (Fixed
Effect, No Weighting)

Dependent Variable: LOG(VOLUME?)

Method: Pooled Least Squares

Date: 09/25/08 Time: 21:27

Sample: 2003:1 2007:3

Included observations: 19

Number of cross-sections used: 6

Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|----------|
| LOG(GDP?) | 0.766882 | 0.566044 | 1.354809 | 0.1784 |
| LOG(ER?) | 0.672268 | 0.597862 | 1.124453 | 0.2634 |
| LOG(PR?) | 0.227190 | 0.192669 | 1.179173 | 0.2410 |
| Fixed Effects | | | | |
| _US—C | 1.167232 | | | |
| _GERMANY—C | 0.425131 | | | |
| _BELGIUM—C | 0.319142 | | | |
| _UK—C | 1.790754 | | | |
| _NETHERLANDS—C | 2.020951 | | | |
| _ITALY—C | 1.091523 | | | |
| R-squared | 0.870057 | Mean dependent var | | 14.23340 |
| Adjusted R-squared | 0.860156 | S.D. dependent var | | 0.791165 |
| S.E. of regression | 0.295862 | Sum squared resid | | 9.191087 |
| Log likelihood | -18.23503 | F-statistic | | 87.88059 |
| Durbin-Watson stat | 1.506051 | Prob(F-statistic) | | 0.000000 |

Appendix-19. Estimation result of Exports Demand for sport shoes category
(Random Effect, No Weighting)

Dependent Variable: LOG(VOLUME?)
Method: GLS (Variance Components)
Date: 09/25/08 Time: 21:27
Sample: 2003:1 2007:3
Included observations: 19
Number of cross-sections used: 6
Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|-----------------|-------------|------------|-------------|--------|
| C | 1.361351 | 3.233462 | 0.421020 | 0.6746 |
| LOG(GDP?) | 0.541433 | 0.231567 | 2.338125 | 0.0212 |
| LOG(ER?) | 0.874073 | 0.366329 | 2.386029 | 0.0187 |
| LOG(PR?) | 0.214440 | 0.189518 | 1.131503 | 0.2603 |
| Random Effects | | | | |
| _US—C | 0.551962 | | | |
| _GERMANY--C | -0.704697 | | | |
| _BELGIUM--C | -0.590053 | | | |
| _UK—C | 0.358249 | | | |
| _NETHERLANDS--C | 0.554412 | | | |
| _ITALY—C | -0.169873 | | | |

GLS Transformed
Regression

| | | | |
|--------------------|----------|--------------------|----------|
| R-squared | 0.866881 | Mean dependent var | 14.23340 |
| Adjusted R-squared | 0.863251 | S.D. dependent var | 0.791165 |
| S.E. of regression | 0.292570 | Sum squared resid | 9.415676 |
| Durbin-Watson stat | 1.476758 | | |

Unweighted Statistics
including Random
Effects

| | | | |
|--------------------|----------|--------------------|----------|
| R-squared | 0.869839 | Mean dependent var | 14.23340 |
| Adjusted R-squared | 0.866289 | S.D. dependent var | 0.791165 |
| S.E. of regression | 0.289302 | Sum squared resid | 9.206500 |
| Durbin-Watson stat | 1.510311 | | |

Appendix-20. Result of F-test for Sport Shoes Category

| SSR1 | SSR2 | N | T | k | F-stat |
|----------|----------|---|----|---|---------|
| 38.80676 | 9.191087 | 6 | 19 | 3 | 67.6665 |

Degree of freedom (df-1) = N-1 = 5
 Degree of freedom (df-2) = NT-N-k = 105
 F-tabel = 2.3009 $\alpha = 0.05$
 3.1966
 1.9029

F > F-tabel
 --> there is individual effect in the model (Fixed Effect or Random Effect)
 F < F-tabel
 --> there is no individual effect in the model

Appendix-21. Result of Hausman test of exports demand for sport shoes category

Correlated Random Effects - Hausman Test

Pool: VOL_FW

Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|----------------------|-------------------|--------------|--------|
| Cross-section random | 0.565737 | 3 | 0.9042 |

Appendix-22. Result of Multicollinearity test of exports demand for sport shoes category

| | GDP | ER | PR |
|-----|-----------|-----------|-----------|
| GDP | 1.000000 | -0.526980 | 0.114572 |
| ER | -0.526980 | 1.000000 | -0.014414 |
| PR | 0.114572 | -0.014414 | 1.000000 |

Appendix-23. Estimation result of Exports Demand for non sport shoes category
(Common, No Weighting)

