UNIVERSITAS INDONESIA

ASSESSING INDONESIAN NATURAL RUBBER COMPETITIVENESS

THESIS

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FACULTY OF ECONOMICS
MASTER OF PLANNING AND PUBLIC POLICY
JAKARTA
DECEMBER 2009

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A Thesis submitted in partial fulfillment of the requirements for the degree of Master of Economics in Planning and Public Policy Universitas Indonesia

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**FACULTY OF ECONOMICS
MASTER OF PLANNING AND PUBLIC POLICY
ECONOMIC GLOBALIZATION
JAKARTA
DECEMBER 2009**

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Jakarta, December 2009

Desy Rosmerya

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ABSTRACT

Name   : Desy Rosmerya
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Title   : Assessing Indonesian Natural Rubber Competitiveness

This research's purposes are analyzing the competitiveness of Indonesian natural rubber in the global, the USA', Japan's and China's market using Revealed Comparative Advantage (RCA), Export Specialization Index (ESI) and Competitiveness Matrix. The product that selected is Natural Rubber, Balata, Gutta-Percha, Guayule, Chicle and Similar Natural Gums, in Primary Forms or in Plates, Sheets or Strip (HS 4001). Analysis of research conducted in 2004 until 2008 with the countries of destination are the United States, Japan and China.

The results of this research show that the competitiveness of Indonesian natural rubber commodity is stronger than the world average, the competitiveness of Indonesia's natural rubber commodity is stronger than the average natural rubber exports from other countries to the United States', Japan's and China's market, Indonesian natural rubber has a good position to be maintained in the United States', Japan's and China's market and the strategy should be focused on market penetration strategy.

Keywords: *Indonesian Natural Rubber, RCA, ESI, Competitiveness Matrix*

ABSTRAKSI

Nama   : Desy Rosmerya
Program Studi   : Magister Perencanaan dan Kebijakan Publik
Judul   : Menilai Daya Saing Karet Alam Indonesia

Tujuan dari penelitian ini adalah menganalisis daya saing karet alam Indonesia di pasar dunia, Amerika Serikat, Jepang dan Cina dengan menggunakan Revealed Comparative Advantage (RCA), Indeks Spesialisasi Ekspor (ESI) dan Competitiveness Matrix. Produk yang dipilih adalah Natural Rubber, Balata, Gutta-Percha, Guayule, Chicle and Similar Natural Gums, in Primary Forms or in Plates, Sheets or Strip (HS 4001). Analisis penelitian dilakukan pada tahun 2004 sampai dengan tahun 2008 dengan negara tujuan adalah Amerika Serikat, Jepang dan Cina.

Hasil penelitian menunjukkan bahwa daya saing dari komoditi karet alam Indonesia lebih kuat dibandingkan dengan rata-rata dunia, daya saing dari komoditi karet alam Indonesia lebih kuat dibandingkan dengan rata-rata ekspor karet alam dari negara-negara lain ke pasar Amerika Serikat, Jepang dan China, karet alam Indonesia memiliki posisi yang baik untuk dipertahankan di pasar Amerika Serikat, Jepang dan Cina dan strategi harus difokuskan pada strategi penetrasi pasar.

Kata Kunci: *Karet Alam Indonesia, RCA, ESI, Competitiveness Matrix*

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CHAPTER 1
INTRODUCTION

1.1. Background

The agricultural sector remains one of the strategic sectors in the economy of Indonesia, which is shown by its contribution to national Growth Domestic Product. The value of Growth Domestic Product and Growth Domestic Product contribution of each economic sector are presented in Table 1.1.

Table 1.1. Gross Domestic Product by Industrial Origin (Billion Rupiah)

Industrial Origin	2004	2005	2006	2007	2008
Agriculture, Forestry and Fishery	329.124,6 (14,3)	364.169,3 (13,1)	433.223,4 (13,0)	541.592,6 (13,7)	713.291,4 (14.4)
Mining and Quarrying	205.252 (8,9)	309.014,1 (11,1)	366.520,8 (11,0)	441.006,6 (11,2)	543.363,8 (10,9)
Manufacturing Industry	644.342,6 (28,1)	760.361,3 (27,4)	919.539,3 (27,5)	1.068.653,9 (27,1)	1.380.731,5 (27,8)
Electricity, Gas and Water Supply	23.730,3 (1,0)	26.693,8 (1,0)	30.354,8 (0.9)	34.724,6 (0,9)	40.846,7 (0,8)
Construction	151.247,6 (6,6)	195.110,6 (7,0)	251.132,3 (7,5)	305.215,6 (7,7)	419.321,6 (8,5)
Trade, Hotel, and Restaurant	368.555,9 (16,1)	431.620,2 (15,6)	501.542,4 (15,0)	589.351,8 (14,9)	692.118,8 (14,0)
Transport and Communication	142.292 (6,2)	180.584,9 (6,5)	231.523,5 (6,9)	264.264,2 (6,7)	312.454,1 (6,3)
Financial, Ownership, and Business Services	194.410,9 (8,5)	230.522,7 (8,3)	269.121,4 (8,1)	305.213,5 (7,7)	368.129,7 (7,4)
Services	236.870,3 (10,3)	276.204,2 (10,0)	336.258,9 (10,1)	399.298,6 (10,1)	483.771,3 (9,8)
GDP	2.295.826,2	2.774.281,1	3.339.216,8	3.949.321,4	4.954.028,9
GDP without oil & gas	2.083.077,9	2.458.234,3	2.967.040,3	3.532.807,7	4.426.384,7

Source: Central Bureau of Statistics, processed, 2009

Description: Numbers ( ) is the percentage of total Growth Domestic Product

Growth Domestic Product contribution of agriculture sector including fisheries and forestry in the last five years is as much 13 %-14% of

the total value of Growth Domestic Product. The number is relatively large, because the contribution of the agriculture sector was ranked third after processing industry (27%-28%) and trade, hotels and restaurants (14%-16%). In 2008, the agriculture sector took second place after the manufacturing industry.

Table 1.2. Growth Domestic Product Growth of Agriculture Sector (%)

Sector / Sub Sector	2004	2005	2006	2007	2008
1. Agriculture	2,82	2.72	3.36	3.43	4.77
2. Food Crops	2,89	2.60	2.98	3.35	5.91
3. Plantation Crops	0,40	2.48	3.79	4.40	3.84
4. Livestock and result	3,35	2.13	3.35	2.36	3.89
5. Forestry	1,28	(1.47)	(2.85)	(1.10)	(0.39)
6. Fishing	5,56	5.87	6,90	5.39	4.81

Source: Central Bureau of Statistics, 2009

In 2007 the contribution of the agricultural sector to Growth Domestic Product is as much 13.7% and increased to 14.4% in 2008. If the rate of growth seen, in the last four years Growth Domestic Product from the agricultural sector have always been increasing and grew by 4.77% in 2008 (Table 1.2.). The growth rate under the other sectors except mining and quarrying sector, which only grew by 0.51% and manufacturing industry, is growing as much 3.66% in 2008.

Table 1.3. The Development in the Number of Agricultural Labor Force

Year	Labor Force (000 People)		Total Labor Force (000 People)	Agriculture Share of Total (%)
	Agriculture	Non Agriculture		
2004	40,608.0	53,114.0	93,722.0	43.33
2005	41,814.2	53,133.9	94,948.1	44.04
2006	42,323.2	52,853.9	95,177.1	44.47
2007	42,608.8	54,974.4	97,583.1	43.66
%/year	1.56	0.98	1.24	

Source: Central Bureau of Statistics, 2009

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Growth development in the agricultural sector has an impact on employment. In 2004, the agricultural sector had absorbed as much as 40.61 million people or 43.33 percent of the total national workers. In 2005, the agricultural sector had absorbed as much as 41.81 million people or 44.04 percent of the total national workers. In 2006, the numbers of national workers rose to 42.32 million people, or equal to 44.47 percent and in 2007, the number of national workers climbed back to 42.61 million people, or equal to 43.66 percent (Table 1.3.). Based on the above descriptions show that agricultural sector becomes mainstay in absorbing labor.

Table 1.4. The Development of Indonesian Export-Import

No	Subsector	2006		2007		2008	
		Volume (KG)	Value (USD)	Volume (KG)	Value (USD)	Volume (KG)	Value (USD)
1	Food Crops						
	Export	861.218	264.154	999.460	289.049	550.624	231.690
	Import	11.456.511	2.568.454	9.398.521	2.729.147	5.197.866	2.455.225
	Trade Balance	-10.595.293	-2.304.300	-8.399.061	-2.440.098	-4.647.242	-2.223.535
2	Horticulture						
	Export	456.890	238.064	393.863	254.765	356.518	294.134
	Import	923.867	527.414	1.293.411	795.121	11.111.931	693.792
	Trade Balance	-466.977	-289.350	-899.548	-540.356	-755.413	-399.658
3	Plantation						
	Export	21.378.189	13.972.064	22.089.288	19.964.870	15.692.949	18.968.369
	Import	1.776.174	1.675.067	4.268.424	2.731.627	1.934.635	3.113.710
	Trade Balance	19.602.015	12.296.997	17.821.045	17.233.243	13.758.314	15.854.659
4	Livestock						
	Export	198.407	388.939	458.900	748.531	413.770	782.992
	Import	880.430	1.190.396	950.518	1.695.459	733.951	1.653.914
	Trade Balance	-682.023	-801.457	-491.618	-947.928	-320.181	-870.922
5	Agriculture						
	Export	22.894.704	14.863.221	23.941.511	21.257.215	17.013.861	20.277.185
	Import	15.036.982	5.961.331	15.910.692	7.952.354	8.978.383	7.916.641
	Trade Balance	7.857.722	8.901.890	8.030.819	13.304.861	8.035.478	12.360.544

Source: Ministry of Agriculture, 2009

The contribution of agriculture sector in the establishment of foreign exchange can be seen from the contribution of these sectors in international trade. It can be shown by the position of some agricultural commodities on world markets. Based on data from the Ministry of Agriculture, in the last three years the export value and volume of agricultural commodities that are divided into four sub-sectors of food crops, horticulture, plantations and livestock have a tendency to increase (Table 1.4.). From the fourth subsector, subsector of plantation gives the largest contribution in the export of agricultural commodities.

Viewed from the trade balance, the agricultural sector gets surplus in trade balance in the last three years. This indicates that the performance of the agricultural sector has actually grown and able to contribute in improving the trade balance of non-oil and gas.

The development of the export value of some agricultural commodities showed an increase. In 2004-2008, when seen from the proportions, the highest increase in export value occurred in the natural rubber commodity reached 23% per year, the spice reached 22.7% per year, and the brown seeds reached 20.6% per year.

Table 1.5. Natural Rubber Contribution against Total National Exports
(Million US $)

Year	Total Export	Export Non Oil and Gas	Export Natural Rubber	Percentage of Natural Rubber Export Against Non-Oil and Gas Export
2004	71.584,6	55.939,3	2.180,0	3,89
2005	85.660,0	66.428,4	2.589,0	3,88
2006	100.798,6	79.589,1	4.327,0	5,43
2007	114.100,9	92.012,3	4.870,0	5,40
2008	136.761,7	107.803,4	6.058,2	5,62
Average Growth	14,14	15,01	36,96	3,41

Source: Central Bureau of Statistics, processed, 2009

Growth in commodity export value of natural rubber from 2004 until 2008 showed a tendency to increase with an average of 37% per year. In 2006 natural

rubber able to produce foreign exchange up to U.S. $ 4.33 billion. In 2007 income from natural rubber increased to U.S. $ 4.87 billion. Likewise in 2008 exports of natural rubber increased again to U.S. $ 6.06 billion (Table 1.5.).

Indonesian natural rubber exports directed to various countries and most of the United States, Japan and China, which each have a market share of 26.7%, 16.5% and 14.2% of total Indonesian exports of natural rubber. In addition to these countries, other countries which large export shares are Singapore (6.7%), Korea (3.8%), German (3.6%), Canada (2.2%), India (2.1%) and France (1.8%).

Table 1.6. The Share of Indonesian Natural Rubber Exports in 2007

Export Destination	Market Share (%)
United States	26,7
Japan	16,5
China	14,2
Singapore	6,7
Korea	3,8
German	3,6
Canada	2,2
India	2,1
France	1,8
Other	22,4

Source: Central Bureau of Statistics, processed, 2009

In the trade sector, rubber and rubber products is one of ten products to be the main priority of the Ministry of Trade program, which needs to be enhanced through various export development policies and programs of sustainable and integrated, in supporting the success of economic development, particularly in foreign exchange earnings from the export country non-oil and gas.

Besides a role in the economic aspects and sources of public income, rubber plantations can also provide benefits in environmental conservation function. Rubber plants play a role in the absorption of CO_2, producing O_2 and supporters of land conservation and water. Based on research results, the ability of

rubber plants to absorb CO2 is about 7 tons of CO2 per 1 tonne of natural rubber produced.

According to Ministry of Agriculture, Indonesia has the largest area of rubber in the world with an area of land to reach 3.4 million hectares in 2007, which was then followed by Thailand at 2.1 million hectares and Malaysia was 1.3 million hectares. Rubber development in Indonesia is still dominated by the smallholding plantations that reach 85% and 15% more crops grown by state plantations and private plantations. In 2007 agribusiness in rubber absorb the labor force of 1.6 million workers.

Although Indonesia has a wide area of the world, production of Indonesian natural rubber is the second largest production of natural rubber after Thailand. During this time, Indonesia with two natural rubber producer countries in the world, namely Thailand and Malaysia, contribute as much as 75% of total world natural rubber production. In particular Indonesia contributes as much as 28% of the total world production of natural rubber.

Table 1.7. Production of the Main of Natural Rubber Producing Countries (000 tons)

	Thailand	Indonesia	Malaysia	India	China	Others
2002	2.615	1.630	805	641	468	1.181
2003	2.876	1.792	909	707	480	1.189
2004	2.984	2.066	1.098	743	486	1.224
2005	2.900	2.270	1.132	772	575	1.164
2006	3.130	2.415	1.280	853	600	1.242
2007	2.970	2.550	1.210	807	663	1.265

Sumber: IRSG (International Rubber Study Group), 2008

In 2007, Indonesia was the number two producer of natural rubber in the world with production of 2.55 million tons after Thailand production of 2.97 million tons. In 2007, Indonesian natural rubber production increased by approximately 5.4% compared to 2006 of which only 2.42 million tons. In 2006, the raw material for domestic use in the production of Indonesian natural rubber is 0.36 million tons, while for the export of 2.06 million tons.

1.2.   Problem Questions

The problem questions in this research are:

a. Does Indonesian natural rubber have competitiveness in the global market?

b. Does Indonesian natural rubber have competitiveness in the United States',
    Japan's and China's market?

1.3.   Research Objectives

The objectives in this research are:

a. To analyze the competitiveness of Indonesian natural rubber in the global
    market by using Revealed Comparative Advantage (RCA).

b. To analyze the competitiveness of Indonesian natural rubber in the United
    States', Japan's and China's market by using Export Specialization Index
    (ESI) and the Competitiveness Matrix.

1.4.   Research Coverage

This research focused on analyzing Indonesian natural rubber
competitiveness in 2004 - 2008 in the global's, the United States', Japan's and
China's market by using Revealed Comparative Advantage (RCA), Export
Specialization Index (ESI) and the Competitiveness Matrix.

Competitiveness that examined is the competitiveness of Indonesian
natural rubber.   For the level of competitiveness (Revealed Comparative
Advantage, Export Specialization Index and the Competitiveness Matrix) of
Indonesian natural rubber used data with Harmonized System in four digit,
namely HS 4001 (Natural Rubber, Balata, Gutta-Percha, Guayule, Chicle and
Similar Natural Gums, in Primary Forms or in Plates, Sheets or Strip) during 2004
- 2008.

1.5.   Systematic Writing

This thesis consists of six chapters. Next chapter will be a literature study
which explain the theoretical background of this thesis, such as international trade
theory, comparative advantage theory, and export promotion strategy. In general
description, other chapter will describe about profile of natural rubber industry.

The analysis methodology which consists of Revealed Comparative Advantage (RCA), Export Specialization Index (ESI), and Competitiveness Matrix will be also explained clearly in separate chapter. The analysis itself will answer the research objectives which consist of the Indonesian natural rubber competitive commodity in the world, the United States, Japan and China. The last chapter is conclusion and recommendation.

CHAPTER 2
LITERATURE REVIEW

2.1.   The Concept of International Trade

International trade activity is an activity or trade exchange between the inhabitants of the country with a population of other countries. International trade, which consists of export and import activities, in essence no different from the exchange between two people in a country, only these activities are international in scope. In particular, trade or exchange activities can be interpreted as an exchange based on the voluntary will of both benefit from each party (Boediono, 1997: 10). Trade occurs because of force, threat of war or one party does not obtain the benefits and there are those who feel harmed not included in the trade sense.

Exchange or trading activities arises because one party or both parties see the benefit / additional benefits (gains from trade) that can be obtained from the exchange. These benefits can also be said as the motive force of international trade activities. International trade is not only due to the differences in the production side but can also be caused by differences in the consumption side. That is, demand for goods as a cause of international trade can be determined by the taste or patterns of consumption and income.

Even so, experts generally argue that differences in patterns of consumption (demand side) between countries are not the cause of international trade. General fundamental cause lies in the production side, in terms of international trade arise mainly because a country can produce goods in a way that is relatively more efficient compared with other countries (Boediono, 1997:19).

2.2.   International Trade Theory

As described above, international trade is basically due to two main reasons for trading countries differ from one another in many ways and countries that trade has the objective to achieve economies of scale in production (Krugman and Obstfeld, 2006). The second theoretical explanation of these reasons can be identified through the classical trade theory of absolute advantage theory of Adam Smith, the comparative advantage of David Ricardo to modern trade theory is the

theory of factor endowment. The theory of classical and modern theories both attempt to explain why a country to trade, trade patterns occur, the benefits of trade and optimizing resources through trade.

2.2.1. Classical Theory

2.2.1.1. Theory of Absolute Advantage (Adam Smith)

Absolute advantage theory of Adam Smith is often referred to as pure theory of international trade. The rationale of this theory is that a country will specialize and export of a certain type of goods which the country has an absolute advantage and does not produce or import of other goods which the country does not have an absolute advantage. A country will export or import of a type of goods if the country can or cannot be made with more efficient production cost or selling price is cheaper compared to other countries.

This theory emphasizes that the efficiency in the use of inputs or factors of production, such as labor, in the production process is determining the benefits or the level of competitiveness of products produced. The weakness of this theory is that if there is a country that has an absolute advantage over the two types of products, while others not at all, it will not happen lucrative international trade with other countries.

2.2.1.2. Theory of Comparative Advantage (David Ricardo)

In essence, this theory states that international trade will still occur even if a country does not have an absolute advantage but still have the advantage of comparative advantage. The meaning of comparative advantage is a country will specialize in the export of certain goods which the country has the greatest comparative advantage and import goods to which the country has a comparative disadvantage, or a country will export goods that can be produced with lower production costs and will import goods who made their own if production costs are larger (Salvatore, 2004). Assumptions used by this theory are:

a. There are two countries, two goods and one production factor (labor).

b. Theory of Labor Value, which assumes that the capital becomes a less important factor because of the mobility of labor so that factor will be having a role in determining the amount of production costs

c. Transportation costs are negligible; this means that in this theory transportation costs less accounted for. Whereas if the trade transaction is carried out by the state with the long distance transport will play an important thing because in the end will reduce the volume of trade

d. Production factors can move freely within the country but does not move through the state border

e. Income distribution does not change, meaning the international trade each party will benefit

f. Trade executed on the basis of barter, which means that the monetary aspect of this theory is not considered important.

g. There is no technological change, meaning the comparative costs does not change because of technological change is considered not happen.

2.2.2. Modern Theory: Theory of Factor Endowment (Heckscher-Ohlin)

Factor endowment theory was first proposed by Bertil Ohlin in 1933, based on the writings of Eli Heckscher, his teacher, in 1919. In this theory, Ohlin argued that the price is the cause of international trade. Differences opportunity cost of a product from one country to another can occur because of differences in the number or proportion of factor endowment. The proportion of factor endowment owned by each country differs and this difference of production factors at the root of the trade.

Furthermore, this difference is caused differences in productivity levels, the number and type of production, supply of production factors and outcome, and differences in the level of demand (Sobri, 1994:42). For example, the country that has abundance of labor factors should specialize and export goods of production / industries that is labor intensive while the country that has abundance factor of capital should produce and export goods of production / industry that is capital intensive.

It is a driving force of international trade among others due to supply and demand differences between countries. This difference occurs because:

a. Not all countries have and are able to produce commodities that are traded because of the nature of the country does not support such as geographical location and content of their ground.

b. Differences in the ability of a country to absorb a certain commodity at a more efficient level.

2.3. Comparative Advantage Theory

This theory was advanced by Michael E. Porter. In addition to responding to and influencing industry structure, firms must choose a position within the industry. Positioning embodies the firm's overall approach to competing. At the heart of positioning is competitive advantage. There are tow basic types of competitive advantage: lower cost and differentiation. Lower cost is the ability of a firm to design, produce and market a comparable product more efficiently than its competitor. Differentiation is the ability to provide unique and superior value to the buyer in terms of product quality, special features, or after-sale service.

In the era of global competition today, a country that has comparative advantage of a nation can compete in international markets if it has four critical factors, namely:

a. Factor Condition

The nation's position in factors of production, such as skilled labor or infrastructure, necessary to compete in a given industry.

b. Demand Conditions

The nature of home demand for the industry's product or service.

c. Related and Supporting Industries

The presence or absence in the nation of supplier industries and related industries those are internationally competitive.

d. Firm Strategy Structure and Rivalry

The conditions in the nation governing how companies are created, organized, and managed, and the nature of domestic rivalry.

2.4.   Previous Research Studies

This section will show some results of research related to the dynamic level of competitiveness of an industry or an industrial commodity in a country.

2.4.1. Dalia Bernatonyte

Research conducted by Dalia Bernatonyte (2009), entitled "Intra-Industry Trade and Export Specialization: Lithuanian Case". In her study, Dalia Bernatonyte use of analytical tools for the Export Index Spezialization to examine the trend and extent of intra-industry trade between Lithuanian and the Eropean Union (EU) over 2001-2007 and its role in export specialization.

The results of Dalia Bernatonyte's research showed that intra-industry trade is an important and constantly growing modern international sector. Researches indicate that for analyzing the extent of intra-industry trade between Lithuanian and the European Union (EU) and its role in export specialization is necessary to measure the share of intra-industry trade in the international trade. Researches have employed a number of measures of export specialization. They are used for studying the structure and determinants of country's export and to identify the basis on which to build competitive advantages. It was determined that export spezialization index (ESI) is the best of measuring export spezialization in trade between Lithuanian and the EU. This index helps to estimate a sector in which the country is relatively more competitive in terms of trade.

On the basis of exports and imports structure by combined nomenclature (CN) are determined that Lithuanian intra-industry trade is the most important and constantly increasing sector of international trade. Analysis shows that growth tendency of intra-industry trade is characteristic between Lithuanian and the EU. This is related to the fact that the EU is the main Lithuanian trading partner.

The analysis of the calculated intra-industry indexes of Lithuanian and the EU using CN shows that Lithuanian has advantages in such CN sectors as plastics and articles thereof; rubber and articles thereof; textile and textile articles; vegetable products and prepared foodstuffs, beverages and tobacco. EU has advantages in trade of vehicles, aircraft, associated transport equipment; works of

art, collector's pieces and antiques. This confirms that Lithuanian export spezialization is based on similar goods with relatively different quality.

The analysis of the calculated marginal intra-industry by CN between Lithuanian and the EU shows that Lithuanian over both periods has advantages in such CN sections: vegetable products; prepared foodstuffs, beverages and tobacco but the marginal intra-industry trade indices are lowest in mineral products, footwear, headgear, umbrellas, walking sticks and whips sections. It shows that inter-industry trade in these CN sections dominate between Lithuanian and the EU. These calculation results show the main directions of nature and pattern of international trade development.

Using the export spezialization index and CN, it was determined the nature of export spezialization in trade between Lithuanian and the EU. Research indicates that Lithuanian has achieved comparative advantage in trade with the EU in these CN sections: textile and textile articles, live animals, wood and articles of wood, animal products and vegetable products. It was found that the highest comparative advantage Lithuanian has in trade with the EU in mineral products. Such situation shows that Lithuanian has comparative advantages in the trade with low-added value commodities.

2.4.2. Hermanto Rachman

Research conducted by Hermanto Rachman entitled "Analyzing the Competitiveness of Indonesian Agricultural Commodities under the WTO commitments". In his study, Hermanto Rachman use of analytical tools for the Competitiveness Matrix to provide a frame of reference to assess how the country manages its economic future to achieve prosperity. The results of this study indicate that there is a change in the competitiveness of Indonesian exports gained market shares in the first period (1985 - 1990), but showed unsatisfactory performance in the second period (1990 - 1995) and the third period (1995 - 2000).

Commodities classified as Stagnant Commodities also increased from 5.50% of exports in the first period to 8.65% of exports in the second period, but it slowed down to 7.11% of exports in the third period. On the other hand, Dynamic Commodities has a tendency to decrease for the same period as

compared to the first period, even in the third period in which commodities that were classified as Dynamic Commodities was zero. These indicated that Indonesian agricultural commodities have decreased in terms of its competitiveness during the implementation of the WTO commitments.

2.4.3. Friska Sari Ronadiba

Thesis conducted by Friska Sari Ronadiba (2008) entitled "Export Promotion Strategies for Indonesian Manufacturing Products to 'Non-Traditional' Markets (Case Study to South Africa, Brazil, and Bulgaria)". In her study, Friska Sari Ronadiba use of analytical tools for Revealed Comparative Advantage (RCA), Export Specially Index (ESI), Competitiveness Matrix and Product-Market Growth Matrix to analyze the market position of the products concerned and decision of promotion strategy. The results of her study showed that for the period of 2000-2007, there were 36 Indonesian competitive products of manufacturing (SITC 3 digits) in the world, while in South Africa, Brazil, and Bulgaria, which are considered as accreditation countries of non-traditional markets, there were 26 items, 23 items, and 8 items of Indonesia competitive products, respectively (for product detail see annex 1, 2, 4, and 6).

In South Africa, rising and waning classification is dominating the number of Indonesia competitive products of manufacturing with 8 items for each category, followed by missed opportunity with 7 items, and retreat with 3 items. However, there was the highest export share for waning classification. It means that Indonesian competitive products of manufacturing in South Africa have a good export share but most of them have entered the saturated market. Therefore, the export promotion strategy should be focused on product development that could be implemented through quality upgrading, packaging, brand image, and designed.

In Brazil, most of Indonesian competitive products of manufacturing were categorized as rising star classification with 11 items, followed by waning with 5 items, missed opportunity with 4 items, and retreat with 3 items. It means that most of Indonesian competitive products are in good market position in Brazil. Therefore, the strategy in Brazil should be focused on Brazil's market by maintaining the market through market penetration strategy in existing market.

In contrast with market of South Africa and Brazil, there were only waning classification with 4 items and rising star classification with 4 items in Bulgaria's market. This could be happened because there was less of bilateral cooperation between Indonesia and Bulgaria during 2000-2007. However, similar to Brazil's that the export share of rising star classification is higher than waning classification. That's why; it should focus on Bulgaria's market by maintaining the market through market penetration in Bulgaria's market.

Table.2.1. Summary of Previous Research Studies

No.	Author	Title	Method	Purpose	Result
1.	Dalia Bernatonyte (2009)	Intra-Industry Trade and Export Specialization: Lithuanian Case	Export Index Spezialization	To examine the trend and extent of intra-industry trade between Lithuania and the EU over 2001-2007 and its role in export specialization	Lithuania has achieved comparative advantage in trade with the EU in these combined nomenclature sections: live animals; animal products; vegetable products; wood and articles of wood; textile and textile articles.
2.	Hermanto Rachman	Analyzing the Competitiveness of Indonesian Agricultural Commodities under the WTO commitments	Competitiveness Matrix	To provide a frame of reference to assess how the country manages its economic future to achieve prosperity	There is a change in the competitiveness of Indonesia's exports gained market shares in the first period (1985 - 1990), but showed unsatisfactory performance in the second period (1990 - 1995) and the third period (1995 – 2000).

(Continued)

| 3. | Friska Sari Ronadiba (2008) | Analyzing the Competitiveness of Indonesian Agricultural Commodities under the WTO commitments | Revealed Comparative Advantage (RCA), Export Specially Index (ESI), Competitiveness Matrix and Product-Market Growth Matrix | To analyze the market position of the products concerned and decision of promotion strategy. | - There were 36 Indonesia's competitive products of manufacturing in the world, while in South Africa, Brazil, and Bulgaria; there were 26 items, 23 items, and 8 items.
- In South Africa, rising and waning classification is dominating the number of Indonesia's competitive products of manufacturing. The strategy should be focus on product development.
- In Brazil, most of Indonesia's competitive products of manufacturing were categorized as rising star classification. The strategy should be focus on market penetration.
- There were only waning classification with 4 items and rising star with 4 items in Bulgaria's market. It should focus on market penetration. |

CHAPTER 3
PROFILE OF NATURAL RUBBER INDUSTRY

3.1.   Physical Characteristics Rubber Plant

Rubber Plant (Hevea brasiliensis) from Brazil, who in 1876 brought by the Dutch arrived in Indonesia and planting in Bogor botanical gardens next to be grown and distributed to various regions, who worked as a plantation started in 1902 in North Sumatera. High trunked plants (up to 30 meters) can live in the fertile soil conditions, even in soil nutrient poor.

What important is that the soil is loose and deep (1-2 meters), not rocky and the degree of acidity (pH) 3.5-7.0. Height of land suitable for rubber, between 0-400 meters above sea level, and best of 0-200 meters. Rainfall is at least 1500 mm, 2500-4000 mm with the optimum number of rainy days 100-150 days a year. Conversely do not be planted in an area that the wind strong.

The results derived from the sap of rubber trees colored milk called latex, which is obtained by tapping rubber trees are old enough at 5-6 years of large estates and plantations 6 years in people. Latex itself can be marketed, but they are generally marketed latex before it is processed first into various commodities including Ribbed Smoked Sheet (RSS), Crepe and Crumb Rubber. Naturally, rubber plants reproduce by seed, but some plantation crops, grown by grafting.

3.2.   Types of Natural Rubber

There are several types of traded sap of natural rubber in forms namely latex, crumbs, sheets, and chips. The products are used as feedstock in downstream. There are several types of natural rubber such as processed rubber goods include semi and finished products. The types of natural rubber products widely known include.

3.2.1.   Rubber Processed Materials

Rubber processed material is estate latex and plantation latex clumps produced from rubber tress, hevea brasiliensis. Some observers said rubber processed materials are not the product of large plantation but the product of smallholding plantation. By processing methods, rubber materials consist of four types:

a. Estate latex is latex liquid produced through sapping rubber trees. Latex liquid does not yet coagulate either with or without anti coagulation.

b. Wind sheet is rubber material produced from filtered latex and coagulated with formic acid in the form of sheet rubber, which is already ground but not yet finished.

c. Thin slab is rubber material from latex already coagulated with formic acid.

d. Fresh lump is rubber material not produced from plantation latex lumps formed naturally in sapping bowl.

3.2.2. Conventional Natural Rubber

In rubber trade, rubber materials generally traded are known as conventional natural rubber consisting of sheet and crepe. The types of natural rubber categorized as conventional are as follows:

a. Ribbed Smoked Sheets (RSS) is the type of sheet produced through the process of smoking.

b. White Crepe and Pale Crepe are the type of crepe in white or light color either thick or thin.

c. Estate Brown Crepe is crepe in brown color produced widely by large estates. This type is also produced from low quality material such as those used in the production of off crepe and latex remnant, lump or coagulum which originates from pre-coagulation, and estate latex already dry from sapping.

d. Compo Crepe is the type of crepe produced from lump, tree scrap, cuts or remnants of RSS or wet slabs.

e. Thin Brown Crepe Remilis is brown crepe, which is thin because of repeated grinding.

f. Thick Blanket Crepes Ambers is blanket crepe thick and in brown color, generally produced from wet slabs, sheet without the process of smoking and lump and scrap from estates or smallholdings with good quality.

g. Flat Bark Crepe is earth rubber, which is the type of crepe produced from natural rubber scrap not yet processed including black ground scrap.

h. Pure Smoked Blanket Crepe is crepe which is produced from the grinding of special smoked rubber from RSS, including block sheet or from the remnants of RSS. Other types of rubber or nor rubber may not be used.

i. Off Crepe is crepe not in the form of being frozen or standard, generally produced not through the process of freezing directly from fresh latex, but from remnants of dry rubber, RSS sheets in poor quality.

3.2.3. Thick Latex

Thick Latex is a type of rubber in the form of thick liquid, not in the forms of sheet or other solid materials. Thick latex is sold in the market includes one produced through the process of boiling or creamed latex and through the process of centrifuged latex. Generally thick latex is used in the production of thin and high quality rubber materials such as hand gloves for sanitation.

3.2.4. Block Rubber

Block Rubber is crumb rubber already dried and milled into bales in certain size. There are block rubber in light color and each class has certain color code.

3.2.5. Technical Specification Rubber (Crumb Rubber)

Technical Specification Rubber also known as crumb rubber is natural rubber produced specially that its technical quality is guaranteed. Determination of quality is based on technical characteristics. Determination of quality and category of crumb rubber is not based on visual evaluation like in the case of sheet, crepe and thick latex.

3.2.6. Tyre Rubber

Tyre rubber is another form of natural rubber produced as semi finished product that could be used directly by consumers either in the production of tires or other of rubber goods.

3.3. Planting Method

Like other crops, soil and climate problem for the rubber plant has an important role. Rubber will either grow in loose soil conditions, with a depth of 1-2 m with soil acidity (pH) 3, 5 - 7, 0 and with the best level from 0 to 200 meters above sea level. At the height of 200 feet, each rising 100 feet of rubber tapping

mature 6 months would be late. Meanwhile, the climate, what is needed is a minimum rainfall of 1500 mm per year, the optimal 2500-4000 mm per year, with the number of rainy days 100-150 days. An area that has a number of rainy days is too much to interfere with the process of tapping.

After the above two factors are met, then the work can be done by planting stages as follows:

a. Providers and the multiplication of plant material

b. Land preparation and planting

c. Maintenance of plants, especially fertilization

d. Control of pests and diseases

3.4. Benefits of Natural Rubber

Natural rubber is widely used in goods industries such as:

a. Goods made of natural rubber among other tires of various vehicles (from bicycles, motorcycles, cars, tractors, until the aircraft) rubber shoes, belts, drive large machinery and small engines, rubber pipes, cables, insulation and packaging materials of metal.

b. Rubber raw materials used to make equipment such as insulation or resistance equipment and retaining the link vibration, for example shock absorbers. Rubber can also be used for prisoners engine cradle. Use of rubber coating on the doors, glass doors, glass and other tools to make the door firmly and vibration resistant and does not penetrate water. In making the bridge as a drag is also used rubber vibration.

c. Rubber material reinforced with threads that are strong enough, elastic, does not cause noise, and can be used as an engine fan belt. Oil pipe connections, water pipes, air pipes and various oil seals are also many who use the rubber raw material, although there are now using plastic materials.

d. The parts of space or equipment contained in large buildings, many made from rubber material, such as rubber floor mats that can be formed with a variety of colors and interesting designs.

e.   Equipment household and office like chairs, glue, adhesive products, water hoses, foam mattresses and equipment is also used writing as a rubber manufacturer.

f.   Equipment and vehicles are also a lot of war parts made of rubber parts, such as fighter aircraft, tanks, armored-plated steel, large trucks, and jeeps.

g.   For prevention of skin abrasions or damage to livestock and nail for the hard cement floor, the floor mats are made of rubber widely used in large farms. Rubber floor mats are easy to clean and healthy enough for livestock such as cows and buffaloes.

3.5.   Profile of Indonesian Natural Rubber

3.5.1. Production and Consumption

Agricultural commodity export performance showed good growth, especially of the plantation. One of the commodities which have been the mainstay exports are rubber and rubber goods (growth of rubber and rubber goods export reached about 65% in the last three years) in addition to CPO exports remained excellent.

Table. 3.1. Production and Consumption of Natural Rubber in Indonesia
(000 tonnes)

Year	Production	Consumption
2003	1.792	156
2004	2.066	196
2005	2.271	217
2006	2.637	355
2007	2.755	391
2008	2.751	414

Source: Central Bureau of Statistics, 2009

The role of natural rubber to the national export can not be considered small. Indonesia is the second largest manufacturer of natural rubber in the world with production of 2.55 million tons in 2007 after Thailand (production of 2.97

million tons). Indonesia has the largest a land area of natural rubber in the world with area reached 3.4 million hectares in 2007.

Natural rubber production in 2007 amounted to 2.76 million tonnes of which 2.44 million tons or 88.4% of natural rubber production is exported with a value of U.S. $ 4.36 billion, only 13.3% or 355,717 tonnes are used for the needs of domestic industry.

As many as 55% of the domestic market absorbed by the tire industry, while the remainder is used by the retreading industry, footwear, industrial goods from latex (gloves, condoms, rubber thread).

3.5.2. Plantation Area

There are 3 types of rubber plantations in Indonesia, namely the Smallholding Plantation (SR), State Plantation (SP) and Private Plantation (PP). Of the three types of plantations, the plantation of smallholding dominated the area that reached 2.84 million hectares or about 85% of the rubber plantations.

Table 3.2. Plantation Size and Production of Natural Rubber

	Plantation Size (000 Ha)			Production (000 tons)		
	SR	SP	PP	SR	SP	PP
2002	2825,5	221,2	271,7	1226,6	186,5	217,2
2003	2772,5	241,6	276,0	1396,2	191,7	204,4
2004	2747,9	239,1	275,3	1662,0	196,1	207,7
2005	3851,1	237,6	274,8	1838,7	209,8	222,4
2006	3880,4	237,9	275,4	1916,5	218,7	231,8
2007	2841,0	241,7	279,8	1986,4	226,7	240,3
2008	2886,4	245,5	284,2	2005,1	234,5	248,6

Note: SR: Smallholding Plantation; SP: State Plantation; PP: Private Plantation

Source: PMG (Publisindo Marinitama Gemilang), 2009

With such a vast rubber plantation run by the smallholder, the linkage of employment and as a source of people's income is expected to be enhanced by the integrated management. State plantation and private plantation are expected to establish partnership programs with the farmers so that the value added of smallholding plantation management can be optimized include the partnership in the field of marketing, production development to sustainable financing.

Growth of the smallholding plantation in the last two years showed a decrease of 26% from the previous area of 3.88 million hectares in 2006. The transition of land into palm oil plantations becomes one of the factors that cause decline in rubber area. The transition is triggered by rising Crude Palm Oil prices in world markets that since 2003 were in the range of U.S. $ 500 per ton and even in 2007 the price of Crude Palm Oil reached U.S. $ 800 per ton.

Increase in Crude Palm Oil prices internationally is relatively better than the rubber price movement. In 2001, the price of natural rubber reached about U.S. $ 0.50 cents per kg, which continued to creep up to around U.S. $ 0.90 cents per kg in 2003. In 2007, the price of natural rubber reached the range of U.S. $ 2 per kg, which means that the price increase is high enough. The movement of relative prices of Crude Palm Oil and natural rubber is a little more influence on the tendency of farmers to their land transition.

3.5.3. Export and Import

Growth in export value of natural rubber commodity from 2004 until 2008 showed a tendency to increase with an average of 37% per year. In 2006, natural rubber able to produce foreign exchange up to U.S. $ 4.33 billion. In 2007 export increased to U.S. $ 4.87 billion, as well as in 2008 exports increased to U.S. $ 6.06 billion (Table 3.3).

Table 3.3. Export of Natural Rubber in the Main Export Destination (Million US$)

COUNTRY	MAIN MARKET BY COUNTRY						Trend
	2002	2003	2004	2005	2006	2007	
United States	398.79	539.99	736.01	852.03	1,102.02	1,287.32	26.73%
Japan	159.82	213.29	264.36	329.99	668.49	806.5	41.09%
China	29.12	94.92	226.99	322.42	650.59	701.05	103.34%
Singapore	54.26	70.69	96.32	144.01	252.67	333.04	44.66%
Korea	46.87	67.5	86.98	96.37	171.22	187.48	34.17%
Canada	41.91	54.64	83.6	92.43	125.85	108.86	23.32%
Germany	43.24	66.01	83.24	80.3	157.24	165.56	35.27%
Total	774	1,107.04	1,577.50	1,917.55	3,128.07	3,589.81	36.99%

Source: UN Comtrade, proceed, 2009

Compared with the natural rubber producing countries such as Thailand and Malaysia, various rubber products produced and exported by Indonesia are still limited kind, and in general is still dominated by primary products (raw materials) and semi-finished products. Therefore, the export value of which can reach far below countries that already produce and export a variety of processed rubber products. Therefore, product development should be facilitated to be developed and improved in the future.

Port for the export of natural rubber primarily Indonesia is Belawan (North Sumatera) with exports accounting for 40% of the total. Palembang (South Sumatra) 25%, Padang (West Sumatra) 10%, Pontianak (West Kalimantan) 8%, 6%, Jambi, and Surabaya (East Java) 5%. Meanwhile, the main objective of destination countries of Indonesian natural rubber exports are the United States, Japan, China, Singapore, South Korea and Western Europe.

In 1999-2004 exports to the United States decreased, because of weakening economic growth and the automotive industry in the country. While exports to Asian countries increased by averaging at 2.5% per year, mainly to China, which showed an increase of 33.4% per year due to rapid economic growth, with averaging over 10% per year.

Exports to countries of Western Europe increased by 8.5% per year while the Eastern Europe decreased by 1, 8% per year. This is related to the geographic shift of the world rubber consumption, where in 60 of the 19 major consumer of the world are the countries in North America and Europe, whereas in the 1980s is the main consumer countries in the Asia Pacific. The shift occurred as a result of rapid economic and population growth in the region, and the relocation of the rubber goods industry is approaching the source of their raw materials.

As one export commodity, the price of Indonesian natural rubber is highly dependent on natural rubber prices in the international market that is very fluctuating. Natural rubber prices hit bottom in November 2001, i.e. U.S. $ 579.6 per ton. In December 2001, prices began to raise 20 TSR very slowly until March 2002 that reached U.S. $ 793.7 per tone and in April 2002 again fell slightly to U.S. $ 762.1 per ton. But after that prices are rising again, so since mid-2002 the

price of rubber reached U.S. $ 1.00/kg and in 2005 the price of rubber has touched the level of U.S. $ 2.00 / kg for the price of SIR 20 in SICOM, Singapore.

Volume of imports of natural rubber to Indonesia is relatively very small and limited in the form of concentrated latex that is required by latex goods industry in the country. Meanwhile, natural rubber export volume reached more than 90% of total national rubber production with the main objective of the United States, Japan, China, Singapore and Germany, while the remainder (7-10%) absorbed by the domestic industry.

This condition is much different compared to Malaysia where the downstream industry in the country able to absorb about 70% of the total production of the country. The low domestic consumption of natural rubber does not reflect the development of downstream industries based on natural rubber. This resulted in the acquisition of the commodity value of rubber is still relatively low. In fact the vertical coordination of the upstream (on farm) to downstream (processing and marketing) in the rubber agribusiness system in Indonesia is not yet optimal.

3.6.   Profile of Natural Rubber in the World

3.6.1. Plantation Area

Rubber plantation area in the world in 2005 which has three large areas in the world consists of plantations in Indonesia, approximately 3.2 million hectares, 1.96 hectares of Thailand and Malaysia 1.54 hectares. Three countries are the major rubber producing countries of the world.
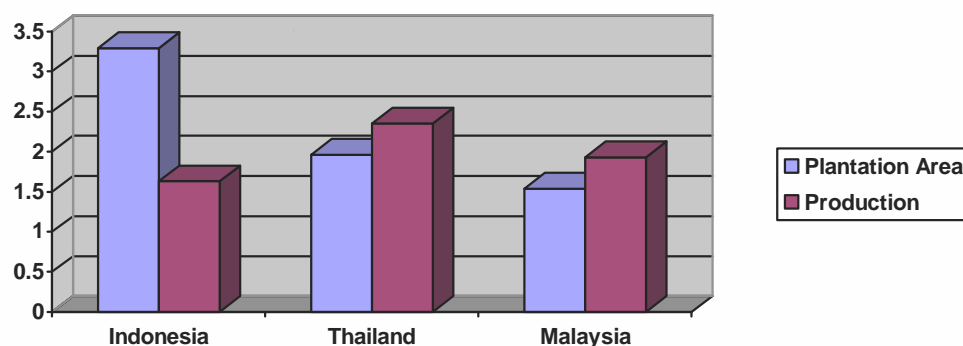
Figure 3.1. Comparison of Plantation Area and Production of Rubber in 2005

Source : IRSG (International Rubber Study Group), 2006

3.6.2. Production

Although the area possessed rubber from Indonesia nearly doubled from Thailand and Malaysia, in fact much lower production. Thailand able to produce 2.35 million tons of rubber per year, while Malaysia approximately 1.93 million tons. Indonesian rubber plantation can only produce 1.63 million tons per year.

Table 3.4. Production of Natural Rubber from the Main Producer Countries
(000 tons)

	Thailand	Indonesia	Malaysia	India	Others
2002	2.615	1.630	805	641	1.649
2003	2.876	1.792	909	707	1.669
2004	2.984	2.066	1.098	743	1.710
2005	2.900	2.270	1.132	772	1.739
2006	3.130	2.415	1.280	853	1.842
2007	2.970	2.550	1.210	807	1.928

Source : IRSG (International Rubber Study Group), 2008

Natural rubber is a commodity of interest to many parties, especially for industrial customers who consume to be processed back into derivative products rubber. Rubber has a dynamic development in terms of the effectiveness of a pattern of production and the price of rubber is always fluctuating.

Widely rubber trade conditions started to increase and supported by the emergence of the substitution of synthetic rubber in the form of rubber resulted in changing the world trade map. Changes in world trade map are made of rubber got lethargic and less desirable by the manufacturer.

Sustainability production is needed in improving the performance of the rubber trade of a country. Tapping rubber period must take account of the catching time for farmers so that farmers get benefit with an increase in the existing price. Quality control is also very important to obtain a continuous production and the necessary coordination between various stakeholders such as farmers, exporters, government and other parties in a clear form of partnership and mutual benefit.