Dependent Variable: LOG(VOLUME?)
Method: Pooled Least Squares
Date: 10/29/08 Time: 09:19
Sample: 2003:1 2007:3
Included observations: 19
Number of cross-sections used: 6
Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|----------|
| C | 0.235878 | 4.019301 | 0.058686 | 0.9533 |
| LOG(GDP?) | 0.278434 | 0.062349 | 4.465747 | 0.0000 |
| LOG(ER?) | 0.910550 | 0.388903 | 2.341332 | 0.0210 |
| LOG(PR?) | -0.759843 | 0.219401 | -3.463269 | 0.0008 |
| R-squared | 0.214231 | Mean dependent var | | 12.95726 |
| Adjusted R-squared | 0.192801 | S.D. dependent var | | 0.748919 |
| S.E. of regression | 0.672860 | Sum squared resid | | 49.80152 |
| Log likelihood | -114.5543 | F-statistic | | 9.996773 |
| Durbin-Watson stat | 0.375325 | Prob(F-statistic) | | 0.000007 |

Appendix-24. Estimation result of Exports Demand for non sport shoes category
(Fixed Effect, No Weighting)

Dependent Variable: LOG(VOLUME?)
Method: Pooled Least Squares
Date: 10/29/08 Time: 09:18
Sample: 2003:1 2007:3
Included observations: 19
Number of cross-sections used: 6
Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|----------|
| LOG(GDP?) | -1.166902 | 0.877073 | -1.330451 | 0.1863 |
| LOG(ER?) | 3.812413 | 0.922674 | 4.131919 | 0.0001 |
| LOG(PR?) | -0.870727 | 0.192274 | -4.528569 | 0.0000 |
| Fixed Effects | | | | |
| _US—C | -9.429623 | | | |
| _GERMANY--C | -12.57539 | | | |
| _BELGIUM—C | -12.71219 | | | |
| _UK—C | -15.92594 | | | |
| _NETHERLANDS--C | -15.49232 | | | |
| _ITALY—C | -14.38880 | | | |
| R-squared | 0.649506 | Mean dependent var | | 12.95726 |
| Adjusted R-squared | 0.622802 | S.D. dependent var | | 0.748919 |
| S.E. of regression | 0.459959 | Sum squared resid | | 22.21406 |
| Log likelihood | -68.53702 | F-statistic | | 24.32220 |
| Durbin-Watson stat | 0.838432 | Prob(F-statistic) | | 0.000000 |

Appendix-25. Estimation result of Exports Demand for non sport shoes category
(Random Effect, No Weighting)

Dependent Variable: LOG(VOLUME?)
Method: GLS (Variance Components)
Date: 10/29/08 Time: 09:17
Sample: 2003:1 2007:3
Included observations: 19
Number of cross-sections used: 6
Total panel (balanced) observations: 114

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|-----------------|-------------|------------|-------------|--------|
| C | -14.15031 | 5.036650 | -2.809469 | 0.0059 |
| LOG(GDP?) | 0.308979 | 0.242678 | 1.273203 | 0.2056 |
| LOG(ER?) | 2.394813 | 0.520927 | 4.597214 | 0.0000 |
| LOG(PR?) | -0.862347 | 0.191678 | -4.498945 | 0.0000 |
| Random Effects | | | | |
| _US—C | 0.527412 | | | |
| _GERMANY--C | 0.824783 | | | |
| _BELGIUM—C | -0.729850 | | | |
| _UK—C | -0.534731 | | | |
| _NETHERLANDS--C | 0.061846 | | | |
| _ITALY—C | -0.149459 | | | |

GLS Transformed
Regression

| | | | |
|--------------------|----------|--------------------|----------|
| R-squared | 0.629937 | Mean dependent var | 12.95726 |
| Adjusted R-squared | 0.619845 | S.D. dependent var | 0.748919 |
| S.E. of regression | 0.461759 | Sum squared resid | 23.45434 |
| Durbin-Watson stat | 0.806407 | | |

Unweighted Statistics
including Random
Effects

| | | | |
|--------------------|----------|--------------------|----------|
| R-squared | 0.639628 | Mean dependent var | 12.95726 |
| Adjusted R-squared | 0.629800 | S.D. dependent var | 0.748919 |
| S.E. of regression | 0.455673 | Sum squared resid | 22.84013 |
| Durbin-Watson stat | 0.828093 | | |

Appendix-26. Result of F-test for Non Sport Shoes Category

| | | | | |
|----------|---|----|---|---------|
| SSR2 | N | T | k | F-stat |
| 22.21406 | 6 | 19 | 3 | 26.0797 |

$df_1 = N-1 = 5$
 $df_2 = NT-N-k = 105$

F-tabel = 2.3009 $\alpha = 0.05$
 3.1966
 1.9029

->there is individual effect in the model (Fixed Effect or Random Effect)

-> there is no individual effect in the model

Appendix-27. Result of Hausman test of exports demand for non sport shoes category

Unrelated Random Effects - Hausman Test

Dependent Variable: VOL_FW

Test of cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|--------------------------------|-------------------|--------------|--------|
| Unrelated cross-section random | 3.862497 | 3 | 0.2767 |