World natural rubber production has increased in the first quarter of 2006 was because of the tapping rubber big enough. In accordance with the data IRSG

(International Rubber Study Group) increase in the first quarter was 8.07% ranging from 175,000 tons or higher. In annual data, increased production occurs quite small in 2004-2005. This increase ranges from below 1% during 2004-2005. The effect of price increase encourages farmers to incise the rubber so that the production increase occurs.
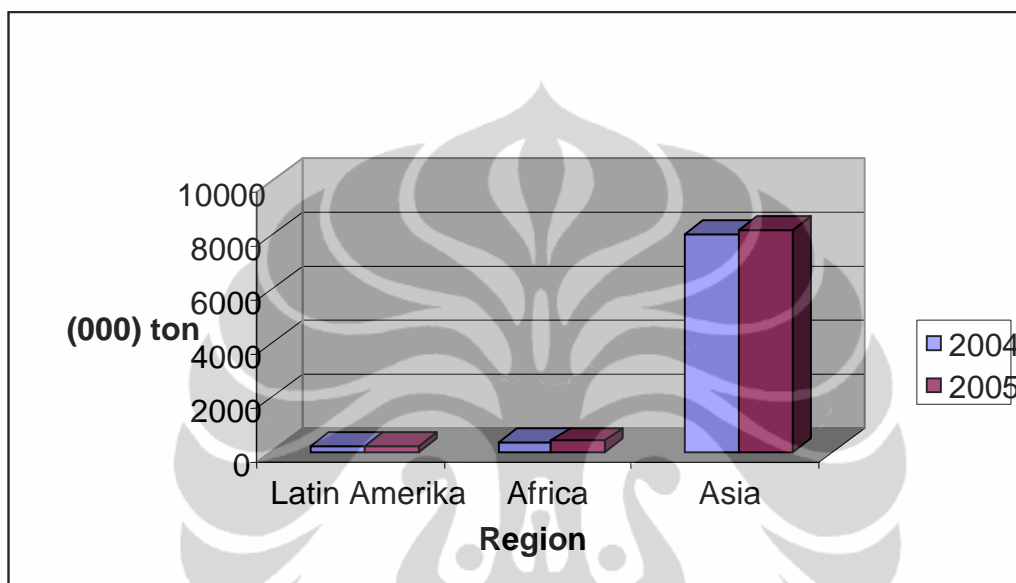
Figure 3.2.Production of Natural Rubber in the World by Region (2004-2005)
Source: IRSG (International Rubber Study Group), 2006

Contributor to the world supply of natural rubber is the Asia's largest. Indonesia and Malaysia is a major rubber producer in the countries of Southeast Asia. Asian countries are not so experienced a large growth in production. Asia-production increased only by 1.24% in 2004-2005. Asia produced 8115 thousand tons in 2004 and increased to 8216 in 2005. Production and export of natural rubber to the world is still dominated by the three countries namely Thailand, Malaysia and Indonesia with respective proportions of 33%, 25% and 13% of total world production.

Africa experienced a significant increase for the period 2004-2005. Africa increased by 4.21%. This increase occurred in African countries are oil producers began to return to plant rubber and rubber cultivation in Latin America while the area just to enjoy the increased production of 4 thousand tons during 2004-2005. Latin America to produce 191 thousand tons of natural rubber and increased to

195 thousand tons in 2005. Entering the first quarter of 2006, Latin America managed to increase production of 10 thousand tons and is a remarkable improvement since the increase in one quarter had exceeded the increase in one year. The production of Latin America increases in the quarterly data for the first quarter of 2006 over 2004 through 2005.

World natural rubber production by region in 2005-2006 is still dominated by Asia, followed by Africa and Latin America. In 2005 the region produced 8.2 million tons, 0.39 million tons of African and Latin American region around 0.19 million tons.

3.6.3. Consumption

Natural rubber is the main commodity in Thailand, Indonesia and Malaysia as the three major natural rubber producing countries in the world by supplying 70% of the total world production. Overall, approximately 35% of world rubber demand to grow an average of 8% per year derived from pure natural rubber, while the remaining 65% needs met by synthetic rubber products.

World's stock of natural rubber showed a slightly different trend, the stock of natural rubber producer in the country down since 1999 and followed with an increase in stocks of natural rubber consumer countries. The prospect of the world rubber is expected to remain bright with the strong awareness of the environment and some of the world's leading tire manufacturers began to introduce the type of tire "green tires" that contain more natural rubber (initially 30-40% to 60-80%), and number of industrial companies that use of rubber raw materials increased. In addition to the reduction in the sources of oil fields and coal (un-renewable) as a synthetic rubber raw material competition with substitute products is decreasing.

Based on a study conducted by the Free University (Netherlands), projected that the consumption of rubber until the year 2020 will continue to increase for both natural and synthetic rubber. Projection of world natural rubber consumption in 2020 was estimated at 13.472 million tons and the projected production of 7.8 million tons. Thus there is a shortage of natural rubber supply of 5.654 million tons, which is an opportunity for Indonesian natural rubber market. In the World Rubber Summit 24-25 April 2006, submitted that according to the IRSG studies, demand or world rubber consumption increased to 20 million tons

in 2005; projected 24 million tons in 2010 and to 30 million tons in 2020. On the other hand, as a result of increased demand / consumption and rising prices of synthetic rubber due to rising oil prices, the price of natural rubber also increased.

Natural rubber price development shows a good trend due to increased demand from developing countries which are experiencing high economic growth led by industrialization such as China (the average economic growth of 10%) and India (8%). Apart from that country, the demand from industrialized countries is also quite high as the United States, Japan, Korea and the industrialized countries in Europe.

Consumption of natural rubber production in Indonesia, ten major consumer countries have a tendency to continue to increase from year to year. Largest consumer of natural rubber are China, the United States, Japan and India each consume 18%, 14%, 10% and 9% of the total world supply, or a total of 51%. World natural rubber consumption increased by an average of 5% per year. Since its lowest point in mid-2001, natural rubber prices continued to rise and reached its peak in November 2003 amounted to USD 133 cents / kg for the RSS 1 Malaysian rubber top quality. Price increase was mainly driven by strengthening demand from China's market, which now replaces the United States position as the nation's largest consumer of natural rubber as well as world crude oil prices in world markets.

Table 3.5. Consumption of Natural Rubber from the Main Consumer Countries (000 tons)

	2002	2003	2004	2005	2006	2007	Growth 2007/2006 (%)
China	1.310	1.485	1.630	2.045	2.400	2.550	6,3
United States	1.111	1.079	1.144	1.159	1.003	1.018	1,5
Japan	749	784	815	857	874	888	1,6
India	680	717	745	789	815	851	4,4
Malaysia	408	421	405	386	383	449	17,2
Korea	326	333	352	n.a	364	377	3,6
Thailand	278	299	302	335	321	374	16,5

Source: IRSG (International Rubber Study Group), 2008

Largest consumption by consumers comes from the Asian region. Asian countries have a share of almost 60% of the total world consumption. Asian countries other than the manufacturer were also a significant consumer. World natural rubber consumption has grown rapidly during the period 2004-2005. World consumption rose 5.2% during the period from 2004-2005 or an increase in 8343 thousand tons in 2004 to 8777 thousand tons in 2005. World natural rubber consumption in 2005 was more than world production. World consumption reached 8777 thousand tons, while production only reached 8703 thousand tons.

This condition gives the implication that there has been excess demand for natural rubber. This excess makes the world price increases. The increasing price will encourage farmers to do more tapping. The trend is encouraging an increase in production in early 2006. In terms of consumption, the world began to change their consumption patterns of consumption of synthetic rubber to natural rubber consumption. International Rubber Study Group (IRSG) data explained that the percentage of synthetic rubber consumption to total consumption of natural rubber was beginning to decline. This percentage figure decreased from 58% in 2004 to 57.7% in 2005.

3.6.4. Export and Import

Until 1990, Malaysia is still the largest producer of natural rubber followed by a world that Thailand and Indonesia. Thailand took over the position followed by Indonesia and Malaysia, as Malaysia is traditionally a producer of natural rubber to do a conversion to more prospective crops, mainly palm oil. Since the year 1999 come a new competitor country, namely Vietnam. During the 1997-2007 rate of natural rubber exports this country reached more than 21.1% in which the volume and value of natural rubber exports in 2002 reached more than 448 thousand tons and U.S. $ 229 million. The rate of natural rubber exports from Vietnam have high causing excess supply on world markets, so the price of natural rubber in the world markets tend to continue to decline. Meanwhile, import value growth during the years 2000-2006 for Malaysia tends to decrease (6.06% per year), Thailand is as much 0.68% per year and Vietnam is as much 6.72% per year.

CHAPTER 4
RESEARCH METHODOLOGY

Researchers used three methods in analyzing the competitiveness of Indonesian natural rubber as found in previous studies. Three of these methods is the Revealed Comparative Advantage (RCA), Export Specialization Index (ESI) and Competitiveness Matrix..

Researchers use the RCA based on research by Friska Sari Ronadiba. The difference in this study are the commodity and the period of research. Friska examine the competitiveness of Indonesian Manufacturing Product in 2000-2007, while this thesis examined the competitiveness of Indonesian natural rubber in 2004-2008.

For ESI, the thesis is based on research by Dalia Bernatonyte. Commodity and periods examined different in this study. This thesis examined the competitiveness of Indonesian natural rubber market in the United States, Japan and China in 2004-2008, while Dalia examine the competitiveness of Lithuanian combined nomenclature in the European Union in 2001-2007.

Researcher uses competitiveness matrix based on the research by Hermanto Rachman. The difference in this study are the commodity and the period studied. Hermanto examine the competitiveness of Indonesian Agricultural Commodities under the WTO commitments in the three periods, while this thesis examined the competitiveness of Indonesia's natural rubber market in the United States, Japan and China at one period. Researchers do not use the methods used by Friska for ESI and Competitiveness Matrix because of differences in formula. Researcher uses a formula that is generally used by previous researchers.

4.1.   Analysis Method

4.1.1. RCA (Revealed Comparative Advantage)

This method was first introduced by Bela Balassa. RCA is described as the ratio of exports to imports. Definition RCA later revised to share the country i exports relative to the share of the world relative to commodity j. RCA index as an indicator that can indicate changes in comparative advantage or a change in the level of industrial competitiveness of a country in the global marketplace

(Kuncoro, 1997), shows the comparison between the export share of commodity or commodity group to share a country exports of these commodities from around the world. Or in other words, RCA index indicates a comparative advantage or export competitiveness of a country, in a commodity, to the world (Tambunan, 2001). The general formulation of RCA is as follows:

$$RCA_{ij} = \frac{X_{ij} / X_j}{X_{iw} / X_w}$$ ....(4.1)

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 market.

X_w = Total export value in the market.

RCA can be developed into a dynamic measurement by including the element of time so as to show the development of its relative share from time to time. Index greater than one indicates that the export product j from country i relative increase compared with the world average, so its share in world markets rise or called relative advantage. In contrast, the index is less than one indicates a decline in the RCA. This means that the export performance of product j from country i relative decline compared with the export performance of the world average or also called relative disadvantage.

This index most often used in empirical studies to measure the level of competitiveness of a country for a certain type of product or group of products in world export markets. In addition, another reason for using this index is that this index is relatively easy to apply in describing the level of competitiveness of a product from one country to the world export markets and data to measure the level of competitiveness is more easily obtained.

4.1.2. ESI (Export Specialization Index)

The export specialization (ES) index is a slightly modified RCA index, in which the denominator is usually measured by specific markets or partners. It

provides product information on revealed specialization in the export sector of a country and is calculated as the ratio of the share of a product in a country's total exports to the share of this product in imports to specific markets or partners rather than its share in world exports:

$$ESI = \frac{X_{ij} / X_{it}}{M_{ik} / M_{kt}} \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4.2)$$

Where :

X_{ij} = Export value of country i in commodity j

X_{it} = Export value of country i in total

M_{kj} = Import value of country k in commodity j

M_{kt} = Import value of country k 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

This index most often used in empirical studies to measure the level of competitiveness of a country for a certain type of product or group of products in world export markets. In addition, another reason for using this index is that this index is relatively easy to apply in describing the level of competitiveness of a product from one country to the world export markets and data to measure the level of competitiveness is more easily obtained.

4.1.3. The Competitiveness Matrix

For the specific assessment of the international competitiveness of trade in commodity, the underlying methodological approach undertaken in this study is based on the idea that the economy that improves its degree of competitiveness in commodity is the one that is able to enhance the size of

its commodity exports to a certain market. The one that declines its degree of competitiveness is the one that increases the size of its commodity imports coming from other countries. The greater or smaller degree of competitiveness of a sector or country shows the nature and degree of participation it has - through its exports- in the imports carried out by the analyzed markets, i.e., a country improves its competitiveness in the way that the other country increases its imports coming from the former one (Mandeng, 1991).

In addition, the process of insertion of a country in the international economy is a phenomenon not only related to the exporting progresses carried out by the analyzed economy, but also to the behavior and actions of other competitors. The model is adapted from De la Guardia, Molero, and Valadez (2004) that introduced the aspect of the dynamic nature of the markets and implemented through their work an ex—post assessment of services competitiveness, by providing a descriptive reference on the changes produced in the competitiveness forms and specialization of the international trade.

The commercial advantage is revealed through the evolution of commodity exports - which reflects improvements in competitiveness, and through the evolution of commodity imports, that reflects a worsening of the commercial advantage.

Based on the aforesaid, the changes in the international commodity trade competitiveness are measured through the analysis of different variables:

a. Market share which is the value of exports of commodity i from country A to importing market B as a percentage of total value of imports of commodity i on importing market B;

b. Percentage of exports which is the value of exports of commodity i from country A to importing market B as a percentage of total value of exports of country A to importing market B;

c. Specialization which compares the market share of country A for commodity i to the overall market share of country A, wherein if the

commodity market share is higher than the overall market share, the country is said to be specialized in commodity i, and if it is lower, the country is said to be not specialized in commodity i;

d. Percentage of imports which is the value of imports of commodity i on importing market B expressed as a percentage of total value of imports on importing market B.
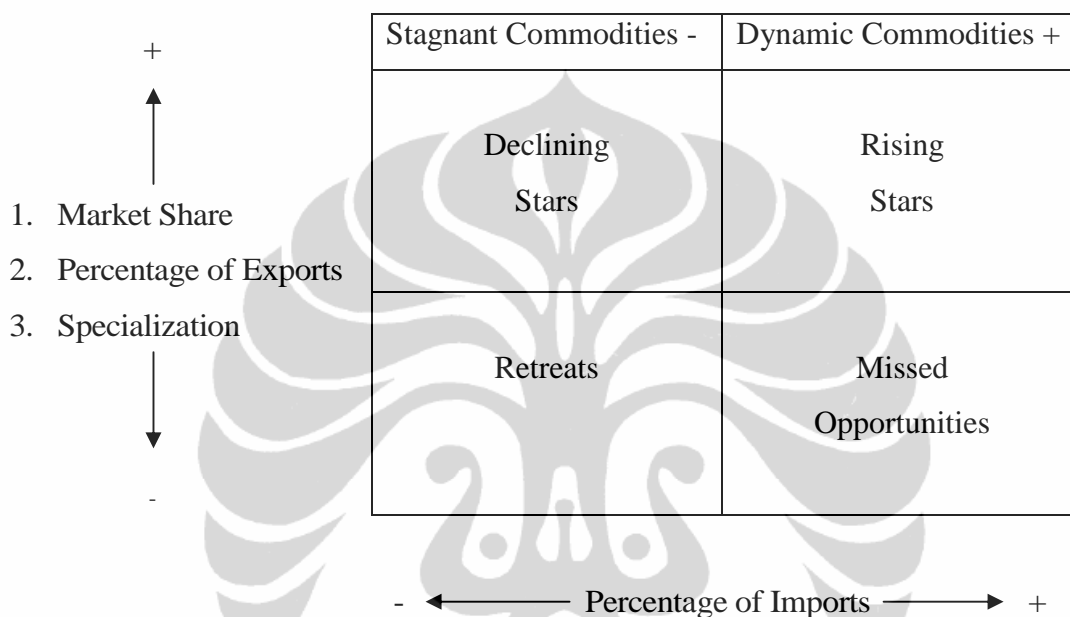
Figure 4.1. The Matrix of Competitiveness Situation

All three matrices use the same variables on the horizontal axis. This is the Change in Percentage of Imports. Commodities with a positive change over time in Percentage of Imports are called Dynamic Commodities (DC). In this case, the share of a dynamic commodity on the import market has increased between the base year and final year. Imports of this commodity have increased faster than total imports (of all commodities or the commodity average of import growth). On the other hand, commodities with a negative change over time in percentage of imports are named Stagnant Commodities (SC). It is of course the demand for the commodity on the import market that is stagnant. The share of a stagnant commodity on the import market has decreased between the base year and the

final year. Imports of this commodity have increased at a slower rate than total imports (of all commodities, or the commodity average of import growth).

The Market Share Competitiveness Matrix illustrates the fact that commodity exports can be classified according to their international competitiveness through the behavior of the market share of a country and the evolution of the world imports over time.

In effect, the world market share held by each country in commodity exports can increase or diminish throughout time; such modifications take place in the same time with the increase or decline that commodity imports register in international trade.

This allows for the classification of commodity exports as rising stars, missed opportunities, declining stars and retreats.

a. Commodity activities are rising stars when a country enhances its market share in a certain commodity activity, in circumstances in which that activity has an increasing importance in world-wide trade.

b. Commodity activities are missed opportunities when a country is losing market share, while international trade in that sub-sector is enhancing.

c. Declining stars are those commodities in which the exporting country increases its market share, while the international market is contracting.

d. Finally, we define the situation of commodity as retreats when that economic activity, besides losing market share, registers a decline of dynamism in international trade.

The formula of those variables is as follows:

$$\textbf{\textit{Market Share (MS)}} = \frac{M_{ij}}{M_i} \quad \text{...(4.3)}$$

$$\textbf{\textit{Percentage of Exports (PE)}} = \frac{M_{ij}}{M_j} \quad \text{...(4.4)}$$

$$\textit{Specialization Index (SP)} = \frac{M_{ij} / M_i}{M_j / M} \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4.5)$$

$$\textit{Percentage of Imports (PI)} = \frac{M_i}{M} \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4.6)$$

Where:

M is total import value of certain country

M_j is the value of imports of certain country that originated from Exporting

Country $_j$

M_i is the value of imports of commodity $_i$ in certain country

M_{ij} is the value imports of commodity $_i$ in certain country that originated from Exporting

Country $_j$

4.2.   Product-Market Growth Matrix

Igor Ansoff created the marketing tool of the Product-Market Growth Matrix which was first published in his article "Strategies for Diversification" in Harvard Business Review (1957). Marketers are made possible by this matrix to consider how to develop business through existing and/or new products, and/or new markets - there are four possible product/market combinations. Product-Market Growth Matrix provides output in the form of a series of suggested growth strategies that set the direction of business strategy. There are four strategies in this matrix as follows:

a. Market Penetration

Market penetration is a growth strategy where the company focuses on selling existing products into existing markets. There are four main objectives to be achieved by market penetration:

1. Maintain or increase the market share of current products.

This can be achieved through competitive pricing strategies and advertising.

Competitive pricing uses competitors' retail (or wholesale) prices as a benchmark for your own prices. Price slightly below, above or the same as your competitors, depending on your positioning strategies. Note you must collect competitor pricing information by observation rather than by

asking them. Otherwise it could be seen as collusion, which is illegal in the U.S. (Kyle, Bobette, 2009)

Competitive pricing is based on three types of competitive product (Monroe, Kent B., 2003):

- Products have lasting distinctiveness from competitor's product. Here we can assume:
    - The product has low price elasticity.
    - The product has low cross elasticity.
    - The demand of the product will rise.
- Products have perishable distinctiveness from competitor's product, assuming the product features are medium distinctiveness.
- Products have little distinctiveness from competitor's product, assuming that:
    - The product has high price elasticity.
    - The product has some cross elasticity.
    - No expectation that demand of the product will rise.

Advertising is a form of communication used to influence individuals to purchase products or services or support political candidates or ideas. Frequently it communicates a message that includes the name of the product or service and how that product or service could potentially benefit the consumer. Advertising often attempts to persuade potential customers to purchase or to consume a particular brand of product or service. (Cook, Guy, 2001)

Virtually any medium can be used for advertising. Commercial advertising media can include wall paintings, billboards, street furniture components, printed flyers and rack cards, radio, cinema and television adverts, web banners, mobile telephone screens, shopping carts, web popups, skywriting, bus stop benches, human billboards, magazines, newspapers, town criers, sides of buses, banners attached to or sides of airplanes ("logojets"), in-flight advertisements on seatback tray tables or overhead storage bins, taxicab doors, roof mounts and passenger screens,

musical stage shows, subway platforms and trains, elastic bands on disposable diapers,doors of bathroom stalls,stickers on apples in supermarkets, shopping cart handles (grabertising), the opening section of streaming audio and video, posters, and the backs of event tickets and supermarket receipts. Any place an "identified" sponsor pays to deliver their message through a medium is advertising.

2. Dominance of the market growth in a secure

3. Drive competition with a mature market restructuring

This will require much more aggressive promotional campaign, supported by pricing strategy designed to make the market unattractive to competitors.

4. Increased usage by existing customers

For example by introducing loyalty schemes

This marketing strategy is very much about "business as usual". These businesses focus on markets and products that already know well. It is possible to have information about competitors and customer needs. It is not possible; therefore, that this strategy will require a lot of investment in new market research.

The best way to achieve this strategy is to get customers from competitors who are part of their market share. Other ways is to convince clients to use more your products/services, with advertising or other promotion, attract non-users of your product. Market penetration is the most risky marketing strategy for the company to grow.

b. Product Development

Product development is a growth strategy where a business aims to introduce new products into existing markets. This strategy may require the development of new competencies and requires businesses to develop products that have been modified to be attractive to existing markets.

A company with a market for current products may launch another product development strategy to serve the same market. For example, McDonald's is always in the fast-food industry, but frequently markets new burgers. Often,

when a company creates new products, it can gain new customers for this product. Therefore, the development of new products could become an important business development strategy for the company to remain competitive.

c. Market Development

Market development is the growth strategy in which companies try to sell its existing products to new markets. There are many ways that may be approaching this strategy, including:

1. New distribution channel
2. New product dimensions or packaging: for example
3. Different pricing policies to attract different customers or create new market segments
4. New geographical markets such as exporting products to new countries

An established product in the marketplace can be tweaked or targeted to different customer segments, as a strategy to gain more revenue for the company. For example, Lucozade was first marketed for sick children and then rebranded to target athletes. This is a good example of developing new markets for existing products.

d. Diversification

Diversification is a strategy of growth in the business market where new products in new markets. This is a strategy is inherently more risk because the business moves into markets where it has little or no experience. For a business to adopt a diversification strategy, therefore, it must have a clear idea of what is expected to gain from the strategy and an honest assessment of risk.

Virgin Airlines, Virgin Megastores, Virgin Telecommunications and Virgin Cola are examples of new products created by the Virgin Group of UK, to enhance the Virgin brand. This resulted in the company enters new markets in which he had no previous present.

In particular this matrix describes that the element of risk improves the further the strategy moves away from the known number - the product that exists

and the existing market. Thus, product development (which requires, in essence, a new product) and expansion of the market (new market) typically involve greater risks than 'penetration' (existing product and existing market), and diversification (new markets and new products) usually carry the greatest risk of all. In the original work, which does not use a matrix form, Igor Ansoff stressed that the strategy of diversification to stand apart from the other three.

While the latter is usually followed by the same technical, merchandising resources, and financial which are used for the original product lines, diversification usually requires new facilities, new techniques and new skills. As a result it almost always leads to physical and organizational changes in business structure that represents a different break with the past business experience.

For this reason, most marketing activity revolves around penetration; and Product – Market Growth Matrix despite the fame, usually limited value - although not always offer a useful reminder of the options open.
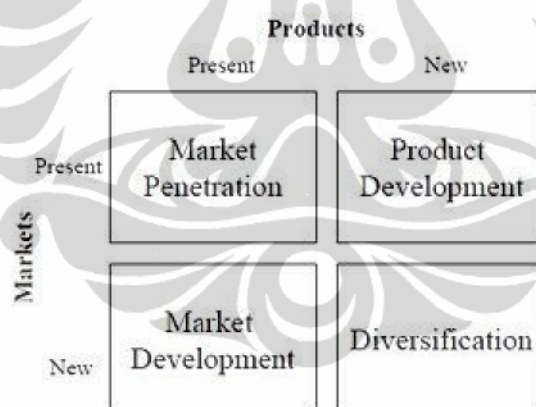
Figure 4.2 Product-Market Growth Matrix

Source: Ansoff (1957, 1989)

4.3. The Relationship between the Competitiveness Matrix with Export Promotion Strategy based on the Product - Market Growth Matrix

According to the competitiveness matrix, there are four classifications of products: rising star, declined star, missed opportunity, and retreat. Any classification of the product has a strategy to maintain a good position and to encourage a bad position to become a better position.

Products in the classification of rising stars showed up an increasing in exports following the increased product demand in the destination country. This means that these products are well positioned to maintain the market destination. Therefore, the strategy that should be implemented to the classification of rising star products is to maintain the existing markets and the existing products. According to Product - Market Growth Matrix, market penetration is a strategy that has some purposes to maintain the current products in existing markets. Market penetration is a strategy used to increase the volume of exports with a competitive pricing strategy and advertising.

Classification of other products that require a market penetration strategy to be focused is the classification of missed opportunities. Products in the classification of missed opportunities show a decrease in exports that is not followed by increased demand for these products in the destination country. This means that there is market demand for existing products, but did not respond by the state. This also means that the product has entered a good market but less promotion of products that make the declining exports. Therefore, the classification of products in missed opportunities also requires a strategy that has some purposes to maintain the current products in existing markets. The main strategy to be implemented in the classification of this product is market penetration.

A product in the classification of declining stars show a decrease in demand from the country of destination, but is followed by an increase in exports. This means that the product has entered a saturated market. This shows that there are products' warning. Exports of products can be reduced if no action is taken to the product. Product development is a strategy that requires the modified products that can appeal to existing markets and the development of new competencies according to Product - Market Growth Matrix. That's why; main strategy that should be implemented for the classification of declining stars in order to maintain the product in the existing market is a product development strategy.

Final classification is retreats product that showed declining exports following the decline in market's demand. This shows that it is difficult to encourage existing products in existing market because the product has entered

the saturated market and only a small chance of increasing exports. That's why; market development strategy (penetrating other market) can be applied to the classification of retreats. According to Product - Market Growth Matrix, market development is a business strategy which seeks to sell existing products to new markets.

The strategy mentioned above is the main strategy for each product classification. However, product development is a strategy that can be applied to all product classifications, including the classification of retreat, in order to maintain the existing market of the product.

4.4.   Type and Source of Data

The data used in this research is secondary data from 2004 to 2008. Types of data include the total export of Indonesia, Indonesian natural rubber exports, total exports of the world, the world natural rubber exports, total the United States' imports, total imports of Japan, total China's imports, total the United States' imports from Indonesia, the total Japan's imports from Indonesia, total China's imports from Indonesia, the United States' imports of natural rubber, Japan's imports of natural rubber, China's imports of natural rubber, the United States' imports of natural rubber from Indonesia, Japan's imports of natural rubber from Indonesia and China's imports of natural rubber from Indonesia. Source data used obtained from the World Integrated Trade Solution (WITS), Central Bureau of Statistics, Ministry of Agriculture, FAO Statistics, the study of literature, and other sources.

CHAPTER 5

RESULT AND ANALYSIS

5.1.   Result and Analysis of Revealed Comparative Advantage (RCA)

One method that can be used to measure the comparative advantage in a region (state, province, etc.) is the RCA method. Basically, this method measures the performance of a particular commodity with total exports of a region compared with the share of these commodities in world trade.

Viewed from the RCA index during 2004 - 2008, the export commodities of Indonesian natural rubber can be said to have a comparative advantage. In that period, the index of RCA is always greater than one per year. This shows that the competitiveness of Indonesian natural rubber commodity is more powerful than the world average.

Table 5.1. The RCA Index of Indonesian Natural Rubber

Commodity	2004	2005	2006	2007	2008
(1)	(2)	(3)	(4)	(5)	(6)
Natural Rubber	30.92	30.38	33.11	34.97	32.78

Source: WITS (World Integrated Trade Solution), Proceed, 2009

Indonesian natural rubber exports in the global market in 2004-2008 increased every year. In 2004, Indonesian natural rubber exports in the global market were recorded at 2.2 billion U.S. $. In 2005, Indonesian natural rubber exports in the global market increased again to 2.6 billion U.S. $. In the next three years of Indonesian natural rubber exports in the global market continues to increase. In 2006, Indonesian natural rubber exports in the global market increased again to reach U.S. $ 4.3 billion. Similarly, Indonesian natural rubber exports in the global market in 2007 also increased again to reach U.S. $ 4.9 billion. In 2008, Indonesia exports of natural rubber in the global market increased again to reach 6.1 billion U.S. $.

Market share of Indonesian natural rubber in the global market ranked second after Thailand. Market share of Indonesian natural rubber in the global

market in 2004-2008 increased every year. In 2004, the market share of Indonesian natural rubber in the global market was recorded at 25.89%. In 2005, the market share of Indonesian natural rubber in the global market returns increases to 26.93%. In the next three years the market share of Indonesian natural rubber in the global market continues to increase. In 2006, the market share of Indonesian natural rubber in the global market increased again to reach 29.64%. Similarly, the market share of Indonesian natural rubber in the global market in 2007 also increased again to reach 30.98%. In 2008, the market share of Indonesian natural rubber in the global market increased again to reach 34.33%.

Table. 5.2. Natural Rubber Export Growth in Global Market (000 US$)

Country	2004	Market Share (%)	2005	Market Share (%)	2006	Market Share (%)	2007	Market Share (%)	2008	Market Share (%)
Thailand	3,414,560	40.53	3,694,645	38.51	5,430,350	37.24	5,640,503	35.88	6,720,964	38.08
Indonesia	2,181,252	25.89	2,583,963	26.93	4,322,294	29.64	4,870,513	30.98	6,058,244	34.33
Malaysia	1,371,326	16.28	1,528,476	15.93	2,246,584	15.41	2,135,917	13.59	2,431,235	13.78
Vietnam	480,747	5.71	714,473	7.45	1,137,205	7.80	1,312,360	8.35	611,842	3.47
India	46,135	0.55	92,768	0.97	105,082	0.72	50,578	0.32	168,994	0.96
China	812.297	0.01	6,919.57	0.07	7,801.79	0.05	9,134.68	0.06	8,652.15	0.05
Others	930,954	11.05	1,694,766	17.66	2,476,444	16.98	3,021,825	19.22	2,269,309	12.86
Total	8,425,787		9,594,618		14,580,754		15,719,335		17,648,746	

Source: WITS (World Integrated Trade Solution), Proceed, 2009

In 2005, RCA index of Indonesian natural rubber decreased compared with 2004. In 2004, RCA index of Indonesian natural rubber reached 30.92 but in 2005, RCA index of Indonesian natural rubber decreased to 30.38. This is because the share of Indonesian natural rubber exports to Indonesian total exports in 2005 decreased to 3.02% when compared with the share of Indonesian natural rubber exports to total exports to Indonesia in 2004 reached 3.05% of share, while world exports of natural rubber to total world exports in 2005 increased to 0.09928% when compared with the share of the world natural rubber exports to total world exports in 2004 reached only 0.098553%. One reason for the decline of the share

of Indonesian natural rubber exports to total exports to Indonesia in 2005 is the increasing shares of some other export of Indonesia's commodities. Based on annex 17. can be seen that there are 476 commodities that have increased in the share of exports to total exports of Indonesia in 2005 when compared with in 2004.

In 2008, RCA index of Indonesian natural rubber declined compared with 2007. In 2007, RCA index of Indonesian natural rubber reached 34.97 but in 2008, RCA index of Indonesian natural rubber decreased to 32.78. This is due to the increase in share of the world natural rubber exports to total world exports in 2008 compared with 2007 higher than the increase in share of Indonesian natural rubber exports to total exports of Indonesia. In 2008 the share of the world natural rubber exports to total world exports increased by 10.53% compared to 2007 while in 2008, the share of Indonesian natural rubber exports to Indonesian total exports increased by only 3.58% compared with 2007.

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

The export specialization index is a slightly modified RCA index, in which the denominator is usually measured by specific markets or partners. It provides product information on revealed specialization in the export sector of a country and is calculated as the ratio of the share of a product in a country's total exports to the share of this product in imports to specific markets or partners rather than its share in world exports.

5.2.1. ESI in the United States' Market

The United States is the largest market for Indonesian natural rubber. The United States is the largest motor vehicle manufacturer in the world. Three major producers of motor vehicles in the United States are Ford, General Motors and Chrysler. In addition to motor vehicles, the United States has a domestic aircraft in the worlds largest. Both types of transportation are taking rubber in large numbers, and now Indonesia has become the country's largest exporter of natural rubber to the United States.

Viewed from the value of ESI during 2004-2008, the export commodities of Indonesian natural rubber can be said to have a comparative

advantage in the United States' market. In that period, the value of ESI is always greater than one per year. This shows that the competitiveness of Indonesian natural rubber commodity is stronger than the average natural rubber exports from other countries to the United States' market.

Table. 5.3. Producer Price of the Main Natural Rubber Producer Country

(US $/tons)

Country	Year			
	2004	**2005**	**2006**	**2007**
Indonesia	149.78	484.29	717.55	691.17
Thailand	1097.72	1337.93	1749.95	1996.88
Malaysia	870.27	1008.96	1393.31	1772.79

Source: FAO Stastistics, 2009

Indonesia has a cheaper price than the two countries in the world's largest producer of Thailand and Malaysia. This can be seen from table 5.3. This led the United States would prefer to buy natural rubber from Indonesia rather than from Thailand and Malaysia. This can be seen from table 5.4. Market share of Indonesian natural rubber has the largest market share where market share of Indonesian natural rubber is more than 50 percent in the United States' market.

Table 5.4. The ESI Value of Indonesian Natural Rubber

In the United States' Market

Commodity	2004	2005	2006	2007	2008
(1)	(2)	(3)	(4)	(5)	(6)
Natural Rubber	165.69	175.05	229.85	249.33	200.94

Source: WITS (World Integrated Trade Solution), Proceed, 2009

Indonesian natural rubber exports to the United States in 2004-2008 increased every year. In 2004, Indonesian natural rubber exports to the United States were recorded at 2.2 billion U.S. $. In 2005, Indonesian natural rubber exports to the United States again increased to 2.6 billion U.S. $. In the next three years of Indonesian natural rubber exports to the United States continues to increase. In 2006, Indonesian natural rubber exports to the United States again

increased to reach U.S. $ 4.3 billion. Similarly, Indonesian natural rubber exports to the United States in 2007 also increased again to reach U.S. $ 4.9 billion. In 2008, Indonesian natural rubber exports to the United States again increased to reach 6.1 billion U.S. $.

Market share of Indonesian natural rubber in the United States ranked first. Market share of Thailand's natural rubber ranked only second. In 2004, the market share of Indonesian natural rubber in the United States' market was recorded at 58.53% while the market share of Thailand's natural rubber is only recorded at 23.71%. In 2005, the market share of Indonesian natural rubber in the United States' market return increases to 62.08% and the market share of Thailand's natural rubber also increased to 20.96%.

Table. 5.5. Natural Rubber Imports in the United States (000 US$)

Country	2004	Market Share (%)	2005	Market Share (%)	2006	Market Share (%)	2007	Market Share (%)	2008	Market Share (%)
Thailand	372,847	23.71	349,043	20.96	423,928	20.19	495,750	22.48	648,914	22.00
Indonesia	920,315	58.53	1,033,838	62.08	1,260,635	60.03	1,351,819	61.31	1,768,980	59.97
Malaysia	114,986	7.31	120,978	7.26	157,900	7.52	132,595	6.01	186,631	6.33
Vietnam	18,442	1.17	25,150	1.51	33,357	1.59	38,698	1.76	49,132	1.67
India	2,172	0.14	4,176	0.25	12,032	0.57	1,894	0.09	11,694	0.40
China	177	0.01	503	0.03	1,037	0.05	1,707	0.08	1,115	0.04
Others	143,419	9.12	131,672	7.91	211,252	10.06	182,576	8.28	283,285	9.60
Total	1,572,358		1,665,360		2,100,141		2,205,038		2,949,752	

Source: WITS (World Integrated Trade Solution), Proceed, 2009

In 2006, the market share of Indonesian natural rubber in the United States' market decreased to 60.03% and the market share of Thailand's natural rubber in the United States' market also declined to be 20.19%. This is because the increases in market share from other countries such as Malaysia, Vietnam, India, China and others. In 2007, the market share of Indonesian natural rubber in the United States' market return increases to 61.31% and the market share of Thailand's natural rubber also increased to 22.48%. In 2008, the market share of

Indonesian natural rubber in the United States' market decreased to 59.97% and the market share of Thailand's natural rubber in the United States' market also declined to be 22%. This is because the increases in market share from other countries such as Malaysia, India and others.

In 2008, the value of ESI of Indonesian natural rubber in the United States' market decreased compared with 2007. In 2007, the value of ESI of Indonesian natural rubber in the United States' market reached 249.33 but in 2008 the value of ESI of Indonesian natural rubber in the United States' market decreased to 200.94. This is caused by increased in the share of United States' natural rubber imports to the total United States' imports in 2008 compared with the 2007 higher than the increase in share of Indonesian natural rubber exports to total exports of Indonesia. In 2008 the share of United States' imports of natural rubber to the total United States' imports increased by 24.65% compared to 2007 while in 2008 share of Indonesian natural rubber exports to Indonesian total exports increased by only 3.58% compared with 2007.

5.2.2. ESI in Japan's Market

Japan is the second largest market for Indonesian natural rubber. Viewed from the value of ESI during 2004-2008, the export commodities of Indonesian natural rubber can be said to have a comparative advantage in Japan's market. In that period, the value of ESI is always greater than one per year. This shows that the competitiveness of Indonesian natural rubber commodity is stronger than the average natural rubber exports from other countries to Japan's market.

Table 5.6. The ESI Value of Indonesian Natural Rubber in Japan's Market

Commodity	2004	2005	2006	2007	2008
(1)	(2)	(3)	(4)	(5)	(6)
Natural Rubber	13.15	13.03	13.53	14.74	14.08

Source: WITS (World Integrated Trade Solution), Proceed, 2009

Indonesian natural rubber exports to Japan in 2004-2008 increased every year. In 2004, Indonesian natural rubber exports to Japan were recorded at U.S. $

264 million. In 2005, Indonesian natural rubber exports to Japan again increased to U.S. $ 330 million. In the next three years of Indonesian natural rubber exports to Japan continue to increase. In 2006, Indonesian natural rubber exports to Japan increased again to reach U.S. $ 669 million. Similarly, Indonesian natural rubber exports to Japan in 2007 also increased again to reach U.S. $ 807 million. In 2008, Indonesian natural rubber exports to Japan increased again to reach 1.1 billion U.S. $.

Table. 5.7. Natural Rubber Imports in Japan (000 US$)

Country	2004	Market Share (%)	2005	Market Share (%)	2006	Market Share (%)	2007	Market Share (%)	2008	Market Share (%)
Thailand	679,986	64.43	749,383	62.74	1,025,780	55.88	905,856	50.28	1,130,606	47.22
Indonesia	330,816	31.35	397,923	33.31	741,299	40.38	833,391	46.26	1,187,141	49.58
Malaysia	25,650	2.43	26,647	2.23	36,633	2.00	27,313	1.52	34,191	1.43
Vietnam	13,180	1.25	15,077	1.26	23,926	1.30	25,786	1.43	33,008	1.38
China	347	0.03	44	0.004	54	0.003	904	0.05	1,113	0.05
Others	5,355	0.51	5,441	0.46	8,047	0.44	8,314	0.46	8,340	0.35
Total	1,055,333		1,194,516		1,835,738		1,801,564		2,394,397	

Source: WITS (World Integrated Trade Solution), Proceed, 2009

From 2004 – 2007, the market share of Indonesian natural rubber in Japan's market ranked second after Thailand. In 2008, the market share of Indonesian natural rubber becomes the first ranked in Japan's market. Market share of Indonesian natural rubber in Japan's market in 2004-2008 increased every year. In 2004, the market share of Indonesian natural rubber in Japan's market was recorded at 31.35%. In 2005, the market share of Indonesian natural rubber in Japan's market again increased to 33.31%. In the next three years the market share of Indonesian natural rubber in Japan's market continues to increase. In 2006, the market share of Indonesian natural rubber in Japan's market increased again to reach 40.38%. Similarly, the market share of Indonesian natural rubber in Japan's market in 2007 also increased again to reach 46.26%. In 2008,

market share of Indonesian natural rubber in Japan's market increased again to reach 49.58%.

In 2005, the value of ESI of Indonesian natural rubber in Japan's market declined compared with 2004. In 2004, ESI value of Indonesian natural rubber in Japan's market reached 13.15 but in 2005, the value of ESI of Indonesian natural rubber in Japan's market decreased to 13.03. This is because the share of Japan's natural rubber imports to total imports of Japan in 2005 has decreased compared to 2004 while the share of Indonesian natural rubber exports to Indonesian total exports also has decreased. In 2005, the share of Japan's natural rubber imports to total imports of Japan declined by 0.11% compared to 2004 while in 2005 the share of Indonesian natural rubber exports to Indonesian total exports also declined by 1.01% compared to 2004. One reason for the decline of the share of Indonesian natural rubber exports to total exports to Indonesia in 2005 is the increasing shares of some other export of Indonesia's commodities. Based on annex 17. can be seen that there are 476 commodities that have increased in the share of exports to total exports of Indonesia in 2005 when compared with in 2004. One reason for the decline of the share of Japan's natural rubber imports to total imports to Japan in 2005 is the increasing shares of some other import of Japan's commodities. Based on annex 18. can be seen that there are 428 commodities that have increased in the share of imports to total imports of Japan in 2005 when compared with in 2004.

In 2008, the value of ESI of Indonesian natural rubber in Japan's market declined compared with 2007. In 2007, the value of ESI of Indonesian natural rubber in Japan's market reached 14.74 but in 2008, the value of ESI of Indonesian natural rubber in Japan's market decreased to 14.08. This is due to increased in share of Japan's natural rubber imports to total imports of Japan in 2008 compared with 2007 higher than the increase in share of Indonesian natural rubber exports to total exports of Indonesia. In 2008, the share of Japan's natural rubber imports to Japan's total imports increased by 8.45% compared to 2007 while in 2008 the share of Indonesian natural rubber exports to Indonesian total exports increased by only 3.58% compared with 2007.

5.2.3. ESI in China's Market

China is a major producer of natural rubber and consumes almost all its production to meet the needs of domestic industry. China's industrial growth is very impressive, especially automotive and shipbuilding industries to make this country needs a rubber commodity in large quantities. This led China into the largest importer of natural rubber in the world.

Table 5.8. The ESI Value of Indonesian Natural Rubber in China's Market

Commodity	2004	2005	2006	2007	2008
(1)	(2)	(3)	(4)	(5)	(6)
Natural Rubber	10.45	9.84	10.16	11.40	10.68

Source: WITS (World Integrated Trade Solution), Proceed, 2009

China is the third largest market for Indonesian natural rubber. Viewed from the value of ESI during 2004-2008, the export commodities of Indonesian natural rubber can be said to have a comparative advantage in China's market. In that period, the value of ESI is always greater than one per year. This shows that the competitiveness of Indonesian natural rubber commodity is stronger than the average natural rubber exports from other countries to China's market.

Indonesian natural rubber exports to China in 2004-2008 increased every year. In 2004, Indonesian natural rubber exports to China were recorded at U.S. $ 227 million. In 2005, Indonesian natural rubber exports to China again increased to U.S. $ 322 million. In the next three years of Indonesian natural rubber exports to China continue to rise. In 2006, Indonesian natural rubber exports to China increased again to reach U.S. $ 651 million. Similarly, Indonesian natural rubber exports to China in 2007 also increased again to reach U.S. $ 701 million. In 2008, Indonesian natural rubber exports to China again increased to reach U.S. $ 859 million.

In 2004, the market share of Indonesian natural rubber in China's market was recorded at 16.75%. In 2005, the market share of Indonesian natural rubber in China's market return increases to 20.15%. In 2006, the market share of Indonesian natural rubber in China's market increased again to 22.44%. In 2007,

the market share of Indonesian natural rubber in China's market decreased to 19.98%. This is because the increases in market share from other countries such as Thailand and Malaysia. In 2008, the market share of Indonesian natural rubber in China's market return increases to 21.75%.

Table. 5.9. Natural Rubber Imports in China (000 US$)

Country	2004	Market Share (%)	2005	Market Share (%)	2006	Market Share (%)	2007	Market Share (%)	2008	Market Share (%)
Thailand	757,111	49.66	782,533	42.19	1,199,013	39.58	1,431,387	43.93	2,083,469	48.41
Indonesia	255,297	16.75	373,760	20.15	679,740	22.44	650,943	19.98	936,041	21.75
Malaysia	375,752	24.65	558,266	30.10	848,634	28.01	936,705	28.75	987,791	22.95
Vietnam	57,299	3.76	63,865	3.44	167,831	5.54	164,804	5.06	146,142	3.40
India	39,250	2.57	32,695	1.76	50,143	1.66	8,579	0.26	46,103	1.07
Others	39,782	2.61	43,760	2.36	84,212	2.78	66,036	2.03	104,219	2.42
Total	1,524,490		1,854,880		3,029,573		3,258,454		4,303,765	

Source: WITS (World Integrated Trade Solution), Proceed, 2009

In 2005 the value of ESI of Indonesian natural rubber in China's market declined compared with 2004. In 2004 the value of ESI of Indonesian natural rubber in China's market reached 10.45 but in 2005 the value of ESI of Indonesian natural rubber in China's market has dropped to 9.84. This is due to the share of China's imports of natural rubber to China's total imports increased in 2005 compared to 2004 while the share of Indonesian natural rubber exports to Indonesian total exports decreased.

In 2005 the share of China's natural rubber imports to China's total imports increased by 5.13% compared to 2004 while in 2005 the share of Indonesian natural rubber exports to Indonesian total exports declined by 1.01% compared to 2004. One reason for the decline of the share of Indonesian natural rubber exports to total exports to Indonesia in 2005 is the increasing shares of some other export of Indonesia's commodities. Based on annex 17. can be seen that there are 476 commodities that have increased in the share of exports to total exports of Indonesia in 2005 when compared with in 2004.

In 2008, the value of ESI of Indonesian natural rubber in China's market declined compared with 2007. In 2007, the value of ESI of Indonesian natural rubber in China's market reached 11.40 but in 2008, the value of ESI of Indonesian natural rubber in China's market dropped to 10.68. This is due to increased the share of China's natural rubber imports to total imports of China in 2008 compared with 2007 higher than the increase in share of Indonesian natural rubber exports to total exports of Indonesia. In 2008 the share of imports of natural rubber to China on China's total imports increased by 10.59% compared to 2007 while in 2008 the share of Indonesian natural rubber exports to Indonesian total exports increased by only 3.58% compared with 2007.

	2004	2005	2006	2007	2008
USA	165.69	175.05	229.85	249.33	200.94
JAPAN	13.15	13.03	13.53	14.74	14.08
CHINA	10.45	9.84	10.16	11.40	10.68
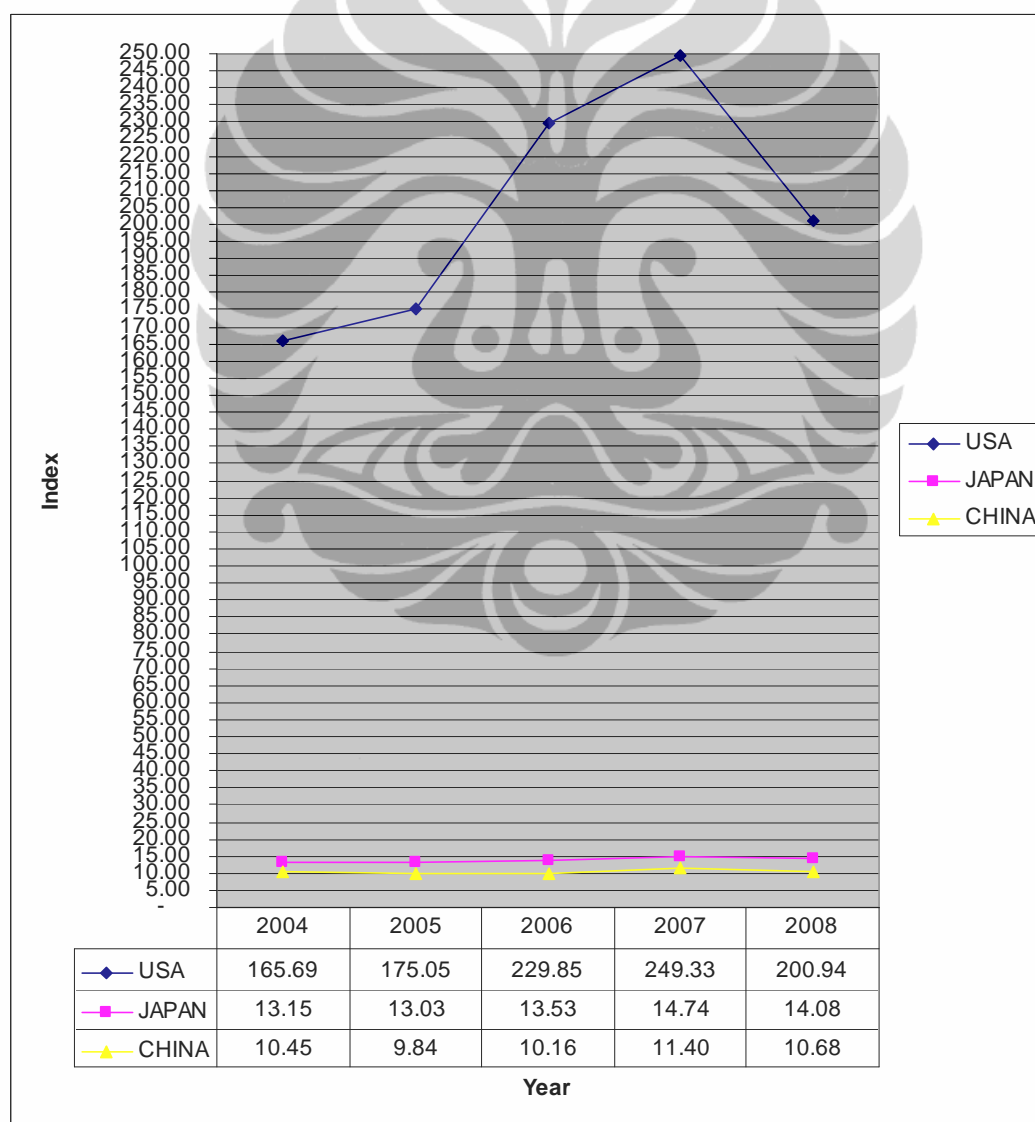
Figure.5.1 Export Specialization Index in the United States, Japan and China

Viewed from the value of ESI during 2004-2008, the export commodities of Indonesian natural rubber can be said to have a comparative advantage in the United States', Japan's and China's market. In that period, the value of ESI is always greater than one per year. This shows that the competitiveness of Indonesian natural rubber commodity is stronger than the average natural rubber exports from other countries to the United States', Japan's and China's market. Based on figure 5.1 can be seen that the value of ESI of Indonesian natural rubber in the United States is greater than the value of ESI in Japan and China. This shows that the competitiveness of Indonesian natural rubber commodity is stronger than the average natural rubber exports from other countries to the United States' market than Japan's and China's market.

5.3.   Result and Analysis of The Competitiveness Matrix

5.3.1. Competitiveness Matrix in the United States' Market

Natural rubber classified as a dynamic commodity in the United States' market. The share of natural rubber on import in the United States' market has increased between the base year (2004) and the final year (2008).

Table. 5.10. The Result of Calculation of The Competitiveness Matrix's Formula in the United States' Market

Country	Market Share		Percentage of Exports		Specialization		Percentage of Imports	
	2004	2008	2004	2008	2004	2008	2004	2008
UNITED STATES	0.58531	0.59970	0.07879	0.10585	76.43172	77.68122	0.00103	0.00136

Source: WITS (World Integrated Trade Solution), Proceed, 2009

The percentage of imports increased from 0.0010% in 2004 to 0.0014% in 2008. The market share of this commodity in the United States' market increased from 0.59% in 2004 to 0.60% in 2008. The percentage of export in the United States' market also increases from 0.08% in 2004 to 0.11% in 2008. The index of specialization also increases from 76.43 in 2004 to 77.68 in 2008. Based on the above description, Indonesia had a Rising Stars in natural rubber. This means that

Indonesian natural rubber has a good position to be maintained in the United States' market.

	Stagnant Commodities -	Dynamic Commodities +
	Declining Stars	Rising Stars (Indonesian Natural Rubbber Position)
	Retreats	Missed Opportunities

+

↑

1. Market Share

2. Percentage of Exports

3. Specialization

↓

-

- ← Percentage of Imports → +
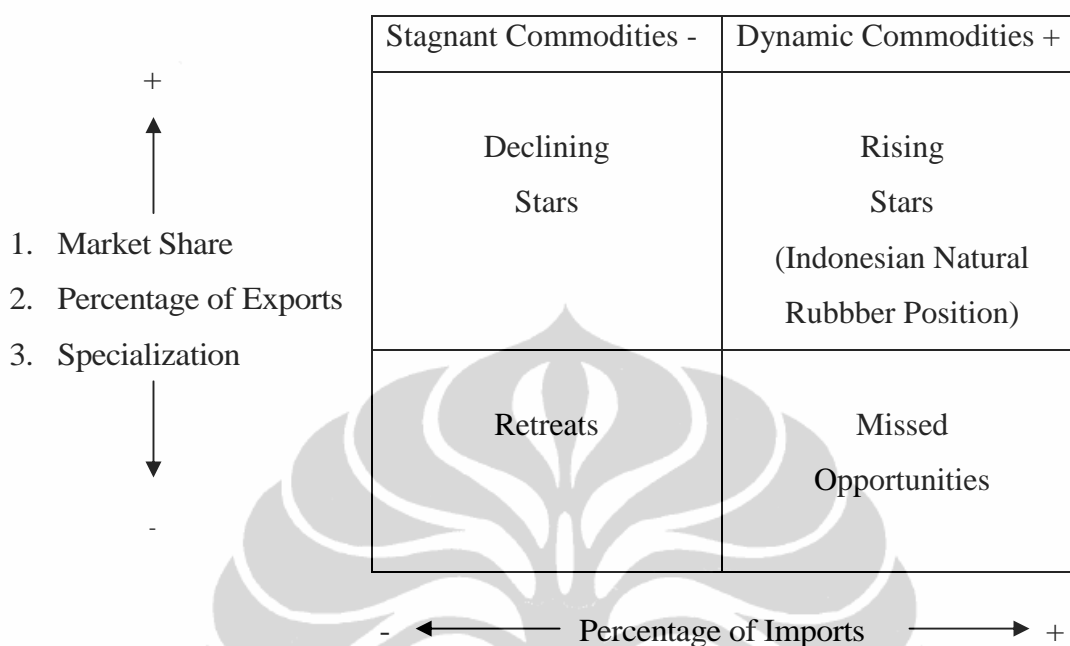
Figure 5.2. The Matrix of Competitiveness Situation of Indonesian Natural Rubber in the United States' Market

Source: Ansoff (1957, 1989), processed, 2009

5.3.2. Competitiveness Matrix in Japan's Market

Natural rubber classified as a dynamic commodity in Japan's market. The share of natural rubber on import in Japan's market has increased between the base year (2004) and the final year (2008).

Table. 5.11. The Result of Calculation of The Competitiveness Matrix Formula in Japan's Market

Country	Market Share		Percentage of Exports		Specialization		Percentage of Imports	
	2004	2008	2004	2008	2004	2008	2004	2008
JAPAN	0.31347	0.49580	0.01769	0.03639	7.63047	11.58846	0.00232	0.00314

Source: WITS (World Integrated Trade Solution), Proceed, 2009

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The percentage of imports increased from 0.0023% in 2004 to 0.0031% in 2008. The market share of this commodity in Japan's market increased from 0.31% in 2004 to 0.50% in 2008. The percentage of export in Japan's market also increases from 0.02% in 2004 to 0.04% in 2008. The index of specialization also increases from 7.63 in 2004 to 11.59 in 2008. Based on the above description, Indonesia had a Rising Stars in natural rubber. This means that Indonesian natural rubber has a good position to be maintained in Japan's market.
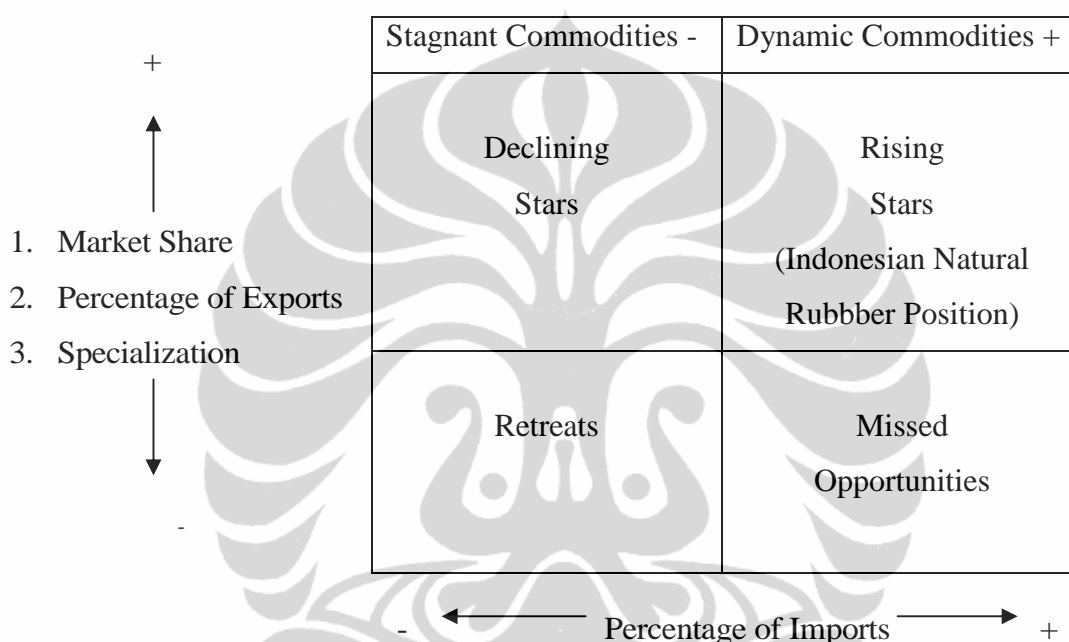
Figure 5.3. The Matrix of Competitiveness Situation of Indonesian Natural Rubber in Japan's Market

Source: Ansoff (1957, 1989), processed, 2009

5.3.3. Competitiveness Matrix in China's Market

Natural rubber classified as a dynamic commodity in China's market. The share of natural rubber on import in China's market has increased between the base year (2004) and the final year (2008).

The percentage of imports increased from 0.0029% in 2004 to 0.0041% in 2008. The market share of this commodity in China's market increased from 0.17% in 2004 to 0.22% in 2008. The percentage of export in China's market also increases from 0.04% in 2004 to 0.07% in 2008. The index of specialization also

increases from 12.13 in 2004 to 15.73 in 2008. Based on the above description, Indonesia had a Rising Stars in natural rubber. This means that Indonesian natural rubber has a good position to be maintained in China's market.

Table. 5.12. The Result of Calculation of The Competitiveness Matrix Formula in China's Market

Country	Market Share		Percentage of Exports		Specialization		Percentage of Imports	
	2004	2008	2004	2008	2004	2008	2004	2008
CHINA	0.16746	0.21749	0.03538	0.06515	12.12808	15.73264	0.00292	0.00414

Source: WITS (World Integrated Trade Solution), Proceed, 2009
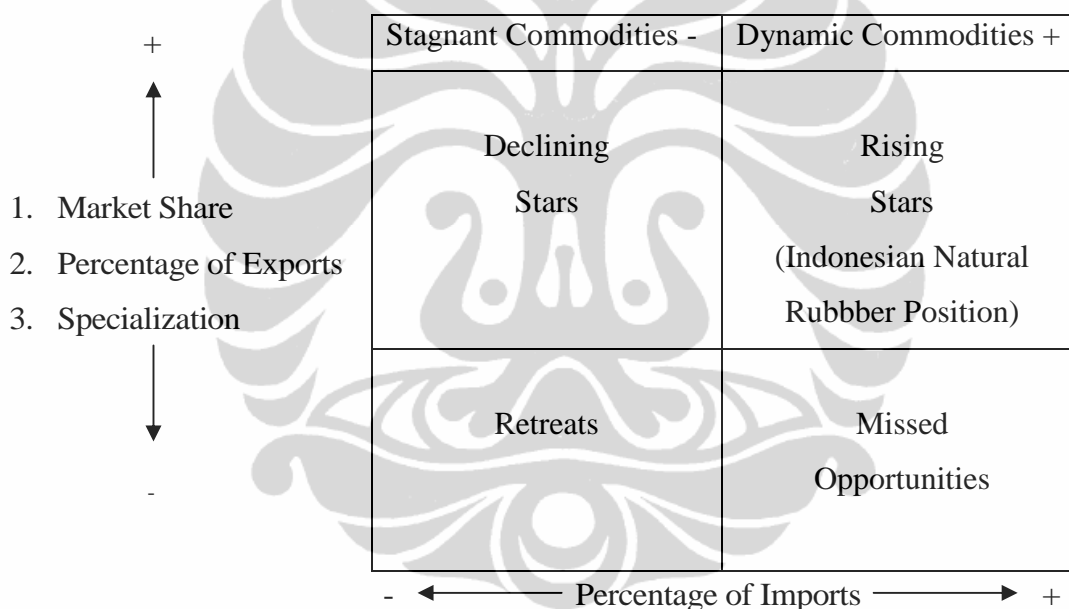
Figure 5.4. The Matrix of Competitiveness Situation of

Indonesian Natural Rubber in China's Market

Source: Ansoff (1957, 1989), processed, 2009

5.4.   Result and Analysis of Implication of Indonesia Export Promotion Strategy in the United States, Japan and China

Based on the analysis of competitiveness matrix, in fact, Indonesian natural rubber commodity included in the classification of rising stars in the United States', Japan's and China's market. Indonesian natural rubber commodity

in the classification of rising stars shows an increase of Indonesian natural rubber commodity exports in the United States', Japan's and China's market. This means that the commodity of Indonesian natural rubber has a good position to be maintained in the United States', Japan's and China's market.

Therefore, strategies should be implemented for Indonesian natural rubber commodity included in the classification of rising stars products are keeping up Indonesian natural rubber commodity in the market existing in the United States, Japan and China. According to Product-Market Growth Matrix, market penetration is a strategy that has the objective to maintain the current products in existing markets. Market penetration strategies used for a product that was included in the classification of rising star. That's why; main strategy that should be implemented for the classification of rising stars in order to maintain the existing product in the existing market is a market penetration strategy. This can be achieved through competitive pricing strategies and advertising.

One of strategy that can be use in market penetration strategy is competitive pricing strategies. Competitive pricing uses competitors' retail (or wholesale) prices as a benchmark for your own prices. Price slightly below, above or the same as your competitors, depending on your positioning strategies. Based on table.5.3. it can be seen that Indonesia has implemented a competitive pricing strategy. When compared with the price of the two largest producers of natural rubber in the world (Thailand and Malaysia) can be seen that the price of Indonesian natural rubber is much cheaper. This shows that Indonesia's natural rubber prices more competitive when compared with the price of the two largest producers of natural rubber (Thailand and Malaysia) in the global market.

Another strategy that can be use in market penetration strategy is advertising. Advertising is a form of communication used to influence individuals to purchase products or services or support political candidates or ideas. Frequently it communicates a message that includes the name of the product or service and how that product or service could potentially benefit the consumer. Advertising often attempts to persuade potential customers to purchase or to consume a particular brand of product or service.

Advertising can be done in a variety of ways. One way that can be done in the conduct of advertising is to do an exhibition. In this exhibition, a company or a country can promote the advantages of these products compared to products that are similar from another company or another country to the buyer. Indonesia had never been held an exhibition of natural rubber commodity in the United States, Japan and China in 2004 until 2008. This shows that Indonesia is not able to promote the advantages of natural rubber products compared to products that are similar from other countries to the buyer.

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1.   Conclusion

Based on the results of analysis using three methods of Revealed Comparative Advatage (RCA), Export Specialization Index (ESI) and Competitiveness Matrix, then the conclusion can be drawn as follows:

a. In 2004-2008, the index of RCA is always greater than one per year. This shows that the competitiveness of Indonesian natural rubber commodity is more powerful than the world average. This means that the exports of Indonesian natural rubber can be said to have a comparative advantage in the global market.

b. The values of ESI in the United States', Japan's and China's market are always greater than one per year in 2004-2008. This illustrates that the competitiveness of Indonesian natural rubber commodity is stronger than the average natural rubber exports from other countries to the United States', Japan's and China's market. This states that Indonesian natural rubber's exports can be said to have a comparative advantage in the United States', Japan's and China's market.

c. In 2004-2008, the ESI's value of Indonesian natural rubber in the United States' market is greater than the value of ESI in Japan's and China's market. This illustrates that the competitiveness of Indonesian natural rubber commodity is more powerful than the average natural rubber exports from other countries into the United States' market rather than into Japan's and China's markets. This means that the exports commodity of Indonesian natural rubber can be said to have a comparative advantage in the United States' market rather than in Japan's and China's markets.

d. Natural rubber is classified as a dynamic commodity in the United States', Japan's and China's markets. This illustrates that in the United States', Japan's and China's market, Indonesia has a position in the Rising Stars in natural rubber. This means that Indonesian natural rubber has a good position to be maintained in the United States', Japan's and China's market.

e. Indonesia's competitive product of natural rubber commodity was categorized as rising star classification in the United States', Japan's and China's market. It means that Indonesia's competitive product of natural rubber is in good market position in the United States', Japan's and China's market. Therefore, the strategy should be focused on market penetration strategy in the United States', Japan's and China's market. This can be achieved through competitive pricing strategies and advertising.

f. When compared with the price of the two largest producers of natural rubber in the world (Thailand and Malaysia) can be seen that the price of Indonesian natural rubber is much cheaper. This shows that Indonesian natural rubber prices more competitive when compared with the price of the two largest producers of natural rubber (Thailand and Malaysia) in the global market.

g. Indonesia had never been held an exhibition of natural rubber commodity in the United States, Japan and China in 2004 until 2008. This shows that Indonesia is not able to promote the advantages of natural rubber products compared to products that are similar from other countries to the buyer in the United States, Japan and China.

6.2.   Recommendation

Based on the above conclusions, then some suggestions that can be given are as follows:

a. Indonesia has the competitiveness for natural rubber commodity in the global, the United States', Japan's and China's market. Therefore, Indonesia should be able to further increase exports of natural rubber in the global, the United States', Japan's and China's market. One way that can be done is to issue regulations on compulsory quality control for all of Indonesian natural rubber products. At present, there was a mandatory quality control of three of the five products of natural rubber (HS 400121, HS 400122 and HS 400129) through Regulation of the Minister of Industry and Trade of the Republic of Indonesia No: 164/MPP/Kep/6/1996 and Regulation of the Minister of Trade of the Republic of Indonesia No: 10/M-DAG/PER/4/2008. Therefore, the government through the Ministry of Trade should issue regulations on

compulsory quality control for the two other natural rubber products, namely HS 400130 and HS 400110.

b. Indonesia should be held an exhibition for the commodity of natural rubber in the United States, Japan and China as a means to promote the natural rubber commodity in the United States, Japan and China.

c. The results of this study should be seen as more cautious because this study was limited by several constraints faced by the author. This study only uses three methods to calculate the competitiveness of Indonesia's natural rubber. Limited period of research is also a weakness in this study. In addition, this study is limited to the export performance of Indonesian natural rubber without comparison with countries other exporters to the United States, Japan and China. Further studies are expected to use other methods to see whether the methods used in this study is appropriate to explain the competitiveness of Indonesia's natural rubber. Moreover, it can also be used a longer period can be seen that the competitiveness of Indonesia's natural rubber is more accurate. Exporting countries of natural rubber to the United States, Japan and China, would be also added as a comparison.

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ANNEXES

Annex 1. Total Export of Indonesian Natural Rubber						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
Indonesia	World	2004	4001	Natural rubber... and similar gums,	Export	2,181,251.50
Indonesia	World	2005	4001	Natural rubber... and similar gums,	Export	2,583,963.40
Indonesia	World	2006	4001	Natural rubber... and similar gums,	Export	4,322,294.40
Indonesia	World	2007	4001	Natural rubber... and similar gums,	Export	4,870,512.97
Indonesia	World	2008	4001	Natural rubber... and similar gums,	Export	6,058,244.16

Annex 2. Total Export of Indonesia						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
Indonesia	World	2004	Total	Total Trade	Export	71,582,468.12
Indonesia	World	2005	Total	Total Trade	Export	85,659,947.50
Indonesia	World	2006	Total	Total Trade	Export	100,798,615.67
Indonesia	World	2007	Total	Total Trade	Export	114,100,872.80
Indonesia	World	2008	Total	Total Trade	Export	137,020,424.40

Annex 3. Total World Export of Natural Rubber						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
All --- All countries	World	2004	4001	Natural rubber... and similar gums,	Export	8,425,787.44
All --- All countries	World	2005	4001	Natural rubber... and similar gums,	Export	9,594,618.27
All --- All countries	World	2006	4001	Natural rubber... and similar gums,	Export	14,580,753.95
All --- All countries	World	2007	4001	Natural rubber... and similar gums,	Export	15,719,335.40
All --- All countries	World	2008	4001	Natural rubber... and similar gums,	Export	17,648,746.02

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Annex 4. Total World Export						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
All --- All countries	World	2004	Total	Total Trade	Export	8,549,517,675.25
All --- All countries	World	2005	Total	Total Trade	Export	9,664,172,406.61
All --- All countries	World	2006	Total	Total Trade	Export	11,257,560,617.43
All --- All countries	World	2007	Total	Total Trade	Export	12,879,416,326.84
All --- All countries	World	2008	Total	Total Trade	Export	13,083,170,879.93

Annex 5. Total Export of Indonesian Natural Rubber						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
China	World	2004	4001	Natural rubber... and similar gums,	Import	1,524,490.18
China	World	2005	4001	Natural rubber... and similar gums,	Import	1,854,879.76
China	World	2006	4001	Natural rubber... and similar gums,	Import	3,029,572.71
China	World	2007	4001	Natural rubber... and similar gums,	Import	3,258,454.20
China	World	2008	4001	Natural rubber... and similar gums,	Import	4,303,765.47

Annex 6. Total Import of China					
Reporter Name	Partner Name	Year	Product Name	Flow Name	Trade Value ($ '000)
China	World	2004	Total Trade	Import	522,574,209.67
China	World	2005	Total Trade	Import	604,789,857.43
China	World	2006	Total Trade	Import	718,128,033.67
China	World	2007	Total Trade	Import	870,182,892.74
China	World	2008	Total Trade	Import	1,039,247,172.75

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Annex 7. Total Import China from Indonesia					
Reporter Name	Partner Name	Year	Product Name	Flow Name	Trade Value ($ '000)
China	Indonesia	2004	Total Trade	Import	7,215,671.26
China	Indonesia	2005	Total Trade	Import	8,436,960.17
China	Indonesia	2006	Total Trade	Import	9,605,743.22
China	Indonesia	2007	Total Trade	Import	12,396,488.84
China	Indonesia	2008	Total Trade	Import	14,366,922.95

Annex 8. Total China's Natural Rubber Import from Indonesia						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
China	Indonesia	2004	4001	Natural rubber... and similar gums,	Import	255,296.80
China	Indonesia	2005	4001	Natural rubber... and similar gums,	Import	373,760.32
China	Indonesia	2006	4001	Natural rubber... and similar gums,	Import	679,740.45
China	Indonesia	2007	4001	Natural rubber... and similar gums,	Import	650,943.35
China	Indonesia	2008	4001	Natural rubber... and similar gums,	Import	936,041.43

Annex 9. Total Import of Japan's Natural Rubber						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
Japan	World	2005	4001	Natural rubber... and similar gums,	Import	1,194,516.10
Japan	World	2006	4001	Natural rubber... and similar gums,	Import	1,835,737.91
Japan	World	2007	4001	Natural rubber... and similar gums,	Import	1,801,563.71
Japan	World	2008	4001	Natural rubber... and similar gums,	Import	2,394,397.47

Annex 10. Total Import Japan from Indonesia					
Reporter Name	Partner Name	Year	Product Name	Flow Name	Trade Value ($ '000)
Japan	Indonesia	2004	Total Trade	Import	18,702,461.85
Japan	Indonesia	2005	Total Trade	Import	20,816,730.74
Japan	Indonesia	2006	Total Trade	Import	24,135,022.58
Japan	Indonesia	2007	Total Trade	Import	26,516,530.25
Japan	Indonesia	2008	Total Trade	Import	32,624,148.21

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Annex 11. Total Import of Japan						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
Japan	World	2004	Total	Total Trade	Import	455,253,849.68
Japan	World	2005	Total	Total Trade	Import	515,866,387.68
Japan	World	2006	Total	Total Trade	Import	579,063,944.64
Japan	World	2007	Total	Total Trade	Import	622,243,336.43
Japan	World	2008	Total	Total Trade	Import	762,533,921.12

Annex 12. Total Japan's Natural Rubber Import from Indonesia						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
Japan	Indonesia	2004	4001	Natural rubber... and similar gums,	Import	330,815.80
Japan	Indonesia	2005	4001	Natural rubber... and similar gums,	Import	397,923.22
Japan	Indonesia	2006	4001	Natural rubber... and similar gums,	Import	741,298.57
Japan	Indonesia	2007	4001	Natural rubber... and similar gums,	Import	833,390.98
Japan	Indonesia	2008	4001	Natural rubber... and similar gums,	Import	1,187,140.50

Annex 13. Total the United States' Natural Rubber Import from Indonesia						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
United States	Indonesia	2004	4001	Natural rubber... and similar gums,	Import	920,314.72
United States	Indonesia	2005	4001	Natural rubber... and similar gums,	Import	1,033,837.69
United States	Indonesia	2006	4001	Natural rubber... and similar gums,	Import	1,260,634.92
United States	Indonesia	2007	4001	Natural rubber... and similar gums,	Import	1,351,818.72
United States	Indonesia	2008	4001	Natural rubber... and similar gums,	Import	1,768,980.41

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Annex 14. Total the United States' Natural Rubber Import						
Reporter Name	Partner Name	Year	Product	Product Name	Flow Name	Trade Value ($ '000)
United States	World	2004	4001	Natural rubber... and similar gums,	Import	1,572,358.25
United States	World	2005	4001	Natural rubber... and similar gums,	Import	1,665,360.15
United States	World	2006	4001	Natural rubber... and similar gums,	Import	2,100,141.15
United States	World	2007	4001	Natural rubber... and similar gums,	Import	2,205,038.17
United States	World	2008	4001	Natural rubber... and similar gums,	Import	2,949,751.59

Annex 15. Total Import of the United States					
Reporter Name	Partner Name	Year	Product Name	Flow Name	Trade Value ($ '000)
United States	World	2004	Total Trade	Import	1,525,268,443.34
United States	World	2005	Total Trade	Import	1,732,320,797.68
United States	World	2006	Total Trade	Import	1,918,997,094.45
United States	World	2007	Total Trade	Import	2,017,120,776.31
United States	World	2008	Total Trade	Import	2,164,834,031.06

Annex 16. Total Import of the United States from Indonesia					
Reporter Name	Partner Name	Year	Product Name	Flow Name	Trade Value ($ '000)
United States	Indonesia	2004	Total Trade	Import	11,680,395.30
United States	Indonesia	2005	Total Trade	Import	12,946,648.51
United States	Indonesia	2006	Total Trade	Import	14,342,140.33
United States	Indonesia	2007	Total Trade	Import	15,208,274.85
United States	Indonesia	2008	Total Trade	Import	16,712,682.90

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No	HS Code	Year 2004 Trade Value ($ '000)	Share (%)	Year 2005 Trade Value ($ '000)	Share (%)	Changes in Share (%)

Annex 17. Increasing Trend in Share Some Export of Indonesia's Commodities

No	HS Code	Year 2004		Year 2005		Changes in Share
		Trade Value ($ '000)	Share (%)	Trade Value ($ '000)	Share (%)	(%)
1	0103	20,415.349	0.02852	25,898.74	0.03023	6.0
2	0104	109.722	0.00015	387.01	0.00045	194.7
3	0105	5.104	0.00001	7.57	0.00001	24.0
4	0106	2,159.282	0.00302	2,985.04	0.00348	15.5
5	0202	4.050	0.00001	9.32	0.00001	92.3
6	0204	11.555	0.00002	37.52	0.00004	171.4
7	0209	2.779	0.00000	3.75	0.00000	12.9
8	0210	136.750	0.00019	338.69	0.00040	107.0
9	0305	50,547.255	0.07061	63,375.09	0.07398	4.8
10	0307	39,947.345	0.05581	51,974.54	0.06068	8.7
11	0401	3,035.276	0.00424	4,105.44	0.00479	13.0
12	0402	58,569.420	0.08182	86,045.22	0.10045	22.8
13	0404	46.008	0.00006	228.10	0.00027	314.3
14	0405	63.866	0.00009	371.71	0.00043	386.4
15	0501	210.466	0.00029	1,362.96	0.00159	441.2
16	0503	5.000	0.00001	9.83	0.00001	64.2
17	0505	626.310	0.00087	895.79	0.00105	19.5
18	0508	1,411.077	0.00197	2,589.18	0.00302	53.3
19	0511	559.271	0.00078	1,044.62	0.00122	56.1
20	0603	2,670.739	0.00373	4,060.11	0.00474	27.0
21	0702	317.687	0.00044	433.25	0.00051	14.0
22	0708	698.997	0.00098	1,830.43	0.00214	118.8
23	0709	5,580.766	0.00780	7,009.75	0.00818	5.0
24	0711	527.592	0.00074	650.97	0.00076	3.1
25	0712	497.582	0.00070	689.61	0.00081	15.8
26	0713	5,780.074	0.00807	8,232.83	0.00961	19.0
27	0801	94,429.075	0.13192	140,202.39	0.16367	24.1
28	0803	778.506	0.00109	1,288.89	0.00150	38.4
29	0804	6,004.427	0.00839	7,703.16	0.00899	7.2
30	0811	87.523	0.00012	496.47	0.00058	374.0
31	0813	2,234.085	0.00312	3,071.11	0.00359	14.9
32	0814	32.371	0.00005	68.29	0.00008	76.3
33	0901	294,114.392	0.41087	504,407.21	0.58885	43.3
34	0908	42,827.008	0.05983	51,555.78	0.06019	0.6
35	1006	456.512	0.00064	8,657.51	0.01011	1,484.8
36	1008	67.326	0.00009	90.19	0.00011	11.9
37	1101	11,864.044	0.01657	15,989.90	0.01867	12.6
38	1103	95.138	0.00013	3,694.21	0.00431	3,144.9
39	1104	727.185	0.00102	914.23	0.00107	5.1
40	1105	162.668	0.00023	199.77	0.00023	2.6
41	1203	8,510.932	0.01189	14,416.92	0.01683	41.6
42	1205	4.229	0.00001	391.49	0.00046	7,636.0
43	1206	7.670	0.00001	35.64	0.00004	288.3
44	1207	14,774.582	0.02064	24,135.03	0.02818	36.5
45	1211	5,686.515	0.00794	6,933.61	0.00809	1.9
46	1212	25,887.161	0.03616	36,080.31	0.04212	16.5
47	1213	7.097	0.00001	21.32	0.00002	151.0
48	1214	392.927	0.00055	747.28	0.00087	58.9
49	1301	15,272.823	0.02134	18,285.37	0.02135	0.0

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50	1302	9,390.990	0.01312	15,256.83	0.01781	35.8
51	1402	1,225.981	0.00171	1,586.72	0.00185	8.2
52	1502	78.186	0.00011	315.26	0.00037	237.0
53	1503	753.007	0.00105	3,511.88	0.00410	289.7
54	1504	637.748	0.00089	806.56	0.00094	5.7
55	1505	3.487	0.00000	22.26	0.00003	433.5
56	1512	27.227	0.00004	42.68	0.00005	31.0
57	1513	767,624.341	1.07236	1,001,507.71	1.16917	9.0
58	1514	33.294	0.00005	45.00	0.00005	13.0
59	1515	2,094.971	0.00293	5,367.25	0.00627	114.1
60	1518	866.394	0.00121	1,592.08	0.00186	53.6
61	1521	122.390	0.00017	380.53	0.00044	159.8
62	1601	301.309	0.00042	451.67	0.00053	25.3
63	1703	11,144.802	0.01557	19,399.58	0.02265	45.5
64	1801	369,862.997	0.51669	467,827.36	0.54614	5.7
65	1804	108,403.683	0.15144	144,427.46	0.16861	11.3
66	1905	69,054.632	0.09647	92,059.48	0.10747	11.4
67	2004	3,917.863	0.00547	5,035.78	0.00588	7.4
68	2005	412.368	0.00058	781.61	0.00091	58.4
69	2008	84,148.358	0.11755	118,930.89	0.13884	18.1
70	2101	15,124.740	0.02113	24,959.05	0.02914	37.9
71	2102	15.835	0.00002	58.36	0.00007	208.0
72	2103	19,283.609	0.02694	29,681.37	0.03465	28.6
73	2106	17,208.229	0.02404	32,328.14	0.03774	57.0
74	2206	991.564	0.00139	1,373.45	0.00160	15.8
75	2208	39.531	0.00006	171.99	0.00020	263.6
76	2209	146.418	0.00020	2,829.17	0.00330	1,514.7
77	2303	169.996	0.00024	709.28	0.00083	248.7
78	2308	589.829	0.00082	711.82	0.00083	0.8
79	2402	156,947.306	0.21925	200,325.64	0.23386	6.7
80	2403	9,675.093	0.01352	16,134.90	0.01884	39.4
81	2505	6,735.792	0.00941	9,443.66	0.01102	17.2
82	2506	6.038	0.00001	21.31	0.00002	195.0
83	2508	6,676.165	0.00933	8,733.60	0.01020	9.3
84	2509	13.762	0.00002	117.40	0.00014	612.8
85	2515	3,005.649	0.00420	5,293.56	0.00618	47.2
86	2517	5,685.109	0.00794	7,310.40	0.00853	7.5
87	2519	21.939	0.00003	27.88	0.00003	6.2
88	2520	343.810	0.00048	596.16	0.00070	44.9
89	2522	23.820	0.00003	927.24	0.00108	3,153
90	2524	15.404	0.00002	76.06	0.00009	312.6
91	2530	799.854	0.00112	2,483.36	0.00290	159.5
92	2601	2,422.628	0.00338	15,802.57	0.01845	445.1
93	2602	43.020	0.00006	685.71	0.00080	1,232
94	2603	1,802,388.493	2.51792	3,310,967.00	3.86525	53.5
95	2604	108,441.088	0.15149	139,975.02	0.16341	7.9
96	2606	17,155.328	0.02397	23,598.77	0.02755	15.0
97	2608	8.372	0.00001	10.52	0.00001	5.0
98	2609	0.001	0.00000	131.29	0.00015	10,971,094
99	2615	162.840	0.00023	545.75	0.00064	180.1
100	2617	2,113.551	0.00295	6,338.95	0.00740	150.6
101	2618	172.843	0.00024	350.56	0.00041	69.5

102	2701	2,758,058.266	3.85298	4,354,121.70	5.08303	31.9
103	2709	6,241,389.456	8.71916	8,145,844.25	9.50951	9.1
104	2713	20,036.577	0.02799	24,053.75	0.02808	0.3
105	2714	70.387	0.00010	466.53	0.00054	453.9
106	2715	3.350	0.00000	295.21	0.00034	7,263.9
107	2803	7,181.193	0.01003	11,179.14	0.01305	30.1
108	2804	275.936	0.00039	2,493.41	0.00291	655.1
109	2805	190.729	0.00027	1,189.34	0.00139	421.1
110	2807	29.688	0.00004	103.80	0.00012	192.2
111	2809	4.780	0.00001	10.97	0.00001	91.7
112	2811	7,067.082	0.00987	10,853.59	0.01267	28.3
113	2812	2.730	0.00000	31.86	0.00004	875.3
114	2814	185,241.585	0.25878	330,444.50	0.38576	49.1
115	2817	2,910.168	0.00407	4,671.06	0.00545	34.1
116	2820	0.425	0.00000	19.48	0.00002	3,730.1
117	2826	885.888	0.00124	1,917.80	0.00224	80.9
118	2827	2,506.474	0.00350	3,472.40	0.00405	15.8
119	2831	17.615	0.00002	131.41	0.00015	523.4
120	2832	68.107	0.00010	192.82	0.00023	136.6
121	2833	1,606.920	0.00224	2,245.76	0.00262	16.8
122	2836	2,790.155	0.00390	4,035.46	0.00471	20.9
123	2845	7.963	0.00001	16.01	0.00002	68.1
124	2846	43.878	0.00006	56.49	0.00007	7.6
125	2904	178.670	0.00025	633.41	0.00074	196.3
126	2905	224,196.513	0.31320	284,243.19	0.33183	5.9
127	2906	451.137	0.00063	588.06	0.00069	8.9
128	2907	5,708.412	0.00797	8,219.35	0.00960	20.3
129	2912	243.167	0.00034	819.92	0.00096	181.8
130	2914	492.856	0.00069	1,129.83	0.00132	91.6
131	2919	6.365	0.00001	135.17	0.00016	1,674.6
132	2924	9,826.598	0.01373	12,515.77	0.01461	6.4
133	2925	0.006	0.00000	1.75	0.00000	24,301.2
134	2927	36,865.858	0.05150	49,168.67	0.05740	11.5
135	2934	20,122.200	0.02811	33,210.10	0.03877	37.9
136	2935	1,930.983	0.00270	3,599.46	0.00420	55.8
137	2938	544.338	0.00076	672.37	0.00078	3.2
138	2939	9,011.966	0.01259	11,595.01	0.01354	7.5
139	2940	843.810	0.00118	1,472.79	0.00172	45.9
140	2941	850.459	0.00119	1,363.21	0.00159	33.9
141	2942	57.417	0.00008	165.42	0.00019	140.8
142	3005	1,323.115	0.00185	1,643.91	0.00192	3.8
143	3101	3,656.656	0.00511	6,011.27	0.00702	37.4
144	3102	83,548.436	0.11672	164,119.98	0.19159	64.2
145	3103	383.471	0.00054	799.25	0.00093	74.2
146	3104	78.219	0.00011	285.97	0.00033	205.5
147	3105	157.037	0.00022	431.16	0.00050	129.4
148	3201	10,799.213	0.01509	13,838.81	0.01616	7.1
149	3203	1,283.434	0.00179	2,692.54	0.00314	75.3
150	3207	2,498.197	0.00349	5,970.80	0.00697	99.7
151	3210	347.519	0.00049	526.61	0.00061	26.6
152	3215	5,652.647	0.00790	10,846.42	0.01266	60.3
153	3301	47,203.600	0.06594	64,600.51	0.07542	14.4

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154	3302	31,388.112	0.04385	39,089.04	0.04563	4.1
155	3303	11,757.443	0.01643	17,183.35	0.02006	22.1
156	3403	1,789.304	0.00250	10,047.57	0.01173	369.3
157	3404	1,913.891	0.00267	2,409.21	0.00281	5.2
158	3405	3,154.599	0.00441	6,127.72	0.00715	62.3
159	3407	123.107	0.00017	266.68	0.00031	81.0
160	3601	5.630	0.00001	11.05	0.00001	64.1
161	3602	88.116	0.00012	395.89	0.00046	275.4
162	3604	124.646	0.00017	168.29	0.00020	12.8
163	3605	3,731.904	0.00521	6,027.73	0.00704	35.0
164	3701	249.355	0.00035	791.58	0.00092	165.3
165	3703	220.845	0.00031	383.50	0.00045	45.1
166	3704	6.033	0.00001	352.58	0.00041	4,783.8
167	3802	22,550.607	0.03150	30,156.18	0.03520	11.7
168	3803	8.109	0.00001	14.55	0.00002	49.9
169	3809	19,820.297	0.02769	24,090.96	0.02812	1.6
170	3811	8,334.798	0.01164	12,418.53	0.01450	24.5
171	3813	8.832	0.00001	31.52	0.00004	198.3
172	3814	1,192.462	0.00167	1,674.92	0.00196	17.4
173	3823	8,493.622	0.01187	12,830.24	0.01498	26.2
174	3901	25,654.410	0.03584	49,691.88	0.05801	61.9
175	3903	23,517.654	0.03285	32,625.45	0.03809	15.9
176	3911	643.682	0.00090	938.61	0.00110	21.9
177	3913	302.325	0.00042	860.74	0.00100	137.9
178	3914	0.954	0.00000	54.60	0.00006	4,682.7
179	3916	2,926.627	0.00409	6,230.59	0.00727	77.9
180	3917	19,601.500	0.02738	25,229.92	0.02945	7.6
181	3919	32,729.017	0.04572	57,637.82	0.06729	47.2
182	3921	57,520.655	0.08036	78,826.94	0.09202	14.5
183	3925	5,895.350	0.00824	8,202.73	0.00958	16.3
184	4003	1,050.017	0.00147	1,505.40	0.00176	19.8
185	4008	4,895.939	0.00684	8,611.43	0.01005	47.0
186	4009	2,995.343	0.00418	4,732.93	0.00553	32.0
187	4014	1,448.501	0.00202	1,754.91	0.00205	1.2
188	4015	102,806.585	0.14362	149,323.89	0.17432	21.4
189	4016	67,969.147	0.09495	95,298.20	0.11125	17.2
190	4102	92.128	0.00013	266.92	0.00031	142.1
191	4104	55,715.892	0.07783	81,973.27	0.09570	22.9
192	4204	63.663	0.00009	201.14	0.00023	164.0
193	4205	2,256.298	0.00315	7,237.37	0.00845	168.0
194	4303	958.981	0.00134	1,640.30	0.00191	42.9
195	4402	19,582.522	0.02736	24,500.52	0.02860	4.6
196	4405	1,229.285	0.00172	1,491.95	0.00174	1.4
197	4418	585,809.036	0.81837	717,256.13	0.83733	2.3
198	4501	148.658	0.00021	178.59	0.00021	0.4
199	4702	521.453	0.00073	42,054.69	0.04909	6,639.5
200	4703	587,360.891	0.82054	888,931.88	1.03775	26.5
201	4704	410.459	0.00057	1,511.63	0.00176	207.8
202	4802	737,814.770	1.03072	1,049,909.51	1.22567	18.9
203	4806	3,581.490	0.00500	4,354.28	0.00508	1.6
204	4808	1,788.457	0.00250	2,798.95	0.00327	30.8
205	4905	64.944	0.00009	140.61	0.00016	80.9

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206	4908	852.066	0.00119	1,850.78	0.00216	81.5
207	4909	5,306.246	0.00741	6,400.49	0.00747	0.8
208	4910	1,537.841	0.00215	2,169.99	0.00253	17.9
209	5101	46.201	0.00006	133.02	0.00016	140.6
210	5111	446.545	0.00062	3,229.07	0.00377	504.3
211	5203	10,014.762	0.01399	12,711.68	0.01484	6.1
212	5211	17,251.593	0.02410	22,105.63	0.02581	7.1
213	5301	0.020	0.00000	15.00	0.00002	62,553.5
214	5304	21.440	0.00003	36.54	0.00004	42.4
215	5310	232.434	0.00032	573.77	0.00067	106.3
216	5402	455,456.011	0.63627	554,732.80	0.64760	1.8
217	5403	4,161.481	0.00581	9,059.10	0.01058	81.9
218	5404	577.688	0.00081	1,317.77	0.00154	90.6
219	5406	387.314	0.00054	999.07	0.00117	115.6
220	5503	49,039.900	0.06851	71,808.57	0.08383	22.4
221	5504	96,970.087	0.13547	123,952.82	0.14470	6.8
222	5514	50,172.992	0.07009	77,460.03	0.09043	29.0
223	5601	11,702.831	0.01635	23,409.90	0.02733	67.2
224	5602	585.315	0.00082	1,655.90	0.00193	136.4
225	5603	21,954.801	0.03067	27,885.94	0.03255	6.1
226	5607	2,959.855	0.00413	3,962.48	0.00463	11.9
227	5702	8,639.123	0.01207	14,293.90	0.01669	38.3
228	5705	11,623.097	0.01624	14,726.15	0.01719	5.9
229	5806	13,061.614	0.01825	16,900.50	0.01973	8.1
230	5808	622.735	0.00087	917.84	0.00107	23.2
231	5809	0.833	0.00000	231.67	0.00027	23,141.2
232	5902	66,652.755	0.09311	88,393.87	0.10319	10.8
233	5910	0.617	0.00000	2.71	0.00000	267.6
234	6101	19,868.477	0.02776	45,864.82	0.05354	92.9
235	6102	15,551.337	0.02173	48,455.78	0.05657	160.4
236	6103	111,314.421	0.15551	175,621.26	0.20502	31.8
237	6104	125,664.073	0.17555	152,615.36	0.17816	1.5
238	6105	112,798.130	0.15758	191,792.43	0.22390	42.1
239	6106	129,165.983	0.18044	179,505.70	0.20956	16.1
240	6107	14,533.834	0.02030	20,846.77	0.02434	19.9
241	6109	245,869.364	0.34348	311,661.55	0.36384	5.9
242	6114	19,577.622	0.02735	31,949.52	0.03730	36.4
243	6117	9,655.582	0.01349	16,420.63	0.01917	42.1
244	6201	250,742.543	0.35028	307,504.35	0.35898	2.5
245	6210	43,123.955	0.06024	56,500.03	0.06596	9.5
246	6305	62,421.201	0.08720	83,005.72	0.09690	11.1
247	6307	7,723.979	0.01079	9,327.56	0.01089	0.9
248	6309	3,138.730	0.00438	6,748.54	0.00788	79.7
249	6503	76.063	0.00011	134.88	0.00016	48.2
250	6504	401.284	0.00056	763.56	0.00089	59.0
251	6506	6,350.644	0.00887	7,757.66	0.00906	2.1
252	6602	32.045	0.00004	191.97	0.00022	400.6
253	6702	1,977.137	0.00276	2,551.98	0.00298	7.9
254	6703	3,901.519	0.00545	8,751.03	0.01022	87.4
255	6802	27,417.430	0.03830	33,882.65	0.03955	3.3
256	6806	246.554	0.00034	592.91	0.00069	101.0
257	6807	221.075	0.00031	310.56	0.00036	17.4

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258	6812	3,034.704	0.00424	3,762.78	0.00439	3.6
259	6813	8,915.770	0.01246	10,822.72	0.01263	1.4
260	6815	3,664.954	0.00512	5,050.80	0.00590	15.2
261	6902	3,291.246	0.00460	4,783.81	0.00558	21.5
262	6904	783.187	0.00109	5,036.25	0.00588	437.4
263	7003	252.880	0.00035	518.74	0.00061	71.4
264	7008	172.810	0.00024	302.41	0.00035	46.2
265	7009	13,855.666	0.01936	2,116.85	0.02582	33.4
266	7012	1.515	0.00000	9.05	0.00001	399.2
267	7014	28.506	0.00004	65.00	0.00008	90.6
268	7017	1,165.828	0.00163	2,077.28	0.00243	48.9
269	7020	1,676.374	0.00234	2,080.35	0.00243	3.7
270	7101	5,866.158	0.00819	10,734.59	0.01253	52.9
271	7102	10.786	0.00002	4,952.75	0.00578	38,272.0
272	7104	11.493	0.00002	42.33	0.00005	207.8
273	7105	94.699	0.00013	214.65	0.00025	89.4
274	7109	0.307	0.00000	487.85	0.00057	132,692.1
275	7111	2.035	0.00000	248.65	0.00029	10,110.5
276	7112	284.159	0.00040	349.87	0.00041	2.9
277	7113	65,589.753	0.09163	79,362.32	0.09265	1.1
278	7115	117.026	0.00016	180.43	0.00021	28.8
279	7117	9,361.386	0.01308	12,336.62	0.01440	10.1
280	7118	5.926	0.00001	248.67	0.00029	3,406.6
281	7202	68,431.557	0.09560	84,028.51	0.09810	2.6
282	7204	19,967.686	0.02789	33,926.27	0.03961	42.0
283	7205	4,664.661	0.00652	6,114.70	0.00714	9.5
284	7211	101.678	0.00014	335.07	0.00039	175.4
285	7214	1,788.704	0.00250	3,270.31	0.00382	52.8
286	7216	14,308.587	0.01999	20,779.31	0.02426	21.4
287	7217	16,800.382	0.02347	23,977.82	0.02799	19.3
288	7219	11,622.147	0.01624	43,873.34	0.05122	215.5
289	7220	4,630.528	0.00647	7,857.38	0.00917	41.8
290	7224	37.167	0.00005	59.68	0.00007	34.2
291	7225	281.796	0.00039	397.57	0.00046	17.9
292	7228	187.418	0.00026	661.31	0.00077	194.9
293	7302	7,506.496	0.01049	11,015.69	0.01286	22.6
294	7304	46,722.459	0.06527	108,850.71	0.12707	94.7
295	7306	14,854.047	0.02075	37,931.18	0.04428	113.4
296	7307	57,468.610	0.08028	83,176.18	0.09710	20.9
297	7308	42,992.138	0.06006	60,030.00	0.07008	16.7
298	7310	17,060.316	0.02383	22,481.29	0.02624	10.1
299	7311	4,027.642	0.00563	11,379.50	0.01328	136.1
300	7312	8,382.828	0.01171	14,904.20	0.01740	48.6
301	7315	13,593.730	0.01899	20,194.69	0.02358	24.1
302	7316	65.410	0.00009	2,007.34	0.00234	2,464.5
303	7318	45,296.391	0.06328	56,922.79	0.06645	5.0
304	7320	13,048.283	0.01823	23,670.66	0.02763	51.6
305	7321	8,755.262	0.01223	11,226.38	0.01311	7.2
306	7322	408.964	0.00057	898.79	0.00105	83.7
307	7324	435.965	0.00061	954.62	0.00111	83.0
308	7325	6,970.265	0.00974	8,436.80	0.00985	1.1
309	7326	16,795.481	0.02346	26,830.96	0.03132	33.5

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310	7403	373,079.120	0.52119	676,302.54	0.78952	51.5
311	7404	33,350.649	0.04659	67,670.21	0.07900	69.6
312	7407	58,709.520	0.08202	96,875.70	0.11309	37.9
313	7408	302,600.030	0.42273	397,197.44	0.46369	9.7
314	7409	2,091.017	0.00292	2,946.39	0.00344	17.8
315	7413	285.923	0.00040	423.08	0.00049	23.7
316	7501	722,922.371	1.00992	925,452.46	1.08038	7.0
317	7503	173.321	0.00024	315.98	0.00037	52.3
318	7603	254.770	0.00036	1,039.79	0.00121	241.1
319	7606	45,126.998	0.06304	87,807.80	0.10251	62.6
320	7607	23,716.062	0.03313	32,358.54	0.03778	14.0
321	7608	11,044.250	0.01543	14,906.23	0.01740	12.8
322	7614	5,345.180	0.00747	31,083.88	0.03629	386.0
323	7616	6,054.576	0.00846	8,314.84	0.00971	14.8
324	7803	44.968	0.00006	94.73	0.00011	76.0
325	7901	636.957	0.00089	1,173.15	0.00137	53.9
326	7902	78.348	0.00011	127.95	0.00015	36.5
327	7907	2,749.750	0.00384	3,828.92	0.00447	16.4
328	8001	608,709.688	0.85036	911,388.96	1.06396	25.1
329	8005	10.340	0.00001	1,056.79	0.00123	8,440.7
330	8007	542.664	0.00076	1,326.19	0.00155	104.2
331	8101	77.998	0.00011	114.35	0.00013	22.5
332	8104	108.050	0.00015	225.89	0.00026	74.7
333	8107	0.941	0.00000	2.07	0.00000	83.9
334	8113	21.660	0.00003	94.55	0.00011	264.8
335	8201	397.530	0.00056	918.67	0.00107	93.1
336	8204	217.561	0.00030	1,698.95	0.00198	552.6
337	8206	131.063	0.00018	594.78	0.00069	279.2
338	8208	6,726.963	0.00940	20,983.74	0.02450	160.7
339	8212	35.571	0.00005	62.29	0.00007	46.3
340	8301	4,974.209	0.00695	13,750.85	0.01605	131.0
341	8302	34,839.735	0.04867	42,071.72	0.04911	0.9
342	8303	9,477.492	0.01324	11,468.24	0.01339	1.1
343	8304	3,635.404	0.00508	4,406.30	0.00514	1.3
344	8306	6,215.044	0.00868	8,882.21	0.01037	19.4
345	8309	10,021.347	0.01400	16,997.76	0.01984	41.7
346	8402	17,790.272	0.02485	22,474.41	0.02624	5.6
347	8405	1,268.486	0.00177	5,595.81	0.00653	268.6
348	8406	8,621.529	0.01204	13,771.36	0.01608	33.5
349	8407	92,621.909	0.12939	149,234.63	0.17422	34.6
350	8408	7,000.035	0.00978	13,677.77	0.01597	63.3
351	8409	75,376.791	0.10530	115,853.27	0.13525	28.4
352	8411	2,063.364	0.00288	10,792.09	0.01260	337.1
353	8412	4,733.127	0.00661	10,469.36	0.01222	84.8
354	8413	18,015.331	0.02517	42,744.43	0.04990	98.3
355	8417	402.899	0.00056	849.70	0.00099	76.2
356	8418	91,921.364	0.12841	110,188.14	0.12863	0.2
357	8421	47,701.180	0.06664	64,523.34	0.07532	13.0
358	8422	3,083.045	0.00431	5,000.82	0.00584	35.5
359	8423	4,073.368	0.00569	19,253.78	0.02248	295.0
360	8424	4,382.758	0.00612	5,504.67	0.00643	5.0
361	8425	2,720.138	0.00380	7,846.16	0.00916	141.0

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362	8426	10,171.320	0.01421	57,852.84	0.06754	375.3
363	8428	4,398.306	0.00614	6,453.00	0.00753	22.6
364	8429	47,759.014	0.06672	89,979.26	0.10504	57.4
365	8430	5,399.442	0.00754	13,651.30	0.01594	111.3
366	8431	117,587.106	0.16427	190,034.17	0.22185	35.1
367	8432	323.956	0.00045	593.01	0.00069	53.0
368	8433	169.182	0.00024	228.68	0.00027	13.0
369	8435	167.859	0.00023	250.88	0.00029	24.9
370	8436	596.303	0.00083	2,050.20	0.00239	187.3
371	8437	640.071	0.00089	2,384.72	0.00278	211.3
372	8438	4,469.647	0.00624	9,190.52	0.01073	71.8
373	8441	1,588.663	0.00222	3,195.79	0.00373	68.1
374	8442	597.426	0.00083	1,867.70	0.00218	161.2
375	8443	4,123.401	0.00576	18,040.12	0.02106	265.6
376	8444	74.619	0.00010	338.28	0.00039	278.8
377	8445	1,393.131	0.00195	4,305.79	0.00503	158.3
378	8447	1,658.275	0.00232	2,229.27	0.00260	12.3
379	8449	559.204	0.00078	781.84	0.00091	16.8
380	8453	785.027	0.00110	999.78	0.00117	6.4
381	8455	586.479	0.00082	2,837.76	0.00331	304.3
382	8456	60.408	0.00008	247.52	0.00029	242.4
383	8459	528.765	0.00074	2,177.27	0.00254	244.1
384	8461	844.165	0.00118	1,420.14	0.00166	40.6
385	8462	2,779.260	0.00388	7,040.46	0.00822	111.7
386	8463	294.751	0.00041	528.05	0.00062	49.7
387	8464	1,108.321	0.00155	2,386.96	0.00279	80.0
388	8469	44,516.958	0.06219	67,736.85	0.07908	27.2
389	8470	13,412.663	0.01874	17,256.54	0.02015	7.5
390	8471	1,517,218.736	2.11954	1,850,386.92	2.16015	1.9
391	8472	1,562.456	0.00218	1,898.45	0.00222	1.5
392	8474	13,485.093	0.01884	24,875.24	0.02904	54.1
393	8475	2,300.209	0.00321	4,607.91	0.00538	67.4
394	8477	8,761.702	0.01224	12,559.27	0.01466	19.8
395	8479	32,727.567	0.04572	63,502.73	0.07413	62.1
396	8481	23,090.177	0.03226	29,607.19	0.03456	7.2
397	8483	47,273.981	0.06604	60,297.85	0.07039	6.6
398	8484	14,771.950	0.02064	19,382.71	0.02263	9.6
399	8485	4,310.614	0.00602	6,914.29	0.00807	34.0
400	8507	195,113.545	0.27257	252,144.54	0.29436	8.0
401	8509	5,301.698	0.00741	10,122.68	0.01182	59.6
402	8510	15,992.222	0.02234	19,283.50	0.02251	0.8
403	8512	27,628.888	0.03860	41,851.24	0.04886	26.6
404	8515	7,070.359	0.00988	11,937.95	0.01394	41.1
405	8517	114,975.879	0.16062	209,562.84	0.24465	52.3
406	8525	77,818.787	0.10871	105,092.56	0.12269	12.9
407	8526	35,066.720	0.04899	53,843.05	0.06286	28.3
408	8530	13,156.442	0.01838	23,125.71	0.02700	46.9
409	8531	12,817.713	0.01791	41,232.25	0.04813	168.8
410	8532	92,215.460	0.12882	154,729.76	0.18063	40.2
411	8533	68,586.288	0.09581	138,260.10	0.16141	68.5
412	8534	167,718.404	0.23430	607,666.03	0.70939	202.8
413	8538	18,666.791	0.02608	27,057.22	0.03159	21.1

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414	8539	94,439.749	0.13193	113,611.94	0.13263	0.5
415	8543	32,180.412	0.04496	44,203.12	0.05160	14.8
416	8546	5,373.620	0.00751	7,742.70	0.00904	20.4
417	8547	2,804.569	0.00392	3,977.30	0.00464	18.5
418	8548	13,226.536	0.01848	46,385.75	0.05415	193.1
419	8604	1.972	0.00000	21.86	0.00003	826.1
420	8605	22.387	0.00003	47.70	0.00006	78.0
421	8609	36,243.703	0.05063	59,945.85	0.06998	38.2
422	8703	140,624.504	0.19645	245,790.34	0.28694	46.1
423	8704	5,061.561	0.00707	9,045.38	0.01056	49.3
424	8705	4,894.761	0.00684	6,346.36	0.00741	8.3
425	8708	532,557.429	0.74398	757,861.85	0.88473	18.9
426	8712	21,662.540	0.03026	34,281.96	0.04002	32.2
427	8716	1,948.395	0.00272	6,135.75	0.00716	163.2
428	8802	1,954.662	0.00273	19,997.84	0.02335	754.9
429	8803	44,490.263	0.06215	99,014.20	0.11559	86.0
430	8901	33,896.550	0.04735	114,706.23	0.13391	182.8
431	8904	8,450.346	0.01181	52,071.35	0.06079	414.9
432	8905	5,337.257	0.00746	25,791.89	0.03011	303.8
433	8907	592.973	0.00083	966.04	0.00113	36.1
434	8908	0.139	0.00000	70.63	0.00008	42,361.7
435	9001	65,641.688	0.09170	109,442.86	0.12776	39.3
436	9010	873.909	0.00122	1,599.03	0.00187	52.9
437	9012	0.058	0.00000	205.97	0.00024	296,661.1
438	9014	363.109	0.00051	656.88	0.00077	51.2
439	9015	2,425.222	0.00339	6,778.53	0.00791	133.6
440	9016	452.286	0.00063	1,265.94	0.00148	133.9
441	9017	470.987	0.00066	979.09	0.00114	73.7
442	9019	28.054	0.00004	183.85	0.00021	447.6
443	9020	218.567	0.00031	1,150.71	0.00134	340.0
445	9022	2,065.620	0.00289	3,532.59	0.00412	42.9
446	9023	789.998	0.00110	4,471.92	0.00522	373.0
447	9024	173.774	0.00024	344.75	0.00040	65.8
448	9025	367.239	0.00051	647.01	0.00076	47.2
449	9028	24,389.847	0.03407	30,983.97	0.03617	6.2
450	9029	1,204.491	0.00168	3,353.23	0.00391	132.6
451	9030	1,829.228	0.00256	3,886.91	0.00454	77.6
452	9031	4,286.364	0.00599	6,321.02	0.00738	23.2
453	9032	1,537.899	0.00215	3,375.52	0.00394	83.4
454	9102	268.143	0.00037	582.47	0.00068	81.5
455	9104	74.547	0.00010	121.24	0.00014	35.9
456	9106	346.533	0.00048	992.95	0.00116	139.4
457	9107	0.631	0.00000	88.66	0.00010	11,641.2
458	9111	1,121.716	0.00157	1,683.97	0.00197	25.5
459	9112	0.213	0.00000	4.24	0.00000	1,563.9
460	9114	107.088	0.00015	154.93	0.00018	20.9
461	9301	62.311	0.00009	123.45	0.00014	65.6
462	9306	50.120	0.00007	873.01	0.00102	1,355.6
464	9404	17,125.215	0.02392	20,954.28	0.02446	2.3
465	9405	22,609.029	0.03158	33,492.18	0.03910	23.8
466	9406	2,795.352	0.00391	9,769.52	0.01140	192.1
467	9504	5,907.983	0.00825	7,431.00	0.00867	5.1

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468	9601	1,070.246	0.00150	1,419.33	0.00166	10.8
469	9604	7.628	0.00001	30.05	0.00004	229.2
470	9609	35,860.288	0.05010	43,085.75	0.05030	0.4
471	9614	45.295	0.00006	91.25	0.00011	68.4
472	9616	1,169.607	0.00163	1,401.63	0.00164	0.1
473	9617	62.490	0.00009	78.81	0.00009	5.4
474	9618	570.627	0.00080	1,073.82	0.00125	57.3
475	9701	1,847.823	0.00258	3,493.28	0.00408	58.0
476	9702	531.404	0.00074	1,474.51	0.00172	131.9
	TOTAL	71,582,468.12		85,659,947.50		

Annex 18. Increasing Trend in Share Some Import of Japan's Commodities						
No	HS Code	Year				Changes in Share
		2004		2005		
		Trade Value ($ '000)	Share (%)	Trade Value ($ '000)	Share (%)	(%)
1	0102	27,717.346	0.00609	38,018.98	0.00737	21.1
2	0104	52.271	0.00001	145.71	0.00003	146.0
3	0204	132,218.813	0.02904	156,352.53	0.03031	4.4
4	0206	271,597.367	0.05966	417,008.40	0.08084	35.5
5	0207	749,177.373	0.16456	924,496.77	0.17921	8.9
6	0209	23,866.509	0.00524	40,312.01	0.00781	49.1
7	0304	1,737,159.455	0.38158	1,985,029.78	0.38480	0.8
8	0401	57.209	0.00001	140.68	0.00003	117.0
9	0404	75,499.357	0.01658	89,777.49	0.01740	4.9
10	0407	4,215.377	0.00093	16,746.07	0.00325	250.6
11	0408	54,122.477	0.01189	71,870.79	0.01393	17.2
12	0502	4,074.999	0.00090	5,325.43	0.00103	15.3
13	0509	559.140	0.00012	964.72	0.00019	52.3
14	0510	5,825.070	0.00128	6,651.48	0.00129	0.8
15	0701	2.923	0.00000	36.10	0.00001	989.8
16	0802	305,769.681	0.06716	366,565.60	0.07106	5.8
17	0901	673,546.509	0.14795	956,331.83	0.18538	25.3
18	0907	1,058.170	0.00023	1,261.75	0.00024	5.2
19	0908	5,544.983	0.00122	6,786.95	0.00132	8.0
20	0909	8,113.439	0.00178	9,673.63	0.00188	5.2
21	1008	27,975.366	0.00615	33,757.01	0.00654	6.5
22	1101	1,126.072	0.00025	1,500.45	0.00029	17.6
23	1104	11,570.637	0.00254	13,439.12	0.00261	2.5
24	1106	2,501.851	0.00055	4,390.15	0.00085	54.9
25	1204	7,083.020	0.00156	9,034.94	0.00175	12.6
26	1208	529.636	0.00012	1,373.55	0.00027	128.9
27	1210	30,330.571	0.00666	40,176.25	0.00779	16.9
28	1301	13,212.409	0.00290	16,887.67	0.00327	12.8
29	1302	283,319.663	0.06223	342,029.86	0.06630	6.5
30	1504	35,841.904	0.00787	45,631.00	0.00885	12.4
31	1506	951.443	0.00021	1,261.57	0.00024	17.0
32	1507	29,455.674	0.00647	49,760.31	0.00965	49.1

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33	1510	1,898.404	0.00042	2,439.47	0.00047	13.4
34	1514	38,525.033	0.00846	46,062.72	0.00893	5.5
35	1515	84,387.824	0.01854	99,820.63	0.01935	4.4
36	1517	17,525.972	0.00385	22,198.59	0.00430	11.8
37	1518	10,674.372	0.00234	13,958.83	0.00271	15.4
38	1519	121,625.171	0.02672	151,050.73	0.02928	9.6
39	1521	11,439.160	0.00251	14,460.61	0.00280	11.6
40	1522	6,801.731	0.00149	7,872.66	0.00153	2.1
41	1601	111,685.313	0.02453	133,229.43	0.02583	5.3
42	1602	1,221,694.660	0.26835	1,656,399.68	0.32109	19.7
43	1701	294,222.298	0.06463	368,918.76	0.07151	10.7
44	1703	14,682.596	0.00323	19,811.95	0.00384	19.1
45	1804	77,280.914	0.01698	108,548.60	0.02104	24.0
46	2006	16,059.641	0.00353	20,140.74	0.00390	10.7
47	2009	496,368.363	0.10903	594,117.02	0.11517	5.6
48	2106	787,128.662	0.17290	945,733.43	0.18333	6.0
49	2201	231,346.022	0.05082	278,917.51	0.05407	6.4
50	2203	42,702.138	0.00938	49,151.40	0.00953	1.6
51	2205	4,025.152	0.00088	7,215.91	0.00140	58.2
52	2207	156,480.198	0.03437	212,619.04	0.04122	19.9
53	2302	15,892.857	0.00349	20,024.82	0.00388	11.2
54	2304	413,998.757	0.09094	482,031.28	0.09344	2.8
55	2306	11,011.467	0.00242	14,509.79	0.00281	16.3
56	2308	23,606.529	0.00519	27,088.81	0.00525	1.3
57	2402	2,359,034.384	0.51818	3,102,713.56	0.60146	16.1
58	2501	252,933.128	0.05556	321,807.95	0.06238	12.3
59	2502	1,321.205	0.00029	3,506.18	0.00068	134.2
60	2504	33,337.779	0.00732	40,218.63	0.00780	6.5
61	2509	4.291	0.00000	17.85	0.00000	267.0
62	2511	4,386.153	0.00096	6,050.58	0.00117	21.7
63	2512	3,695.733	0.00081	4,222.50	0.00082	0.8
64	2518	52,353.741	0.01150	63,657.94	0.01234	7.3
65	2523	42,808.773	0.00940	50,149.42	0.00972	3.4
66	2526	44,231.214	0.00972	53,877.05	0.01044	7.5
67	2530	64,672.001	0.01421	73,482.39	0.01424	0.3
68	2601	3,990,504.323	0.87654	5,577,658.34	1.08122	23.4
69	2602	167,119.098	0.03671	220,516.89	0.04275	16.4
70	2603	3,767,972.223	0.82766	4,819,499.16	0.93425	12.9
71	2604	290,807.613	0.06388	344,455.41	0.06677	4.5
72	2605	500.480	0.00011	2,089.78	0.00041	268.5
73	2607	103,277.041	0.02269	135,055.59	0.02618	15.4
74	2608	342,461.146	0.07522	433,111.45	0.08396	11.6
75	2613	607,243.705	0.13339	1,650,787.73	0.32000	139.9
76	2614	83,332.939	0.01830	108,497.14	0.02103	14.9
77	2615	45,010.493	0.00989	60,521.12	0.01173	18.7
78	2617	72.786	0.00002	339.14	0.00007	311.2
79	2619	32,270.309	0.00709	56,257.09	0.01091	53.8
80	2620	467,611.268	0.10271	706,345.09	0.13692	33.3
81	2701	10,118,711.508	2.22265	13,704,090.84	2.65652	19.5

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82	2702	1,576.420	0.00035	2,511.52	0.00049	40.6
83	2706	17,600.380	0.00387	49,922.29	0.00968	150.3
84	2707	773,588.197	0.16992	1,160,731.85	0.22501	32.4
85	2709	55,993,031.057	12.29930	79,772,916.50	15.46387	25.7
86	2710	10,669,513.059	2.34364	13,033,561.45	2.52654	7.8
87	2711	20,480,751.367	4.49875	24,198,150.12	4.69078	4.3
88	2714	37,085.385	0.00815	56,227.87	0.01090	33.8
89	2801	11,134.109	0.00245	14,357.54	0.00278	13.8
90	2803	108,905.520	0.02392	133,170.47	0.02581	7.9
91	2804	951,535.481	0.20901	1,227,539.73	0.23796	13.8
92	2805	62,834.857	0.01380	94,403.25	0.01830	32.6
93	2806	109.676	0.00002	801.95	0.00016	545.3
94	2808	488.575	0.00011	1,451.63	0.00028	162.2
95	2809	11,113.935	0.00244	17,812.56	0.00345	41.4
96	2810	39,082.671	0.00858	44,331.10	0.00859	0.1
97	2811	135,730.961	0.02981	157,317.03	0.03050	2.3
98	2813	2,268.097	0.00050	2,733.03	0.00053	6.3
99	2819	9,464.576	0.00208	11,659.18	0.00226	8.7
100	2820	12,471.139	0.00274	20,027.33	0.00388	41.7
101	2825	218,501.918	0.04800	341,611.05	0.06622	38.0
102	2827	54,618.355	0.01200	62,022.66	0.01202	0.2
103	2829	23,850.199	0.00524	29,338.55	0.00569	8.6
104	2830	8,066.850	0.00177	11,663.16	0.00226	27.6
105	2831	3,966.331	0.00087	5,942.24	0.00115	32.2
106	2834	11,614.272	0.00255	18,525.68	0.00359	40.8
107	2839	27,034.135	0.00594	31,574.82	0.00612	3.1
108	2841	56,859.626	0.01249	128,948.91	0.02500	100.1
109	2842	43,032.742	0.00945	50,520.27	0.00979	3.6
110	2843	29,950.056	0.00658	73,530.95	0.01425	116.7
111	2847	5,942.577	0.00131	9,428.85	0.00183	40.0
112	2849	141,340.517	0.03105	216,454.96	0.04196	35.2
113	2901	148,402.222	0.03260	170,748.98	0.03310	1.5
114	2904	52,538.278	0.01154	60,498.08	0.01173	1.6
115	2907	100,475.855	0.02207	227,884.77	0.04418	100.2
116	2909	265,817.120	0.05839	333,555.78	0.06466	10.7
117	2910	25,922.998	0.00569	30,586.77	0.00593	4.1
118	2912	39,336.384	0.00864	51,259.21	0.00994	15.0
119	2913	996.481	0.00022	2,348.54	0.00046	108.0
120	2914	81,626.145	0.01793	136,963.31	0.02655	48.1
121	2916	188,499.657	0.04141	255,024.36	0.04944	19.4
122	2921	357,832.022	0.07860	405,516.73	0.07861	0.0
123	2923	29,517.122	0.00648	43,609.89	0.00845	30.4
124	2925	36,204.097	0.00795	48,587.18	0.00942	18.4
125	2927	16,781.149	0.00369	24,464.40	0.00474	28.7
126	2928	41,787.032	0.00918	52,067.39	0.01009	10.0
127	2939	50,877.243	0.01118	70,963.36	0.01376	23.1
128	3004	4,599,122.143	1.01023	5,518,691.86	1.06979	5.9
129	3005	121,469.620	0.02668	141,290.16	0.02739	2.7
130	3102	109,271.986	0.02400	139,519.88	0.02705	12.7

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131	3201	6,123.518	0.00135	7,659.57	0.00148	10.4
132	3207	96,808.335	0.02126	113,876.99	0.02207	3.8
133	3211	199.906	0.00004	264.61	0.00005	16.8
134	3301	130,773.817	0.02873	152,303.93	0.02952	2.8
135	3501	99,311.439	0.02181	130,030.17	0.02521	15.5
136	3601	5,869.355	0.00129	6,811.92	0.00132	2.4
137	3602	4,309.665	0.00095	4,978.93	0.00097	2.0
138	3603	25,764.889	0.00566	31,104.48	0.00603	6.5
139	3704	441.377	0.00010	1,039.93	0.00020	107.9
140	3705	23,424.975	0.00515	54,479.11	0.01056	105.2
141	3706	13,721.600	0.00301	18,852.17	0.00365	21.2
142	3801	68,460.012	0.01504	78,915.73	0.01530	1.7
143	3803	14,481.281	0.00318	16,488.49	0.00320	0.5
144	3804	5,925.676	0.00130	6,810.03	0.00132	1.4
145	3806	58,470.005	0.01284	78,778.91	0.01527	18.9
146	3812	59,340.093	0.01303	75,829.24	0.01470	12.8
147	3814	23,770.333	0.00522	27,177.62	0.00527	0.9
148	3815	530,115.472	0.11644	657,793.38	0.12751	9.5
149	3816	25,270.768	0.00555	31,176.82	0.00604	8.9
150	3901	230,633.213	0.05066	295,241.77	0.05723	13.0
151	3902	156,039.615	0.03428	193,015.46	0.03742	9.2
152	3903	105,426.131	0.02316	131,238.78	0.02544	9.9
153	3906	99,061.739	0.02176	113,813.85	0.02206	1.4
154	3907	1,008,179.455	0.22145	1,268,519.33	0.24590	11.0
155	3911	166,457.052	0.03656	205,339.51	0.03980	8.9
156	3912	92,095.217	0.02023	108,164.71	0.02097	3.6
157	3920	724,047.063	0.15904	844,209.02	0.16365	2.9
158	3923	1,188,819.729	0.26113	1,398,052.01	0.27101	3.8
159	3925	107,349.384	0.02358	122,921.62	0.02383	1.1
160	4002	268,368.539	0.05895	354,022.75	0.06863	16.4
161	4003	3,544.557	0.00078	4,579.55	0.00089	14.0
162	4004	1,905.038	0.00042	3,097.24	0.00060	43.5
163	4006	3,171.218	0.00070	4,654.94	0.00090	29.5
164	4008	46,785.668	0.01028	56,875.02	0.01103	7.3
165	4011	578,543.584	0.12708	690,539.80	0.13386	5.3
166	4102	2,651.020	0.00058	3,523.89	0.00068	17.3
167	4110	41.134	0.00001	134.42	0.00003	188.4
168	4205	43,003.620	0.00945	49,538.62	0.00960	1.7
169	4304	637.441	0.00014	731.42	0.00014	1.3
170	4405	343.346	0.00008	510.03	0.00010	31.1
171	4808	1,684.874	0.00037	3,062.79	0.00059	60.4
172	4809	1,984.214	0.00044	2,833.43	0.00055	26.0
173	4816	753.336	0.00017	2,208.77	0.00043	158.7
174	4817	19,521.076	0.00429	22,552.52	0.00437	2.0
175	4821	19,972.389	0.00439	23,280.86	0.00451	2.9
176	4823	154,482.865	0.03393	175,140.08	0.03395	0.1
177	4906	1,261.181	0.00028	8,624.21	0.00167	503.5
178	4907	49,249.604	0.01082	88,731.71	0.01720	59.0
179	5003	5,767.035	0.00127	6,978.42	0.00135	6.8

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180	5004	45,013.207	0.00989	52,813.49	0.01024	3.5
181	5007	71,886.616	0.01579	83,204.31	0.01613	2.1
182	5110	345.125	0.00008	648.10	0.00013	65.7
183	5204	779.288	0.00017	1,454.65	0.00028	64.7
184	5212	9,826.533	0.00216	13,968.30	0.00271	25.4
185	5309	18,849.548	0.00414	24,802.18	0.00481	16.1
186	5310	5,218.115	0.00115	6,177.56	0.00120	4.5
187	5311	5,119.744	0.00112	6,848.00	0.00133	18.0
188	5401	5,205.854	0.00114	6,069.80	0.00118	2.9
189	5404	17,829.369	0.00392	30,517.97	0.00592	51.1
190	5405	44.259	0.00001	117.55	0.00002	134.4
191	5603	204,981.372	0.04503	241,417.42	0.04680	3.9
192	5604	4,233.731	0.00093	5,144.80	0.00100	7.2
193	5605	311.813	0.00007	561.78	0.00011	59.0
194	5607	36,460.098	0.00801	41,862.40	0.00811	1.3
195	5608	75,517.456	0.01659	88,028.27	0.01706	2.9
196	5801	34,022.934	0.00747	43,350.69	0.00840	12.4
197	5802	1,043.006	0.00023	1,344.78	0.00026	13.8
198	5809	123.920	0.00003	148.14	0.00003	5.5
199	5902	59,818.853	0.01314	72,178.73	0.01399	6.5
200	5910	5,804.919	0.00128	7,272.32	0.00141	10.6
201	6001	14,478.123	0.00318	17,299.41	0.00335	5.4
202	6101	55,164.314	0.01212	67,615.41	0.01311	8.2
203	6104	486,203.156	0.10680	628,156.16	0.12177	14.0
204	6106	651,429.952	0.14309	805,515.24	0.15615	9.1
205	6112	107,707.150	0.02366	125,587.21	0.02434	2.9
206	6114	227,847.933	0.05005	328,665.44	0.06371	27.3
207	6217	47,836.663	0.01051	54,677.23	0.01060	0.9
208	6301	179,310.655	0.03939	210,545.62	0.04081	3.6
209	6305	166,273.751	0.03652	198,863.29	0.03855	5.5
210	6307	543,086.342	0.11929	626,072.43	0.12136	1.7
211	6401	78,827.312	0.01732	94,156.12	0.01825	5.4
212	6402	1,207,158.594	0.26516	1,384,593.29	0.26840	1.2
213	6405	31,890.435	0.00700	36,444.04	0.00706	0.9
214	6503	1,340.020	0.00029	1,657.08	0.00032	9.1
215	6504	11,844.808	0.00260	15,262.80	0.00296	13.7
216	6506	45,872.886	0.01008	52,469.05	0.01017	0.9
217	6507	4,027.205	0.00088	4,976.38	0.00096	9.1
218	6601	180,771.293	0.03971	212,008.02	0.04110	3.5
219	6804	50,003.837	0.01098	58,397.60	0.01132	3.1
220	6808	1,605.277	0.00035	2,204.62	0.00043	21.2
221	6815	79,596.827	0.01748	107,933.69	0.02092	19.7
222	6902	134,421.215	0.02953	165,608.99	0.03210	8.7
223	6907	41,380.255	0.00909	57,731.37	0.01119	23.1
224	6908	65,751.071	0.01444	74,763.87	0.01449	0.3
225	6909	111,309.125	0.02445	132,340.82	0.02565	4.9
226	7003	13,135.561	0.00289	14,993.17	0.00291	0.7
227	7005	138,855.100	0.03050	181,857.82	0.03525	15.6
228	7006	182,317.037	0.04005	258,418.54	0.05009	25.1

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229	7007	113,982.588	0.02504	135,090.86	0.02619	4.6
230	7014	154,441.327	0.03392	218,722.61	0.04240	25.0
231	7101	289,489.662	0.06359	331,577.68	0.06428	1.1
232	7107	257.009	0.00006	453.22	0.00009	55.6
233	7108	1,013,481.490	0.22262	1,168,938.27	0.22660	1.8
234	7110	2,450,029.743	0.53817	2,825,734.63	0.54776	1.8
235	7111	13.440	0.00000	64.01	0.00001	320.3
236	7112	373,631.017	0.08207	428,916.04	0.08314	1.3
237	7115	81,329.727	0.01786	103,932.10	0.02015	12.8
238	7116	45,395.501	0.00997	54,983.54	0.01066	6.9
239	7118	347.983	0.00008	10,653.96	0.00207	2,601.9
240	7201	174,882.474	0.03841	323,936.90	0.06279	63.5
241	7202	2,084,990.590	0.45798	2,435,810.91	0.47218	3.1
242	7203	999.314	0.00022	4,585.93	0.00089	305.0
243	7206	1,985.434	0.00044	3,900.84	0.00076	73.4
244	7207	34,671.467	0.00762	129,511.29	0.02511	229.6
245	7208	913,632.309	0.20069	1,164,291.01	0.22570	12.5
246	7209	401,071.072	0.08810	735,987.41	0.14267	61.9
247	7210	210,769.873	0.04630	377,954.31	0.07327	58.3
248	7211	19,465.070	0.00428	30,262.60	0.00587	37.2
249	7212	10,850.185	0.00238	15,114.08	0.00293	22.9
250	7213	58,824.825	0.01292	120,806.99	0.02342	81.2
251	7214	10,833.067	0.00238	29,048.31	0.00563	136.6
252	7215	3,780.549	0.00083	5,818.48	0.00113	35.8
253	7216	58,306.203	0.01281	90,538.92	0.01755	37.0
254	7217	114,376.435	0.02512	149,572.05	0.02899	15.4
255	7218	8,557.271	0.00188	13,894.82	0.00269	43.3
256	7221	21,709.174	0.00477	31,456.40	0.00610	27.9
257	7222	40,690.527	0.00894	52,352.60	0.01015	13.5
258	7224	13,211.026	0.00290	17,055.11	0.00331	13.9
259	7225	23,512.602	0.00516	38,307.17	0.00743	43.8
260	7226	12,334.364	0.00271	17,358.00	0.00336	24.2
261	7227	2,840.117	0.00062	8,719.36	0.00169	170.9
262	7228	27,395.942	0.00602	45,533.83	0.00883	46.7
263	7229	57,635.917	0.01266	78,081.09	0.01514	19.6
264	7301	1,840.673	0.00040	3,878.58	0.00075	86.0
265	7304	45,762.275	0.01005	84,540.31	0.01639	63.0
266	7306	83,308.637	0.01830	96,155.22	0.01864	1.9
267	7308	525,472.472	0.11542	865,605.65	0.16780	45.4
268	7312	96,742.080	0.02125	122,512.52	0.02375	11.8
269	7313	482.327	0.00011	577.44	0.00011	5.7
270	7314	27,796.787	0.00611	37,558.88	0.00728	19.2
271	7315	68,644.443	0.01508	88,693.62	0.01719	14.0
272	7316	2,172.377	0.00048	3,941.04	0.00076	60.1
273	7317	46,024.000	0.01011	55,463.60	0.01075	6.4
274	7318	450,800.087	0.09902	532,339.68	0.10319	4.2
275	7319	4,124.702	0.00091	5,752.94	0.00112	23.1
276	7320	50,366.756	0.01106	63,744.20	0.01236	11.7
277	7325	120,311.274	0.02643	142,628.40	0.02765	4.6

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278	7326	908,623.495	0.19959	1,051,321.18	0.20380	2.1
279	7406	13,645.459	0.00300	18,202.48	0.00353	17.7
280	7407	22,934.780	0.00504	30,895.09	0.00599	18.9
281	7408	59,832.115	0.01314	69,735.14	0.01352	2.9
282	7409	96,969.425	0.02130	121,073.48	0.02347	10.2
283	7411	38,349.510	0.00842	51,320.52	0.00995	18.1
284	7413	5,546.172	0.00122	11,329.75	0.00220	80.3
285	7414	3,192.790	0.00070	3,628.32	0.00070	0.3
286	7415	13,550.339	0.00298	16,738.44	0.00324	9.0
287	7417	33.167	0.00001	705.45	0.00014	1,777.1
288	7505	17,656.372	0.00388	28,329.95	0.00549	41.6
289	7506	54,109.918	0.01189	63,457.41	0.01230	3.5
290	7507	6,949.596	0.00153	12,225.25	0.00237	55.2
291	7508	10,028.893	0.00220	11,909.78	0.00231	4.8
292	7604	60,922.815	0.01338	77,090.19	0.01494	11.7
293	7606	241,673.749	0.05309	307,708.25	0.05965	12.4
294	7610	337,216.590	0.07407	399,577.34	0.07746	4.6
295	7611	107.030	0.00002	367.79	0.00007	203.3
296	7612	27,505.432	0.00604	33,821.25	0.00656	8.5
297	7613	10,007.118	0.00220	11,448.30	0.00222	1.0
298	7614	482.227	0.00011	1,274.11	0.00025	133.2
299	7616	213,730.151	0.04695	271,667.35	0.05266	12.2
300	7801	18,765.028	0.00412	31,286.19	0.00606	47.1
301	7804	4,786.805	0.00105	6,739.06	0.00131	24.2
302	7806	7.964	0.00000	2,935.30	0.00057	32,426.5
303	7901	2,391.535	0.00053	68,068.11	0.01319	2,411.8
304	7903	79.410	0.00002	10,916.50	0.00212	12,031.8
305	7905	827.373	0.00018	1,384.84	0.00027	47.7
306	7906	1,203.115	0.00026	2,020.50	0.00039	48.2
307	7907	2,057.048	0.00045	18,942.28	0.00367	712.7
308	8001	18,748.268	0.00412	265,290.71	0.05143	1,148.8
309	8003	357.658	0.00008	13,870.02	0.00269	3,322.4
310	8005	125.400	0.00003	456.49	0.00009	221.3
311	8101	49,868.633	0.01095	83,010.46	0.01609	46.9
312	8102	104,170.062	0.02288	198,111.96	0.03840	67.8
313	8106	7,185.675	0.00158	8,354.49	0.00162	2.6
314	8107	3,636.536	0.00080	10,670.31	0.00207	158.9
315	8108	95,478.725	0.02097	151,660.91	0.02940	40.2
316	8112	317,106.245	0.06965	512,889.00	0.09942	42.7
317	8201	28,221.083	0.00620	32,098.04	0.00622	0.4
318	8202	63,099.428	0.01386	72,924.07	0.01414	2.0
319	8207	282,573.471	0.06207	326,558.35	0.06330	2.0
320	8208	65,220.298	0.01433	84,780.54	0.01643	14.7
321	8209	123,156.396	0.02705	149,700.58	0.02902	7.3
322	8301	152,902.429	0.03359	181,820.95	0.03525	4.9
323	8303	12,456.745	0.00274	15,383.42	0.00298	9.0
324	8308	33,048.717	0.00726	40,169.93	0.00779	7.3
325	8311	31,787.202	0.00698	37,300.61	0.00723	3.6
326	8402	26,521.174	0.00583	45,195.21	0.00876	50.4

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327	8403	3,171.584	0.00070	4,740.76	0.00092	31.9
328	8404	3,324.996	0.00073	11,820.29	0.00229	213.7
329	8406	90,391.879	0.01986	156,955.50	0.03043	53.2
330	8407	278,402.333	0.06115	329,200.26	0.06382	4.4
331	8408	300,299.562	0.06596	381,579.82	0.07397	12.1
332	8409	794,392.583	0.17449	964,890.43	0.18704	7.2
333	8410	7,703.684	0.00169	17,551.93	0.00340	101.1
334	8412	226,237.556	0.04969	277,433.75	0.05378	8.2
335	8413	693,078.223	0.15224	812,235.22	0.15745	3.4
336	8414	1,118,560.908	0.24570	1,278,121.48	0.24776	0.8
337	8415	1,042,525.168	0.22900	1,320,098.10	0.25590	11.7
338	8419	638,045.063	0.14015	758,483.48	0.14703	4.9
339	8428	155,564.498	0.03417	184,035.02	0.03567	4.4
340	8429	45,029.375	0.00989	66,178.46	0.01283	29.7
341	8430	21,890.930	0.00481	29,258.36	0.00567	18.0
342	8431	695,265.825	0.15272	902,010.82	0.17485	14.5
343	8432	37,807.292	0.00830	50,214.39	0.00973	17.2
344	8433	115,219.936	0.02531	134,412.44	0.02606	3.0
345	8435	534.403	0.00012	724.49	0.00014	19.6
346	8437	11,916.494	0.00262	18,707.87	0.00363	38.5
347	8439	48,477.487	0.01065	56,930.04	0.01104	3.6
348	8444	1,000.995	0.00022	1,617.34	0.00031	42.6
349	8445	8,563.284	0.00188	10,750.20	0.00208	10.8
350	8448	175,916.521	0.03864	214,936.59	0.04167	7.8
351	8449	8,875.202	0.00195	19,614.94	0.00380	95.0
352	8450	420,669.445	0.09240	502,857.26	0.09748	5.5
353	8453	4,319.223	0.00095	5,376.97	0.00104	9.9
354	8454	26,303.126	0.00578	36,895.93	0.00715	23.8
355	8455	40,252.308	0.00884	61,358.70	0.01189	34.5
356	8457	33,145.885	0.00728	40,050.11	0.00776	6.6
357	8458	48,426.353	0.01064	55,954.80	0.01085	2.0
358	8459	21,311.201	0.00468	30,530.30	0.00592	26.4
359	8460	81,011.717	0.01779	101,377.95	0.01965	10.4
360	8461	47,837.583	0.01051	98,470.65	0.01909	81.7
361	8463	21,459.628	0.00471	26,034.28	0.00505	7.1
362	8466	502,818.107	0.11045	658,764.88	0.12770	15.6
363	8467	106,912.573	0.02348	126,603.85	0.02454	4.5
364	8468	14,097.383	0.00310	19,048.72	0.00369	19.2
365	8472	173,532.438	0.03812	226,007.28	0.04381	14.9
366	8477	334,753.655	0.07353	401,518.65	0.07783	5.9
367	8480	479,475.354	0.10532	618,219.06	0.11984	13.8
368	8485	166,160.181	0.03650	193,950.25	0.03760	3.0
369	8507	464,975.768	0.10214	598,866.47	0.11609	13.7
370	8509	499,354.175	0.10969	572,750.78	0.11103	1.2
371	8511	181,845.075	0.03994	214,675.86	0.04161	4.2
372	8513	79,006.940	0.01735	108,716.02	0.02107	21.4
373	8515	153,164.743	0.03364	176,014.67	0.03412	1.4
374	8516	1,126,997.091	0.24755	1,279,205.20	0.24797	0.2
375	8520	348,517.171	0.07655	800,498.61	0.15518	102.7

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376	8523	918,411.841	0.20174	1,168,161.60	0.22645	12.2
377	8527	1,080,047.674	0.23724	1,285,497.15	0.24919	5.0
378	8529	4,448,457.517	0.97714	5,723,075.27	1.10941	13.5
379	8530	5,109.430	0.00112	6,132.35	0.00119	5.9
380	8538	481,299.982	0.10572	577,989.94	0.11204	6.0
381	8544	2,959,909.481	0.65017	3,424,427.20	0.66382	2.1
382	8547	52,729.584	0.01158	60,485.41	0.01173	1.2
383	8601	39.913	0.00001	162.82	0.00003	260.0
384	8603	1,002.320	0.00022	3,372.07	0.00065	196.9
385	8604	326.264	0.00007	45,104.80	0.00874	12,100.3
386	8607	1,942.929	0.00043	33,174.42	0.00643	1,406.8
387	8701	3,623.340	0.00080	205,579.91	0.03985	4,907.1
388	8703	59,743.680	0.01312	8,105,370.98	1.57122	11,872.8
389	8705	247.917	0.00005	83,945.66	0.01627	29,781.9
390	8708	4,954.551	0.00109	3,793,873.01	0.73544	67,476.4
391	8709	2,270.014	0.00050	3,544.24	0.00069	37.8
392	8712	44,101.894	0.00969	526,710.29	0.10210	954.0
393	8714	46,918.971	0.01031	296,767.52	0.05753	458.2
394	8716	1,827.762	0.00040	185,861.01	0.03603	8,874.0
395	8802	1,153,565.277	0.25339	3,456,934.16	0.67012	164.5
396	8803	9,971.757	0.00219	1,273,963.72	0.24696	11,174.6
397	8805	25,804.085	0.00567	81,938.07	0.01588	180.2
398	8901	86.737	0.00002	22,458.23	0.00435	22,750.1
399	8903	51,041.813	0.01121	99,423.34	0.01927	71.9
400	8906	11,496.078	0.00253	13,541.16	0.00262	3.9
401	8907	503.245	0.00011	10,751.42	0.00208	1,785.4
402	9001	1,663,504.703	0.36540	2,017,961.04	0.39118	7.1
403	9010	283,816.339	0.06234	367,373.08	0.07121	14.2
404	9013	1,755,661.202	0.38564	2,617,220.62	0.50734	31.6
405	9017	47,806.433	0.01050	56,311.47	0.01092	4.0
406	9020	12,337.805	0.00271	18,173.50	0.00352	30.0
407	9024	39,891.144	0.00876	89,368.56	0.01732	97.7
408	9028	11,520.495	0.00253	16,828.66	0.00326	28.9
409	9104	890.115	0.00020	1,168.59	0.00023	15.9
410	9107	10,768.083	0.00237	12,391.70	0.00240	1.6
411	9109	1,754.947	0.00039	2,087.15	0.00040	5.0
412	9111	28,885.478	0.00634	33,145.46	0.00643	1.3
413	9205	47,045.658	0.01033	57,490.01	0.01114	7.8
414	9207	122,255.380	0.02685	145,667.58	0.02824	5.2
415	9208	6,301.887	0.00138	7,256.77	0.00141	1.6
416	9302	3,072.849	0.00067	3,758.48	0.00073	7.9
417	9304	2,057.796	0.00045	2,436.25	0.00047	4.5
418	9306	76,465.226	0.01680	89,727.83	0.01739	3.6
419	9307	51.160	0.00001	151.33	0.00003	161.0
420	9402	42,575.644	0.00935	48,713.38	0.00944	1.0
421	9504	805,178.249	0.17686	1,936,335.67	0.37536	112.2
422	9605	2,605.573	0.00057	2,990.62	0.00058	1.3
423	9612	29,406.419	0.00646	36,707.80	0.00712	10.2
424	9615	39,419.778	0.00866	47,716.76	0.00925	6.8

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425	9617	89,409.984	0.01964	103,192.92	0.02000	1.9
426	9702	14,824.854	0.00326	17,487.95	0.00339	4.1
427	9705	5,919.560	0.00130	37,611.83	0.00729	460.7
428	9706	39,180.168	0.00861	50,882.68	0.00986	14.6
		455,253,849.68		515,866,387.68		